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APR 27 2020
Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

April 22, 2020

Tim Stepp
Montana DEQ
P.O. Box 200901
Helena, MT 59620-0901

Re: License Application for a New Class III Unit
Tire Depot, Inc.
Response to Notice of Deficiency

Dear Tim:

This letter provides additional information and responses to the comments in the Department's January 30, 2019 letter.

1. Financial Assurance will be provided utilizing a trust account held at First Interstate Bank in Polson, MT per the attached letter. We have prepared a cost estimate for closure and post closure care requirements which is also attached to this letter.

2. The following information summarizes the research completed to address the Department's concerns about tire fires.

   The NRCS does not have a wind rose chart for the Polson/Pablo, MT area where the tire landfill is located. The closest location with a wind rose chart is Kalispell, MT which is 40 miles from the Tire Depot location. According to the wind rose chart, the prevailing wind direction is from the South/Southeast in Kalispell.

   According to NRCS, the prevailing wind direction in the area of the proposed Tire Depot landfill expansion is from the west for 8.5 months from February 27 to November 11. The wind is most often from south for 3.5 months from November 11 through February 27. Should a fire at the tire landfill break out, the smoke would travel east to northeast. The average hourly wind speed in Pablo does not vary significantly over the course of the year, remaining within 0.4 miles per hour to 4.7 miles per hour.

BILLINGS
6780 Trade Center Ave.
Billings, MT 59101
406.652.5000
Fax 406.248.1363

BOISE
3050 N. Lakeharbor Ln.
Suite 201
Boise, ID 83703
208.576.6646

GREAT FALLS
702 2nd Street South #2
Great Falls, MT 59405
406.952.1109

SPOKANE
9221 N. Division St.,
Suite F
Spokane, WA 99218
509.413.1430

Tire Fire at Existing Facility (2001)
On September 25, 2001, the tires at the existing Tire Depot Class III facility, located approximately 1,500 feet east of the proposed solid waste site, began burning from an unknown cause and was extinguished September 27, 2001.

The potential for air and groundwater contamination resulting from the fire prompted the US Environmental Protection Agency to deploy a Superfund Technical Assessment and Response Team 2 (START2) to conduct an investigation.

Concerned about the release of heat-generated petroleum products from the burning tires, the team sampled two wells proximal to the existing facility for potential contaminants (EPA, 2002). The START2 team collected samples from two wells, one of which is screened at 80 feet (Sample PT-DW-01, GWIC # not reported1) and the other screened at 87 feet (Sample PT-DW-02; GWIC # 130740). They sampled the wells twice, once in October 2001, and again in February 2002.

The samples collected in October 2001, were analyzed for semivolatile organic compounds (SVOC), Diesel Range Organics (DRO), and Residual Range Organics (RRO). The samples did not contain concentrations of SVOCs, RRO, or DRO above the laboratory detection limits (EPA 2002).

The second samples taken in February 2002, were analyzed for SVOCs and for VOCs. The samples did not contain concentrations of VOCs above the laboratory detection limits (EPA 2002). A trace amount of a phthalate compound was reported above detection limits; however, this was assumed to be a result of field contamination from plastics in contact with the sample media (EPA 2002).

The potential for release of contaminants appeared to have been low after the fire. Surface temperature monitoring data indicated that post-incident temperatures in the burned tires would not generate sufficient heat to liberate hydrocarbons that could be transported to groundwater (EPA 2002). Therefore, no further groundwaters sampling was completed by the EPA in response to the 2001 fire.

The START2 report (with appendices) is included in the license application.

The Radiation Alert monitor did not detect any radiation. ST ART2 also collected Draeger samples in the thickest part of the plume. The Draeger results showed 1 part per million (ppm) for petroleum hydrocarbons, and a positive color change for benzene. The results for chlorinated hydrocarbons, mercury vapor. organic based nitrogen, and mercaptan were non-detect. After leaving the area. The highest level of carbon monoxide (CO) was recorded at 72 ppm and the highest total volatile organic compounds (VOCs) level was recorded at 31.4 ppm.

EPA then requested that ