



Environmental Resources, LLC

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June 18, 2020

A.M. Welles
Tim Hokanson
P.O. Box 2808
Norris, Montana 59745

Subject: Corrective Action Work Plan
Elser Oil Bulk Plant, Sheridan, Montana
Facility ID No. 28-02043, DEQ Release No. 2496
Work Plan ID No. 34081

Dear Mr. Hokanson:

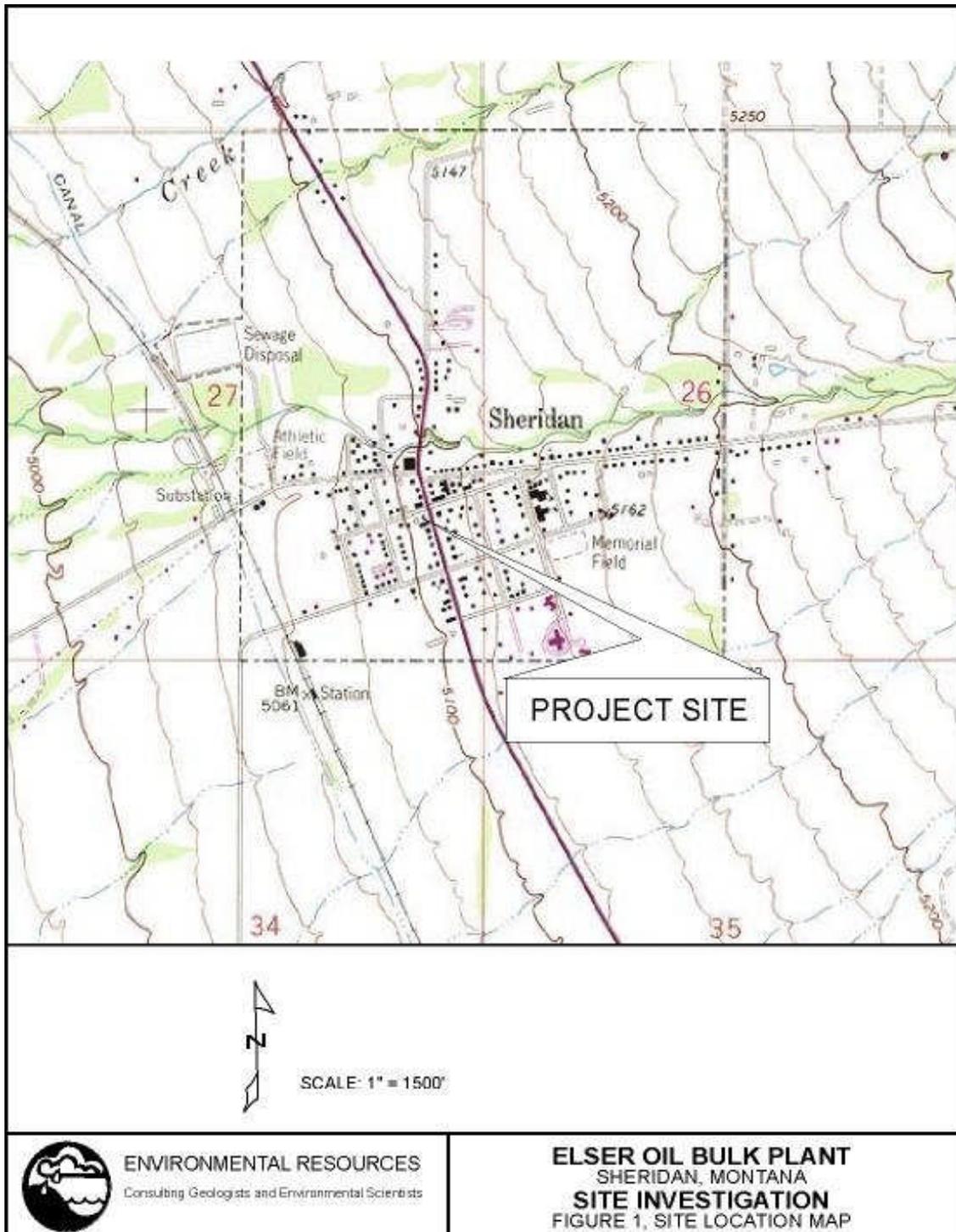
Environmental Resources, LLC is pleased to submit this work plan for additional soil boring installations at the above referenced petroleum release site. The work plan was requested by DEQ in a letter dated May 1, 2020.

Site Location

The former Elser Oil Bulk Plant petroleum release site is located at the northeast corner of the intersection of U.S. Highway 287 and W. Hamilton Ave. in Sheridan, Montana as shown on Figure 1. The site is situated in the northeast quarter of the southeast quarter of Section 27, Township 4 South, Range 5 West, Montana Principal Meridian.

Site Geology

The project site is located on an alluvial fan. Regional topography slopes gently to the southwest. Groundwater is encountered at 7-11 feet below ground surface and flows westerly toward the Ruby River. Shallow groundwater may be utilized for human consumption.



Scope of Work

Proposed tasks to be completed within the scope of this work plan are as follows:

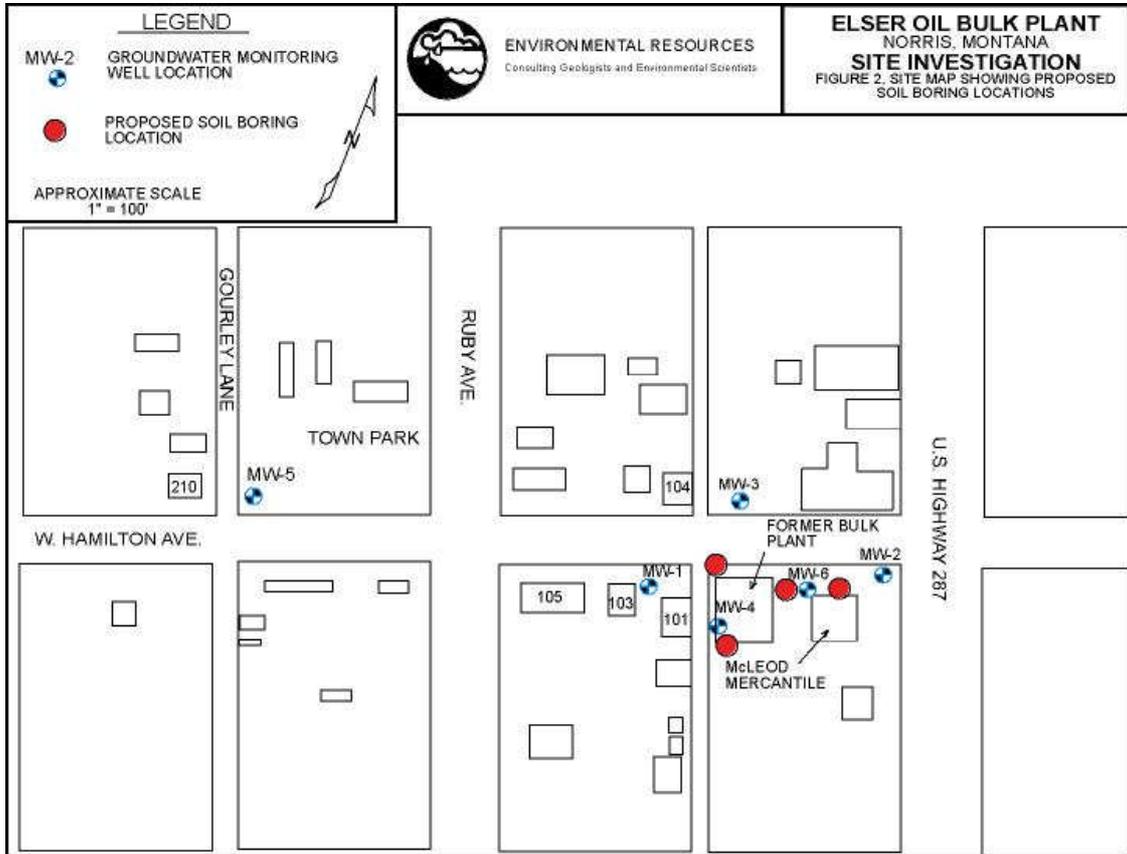
- 1) Install soil borings to determine the extent and magnitude of soil contamination near the current tank system and in the vicinity of the former bulk facility.
- 2) Collect soil samples for laboratory analysis from the soil interval with the highest petroleum impacts, from the air-groundwater interface and from the bottom of the borings.
- 3) Analyze samples at an analytical laboratory in accordance with Montana Title 1 Risk-Based Corrective Action Guidance for Petroleum Releases including lead scavengers EDB and DCE.
- 4) Recover and dispose of free phase gasoline product encountered in monitoring well MW-6.
- 5) Conduct a receptor survey to identify any and all water wells, utilities and basements within a 1000 foot radius.
- 6) Validate all laboratory data.
- 7) Prepare a Standardized Soil Boring and Groundwater Monitoring Well Installation Report (AR-03) and a Release Closure Plan (RCP).

Soil Boring Installation

Up to four soil borings will be completed as shown on Figure 2 using a hollow stem auger drilling rig. Soil borings will be installed to a total depth of 15 feet below ground surface and will be sampled continuously to total depth. Bentonite chips will be used to abandon each borehole following sample collection. A lithologic log will be completed for each boring. All borings will be completed in accordance with all applicable local, state and federal laws, rules and administrative requirements. A third bid was solicited from O'Keefe Drilling, Butte, MT but they did not respond.

Material Sampling

Drill cuttings will be logged for lithology, texture, color, moisture and volatile petroleum content. All soil samples will be visually classified for texture using the Unified Soil Classification System (USCS) according to ASTM-D-2488. Soil samples from two foot intervals and from obvious areas of petroleum discoloration will be analyzed for volatile petroleum hydrocarbons using a Photovac 2020 photo ionization detector (PID) with a standard heated jar headspace method. Laboratory soil samples will be retained from the interval that exhibits the highest headspace reading, from the air-water interface and from the bottom of each boring. Up to three soil samples will be retained from each boring for Volatile Petroleum Hydrocarbons (VPH) and lead scavenger analyses at an approved laboratory.



Free Product Recovery and Disposal

Free phase gasoline product was encountered in monitoring well MW-4 during a site visit conducted in April 2020. Free phase gasoline will be recovered from MW-6 using a peristaltic pump. Recovered gasoline product along with contaminated groundwater will be stored onsite in five-gallon plastic fuel canisters for future disposal through Oily Waste Processors in Great Falls, MT.

Receptor Survey

A receptor survey will be conducted to identify potential receptors of petroleum contamination. The survey will include identifying and verifying all utility corridors, water supply wells and subgrade spaces within a 1000-foot radius of the project site.

Report and RCP Preparation

A RCP will be prepared to outline a process to achieve release closure. The results of the RCP preparation will be included in a Standardized Soil Boring and Groundwater Monitoring Well Installation Report (AR-03). The report will summarize the results of work conducted within the scope of this work plan and will provide recommendations for future corrective action that may be required. Lab data validation forms will be included in the final report.

Investigative Methods

Methods practiced during this investigation will follow generally accepted practices of similar consulting firms in the same geographical area. Quality Assurance/ Quality Control methods will be employed throughout all phases of this investigation to ensure meaningful and reproducible results and data.

Health and Safety

Health and safety issues will be addressed throughout this investigation to prevent exposure of site workers and other onsite personnel to potentially hazardous situations and chemical compounds. Several physical hazards will inherently be present throughout the field investigation while heavy equipment is being utilized for test pit excavation. Site specific health and safety precautions and information will be contained in a Health and Safety Plan which will remain onsite during all field activities.

Investigation Derived Waste

Drill cuttings, excess sample materials, drilling fluids, and water removed from a well during installation, development, and aquifer testing and all other investigation derived wastes will be disposed of according to all applicable local, state and federal

laws and regulations governing the disposition of investigation derived wastes.
Investigation derived wastes may consist of the following materials:

- Drill cuttings
- Purge water from monitor well sampling
- Used soil and groundwater sampling materials
- Excess sample material (soil and water)

Project Costs

Costs associated with implementation of this work plan are outlined below.

COST ESTIMATE – GROUNDWATER MONITORING, ELSER OIL BULK PLANT, SHERIDAN, MT

| <u>TASK</u> | <u>UNIT COST</u> | <u>COST</u> |
|---|-----------------------------|---------------------------|
| <u>Task 1-Soil Boring Installation and Sampling</u> | | |
| Prepare AC-03 CAP | | \$990.00 |
| Project management | 4.0 hrs @ \$135/hr | 540.00 |
| Drillhole logging, Scientist I | 12.0 hrs @ \$120/hr | 1440.00 |
| PID rental | 2 days @ \$90/day | 180.00 |
| Mobilization, RT from Bozeman | 4 hrs @ \$120/hr | 480.00 |
| Mileage, 4WD field pickup | 172 miles @ \$0.63/mile | 108.36 |
| Per Diem | 2 days @ \$30.50/day | 61.00 |
| Laboratory analyses | 12 VPH soil @ \$135 ea | 1620.00 |
| | 12 EDB/DCE soil @ \$120 ea. | 1440.00 |
| Drilling services | Boland Drilling bid | 3561.00 |
| Subtotal | | \$10,420.36 |
| <u>Task 2-Free Product Recovery</u> | | |
| Product recovery, 4 events | 8.0 hrs @ \$120/hr | \$960.00 |
| Peristaltic pump rental | 8.0 hrs @ \$11/hr | 88.00 |
| Miscellaneous supplies, gas cans etc. | | 100.00 |
| Mobilization, 4 round trips fr. Bozeman | 16 hrs @ \$120/hr | 1920.00 |
| Mileage, 4WD field pickup | 688 miles @ \$0.63/mile | 433.44 |
| Per Diem | 4 days @ \$30.50/day | 122.00 |
| Subtotal | | \$3623.44 |
| <u>Task 3-Receptor Survey</u> | | |
| Research, identify and verify utilities and potential receptors, S-II | 10.0 hrs @ \$134.50/hr | \$1345.00 |
| Subtotal | | \$1345.00 |
| <u>Task 4-Reporting</u> | | |
| AR-03 Report | unit cost | \$2800.00 |
| RCP | 8.0 hrs @ \$135/hr | 1080.00 |
| Subtotal | | \$3880.00 |
| <u>TOTAL ESTIMATED COST</u> | | <u>\$19,268.80</u> |

Limitations

All work is performed in accordance with generally accepted practices of other consulting firms conducting similar studies. Environmental Resources, LLC observed that degree of care and skill generally exercised by other consultants under similar conditions. Our findings and conclusions must not be considered as scientific certainties, but as opinions based upon our professional judgment based upon the data gathered during the course of this investigation. Other than this, no warranty is implied or intended.

Submitted by
Environmental Resources, LLC

Bob Waller
Project Geologist

ec: DEQ-PTCS
MPTRCB

attachments: Drill Bids

**Petroleum Tank Release Compensation Board
 Soil Boring/Monitoring Well Installation Unit Cost Worksheet**

Contractor Information

Company Name: Boland Drilling
 Address: 4701 N Star Blvd
 City, State, Zip: Great Falls, MT 59405
 Cost Estimator: Chris Boland
 Signature:

Bob Walker-Sheridan, MT

Phone: 406-761-1063
 5/5/2020

Project Information and Specifications

Sheridan, MT

Facility ID #
 Release #
 WP ID #

Type of Drilling Equipment

Hollow-Stem Augers x
 Air Rotary
 Direct Push
 Other (please specify)
Soil Boring
 Number of Borings
 Boring Diameter (inches)
 Depth (per boring - ft)

Monitoring Well Specifications

Number of Wells
 Surface: Concrete Asphalt Barren
 Depth (per well)
 Estimated Depth to Groundwater (ft)
 Boring Diameter (inches)
 Casing Diameter and type (inches)
 Surface Completion: Flush Mount Aboveground

Surface: Concrete Asphalt Barren
 Soil Disposal: Onsite Stockpile Drums
 Abandonment: Bentonite Soil Cuttings

Soil Sampling

Continuous Soil Sampling
 Interval Soil Sampling (specify interval)
 No Sampling

Cost Estimate Explanation:

- (1) **Mobilization/Demobilization:** Includes all costs and mileage to transport equipment, materials, and personnel to and from the site location. More than one mobilization event of either the drilling rig or support vehicle will require justification and pre-approval by the DEQ-PRS and Board staffs. This item should be estimated on a per mile unit rate.
- (2) **Soil Boring Installation:** Includes all costs (labor, equipment, and materials) to drill, collect soil samples and abandon soil borings, as well as decontaminate equipment. Drilling costs should be estimated using a per foot unit rate. Unit cost should include handling of contaminated soil by stockpiling or placing in drums. Assume level "C" personal protective equipment.
- (3) **Monitoring Well Installation:** Includes all costs (labor, equipment, and materials) to drill, collect soil samples, and complete monitoring well to specifications and according to Montana Well Drillers Board rules, as well as decontaminate equipment. Drilling costs should be estimated using a per foot unit rate. Unit cost should include handling of contaminated soil by stockpiling or placing in drums. Assume level "C" personal protective equipment.
- (4) **Drilling Standby:** Drilling standby should be estimated on an hourly basis. Prior approval and justification for accumulating standby time is needed prior to billing.
- (5) **Well Development:** Includes all costs (labor, equipment, and materials) to develop monitoring wells. This task should be estimated using a per well unit rate.
- (6) **Monitoring Well Abandonment:** Includes all costs (labor, equipment, and materials) to properly abandon a well location according to the Montana Well Drillers Board rules. Abandonment costs should be estimated using a per well unit rate.

Soil Boring/Monitoring Well Installation Unit Cost Worksheet

| TASK | | UNIT COST | NUMBER OF UNITS | TOTAL COST |
|--|--------------------------------|---------------------------|-----------------|--------------------|
| Mobilization/Demobilization (1) | | | | |
| Mobilization/Demobilization: Drilling Rig | \$ | 2.00 /mile | 380 | \$ 760.00 |
| Mobilization/Demobilization: Support Vehicle | \$ | 1.50 /mile | 380 | \$ 570.00 |
| Soil Boring Installation (2) | | | | |
| Drilling (0'-50' range per boring) | \$ | 32.00 /foot | 60 | \$ 1,920.00 |
| Drilling (50'-100' range per boring) | | /foot | | \$ - |
| Other (please specify) _____ | | | | \$ - |
| Monitoring Well Installation (3) | | | | |
| Drilling (0'-50' range per well) | \$ | 30.00 /foot | 0 | \$ - |
| Drilling (50'-100' range per well) | | /foot | | \$ - |
| Other (please specify) _____ | | | | \$ - |
| Drilling Standby (4) | | | | |
| -prior approval needed | \$ | 125.00 /hour | | \$ - |
| Well Development (5) | | | | |
| Well Development | \$ | 150.00 /hour | | \$ - |
| Monitoring Well Abandonment (6) | | | | |
| Abandonment | \$ | 350.00 /well | | \$ - |
| Lodging may only be paid at actual costs when documented by receipts. | | | | |
| Per Diem | | | | |
| Lodging: number of individuals = | <input type="text" value="2"/> | \$ 125.00 /person per day | 1 | \$ 250.00 |
| Food: number of individuals = | <input type="text" value="2"/> | \$ 30.50 /person per day | 1 | \$ 61.00 |
| (Breakfast 5.00, Lunch 6.00, Dinner 12.00) | | | | |
| TOTAL PROJECT EXPENSE | | | | \$ 3,561.00 |

D.O.T. Drums \$95.00

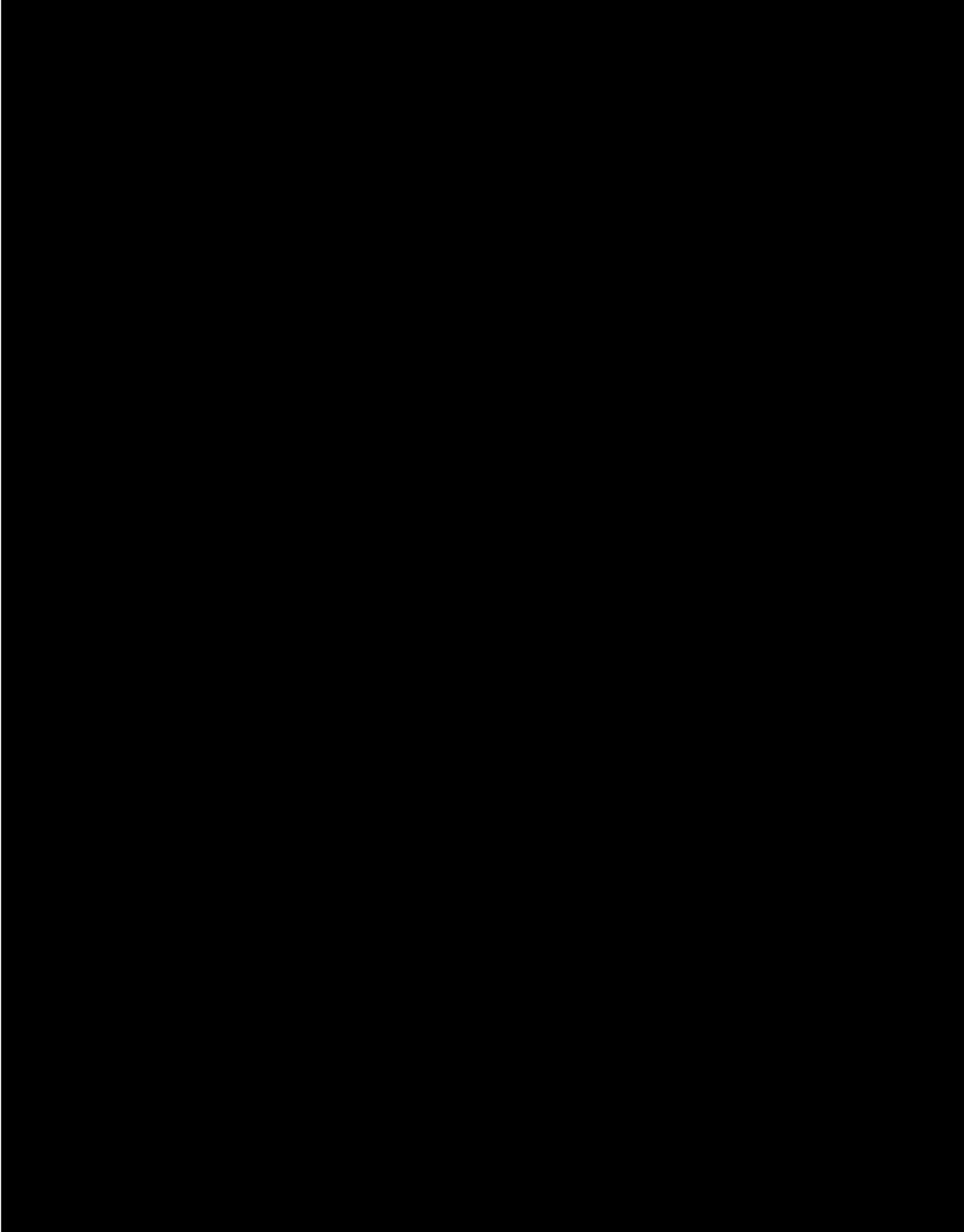
Additional Conditions/Comments/Costs:

Drill 4 soil borings to 15' each and abandon. Cut concrete - 4 @ \$125.00 each at Sheridan, MT

If you require assistance, call 406-841-5090.

Submit completed form to:

Petroleum Tank Release Compensation Board PO Box 200902, Helena MT 59620-0902



Corrective Action Work Plan
Elser Oil Bulk Plant
DEQ Facility ID No. 28-02043
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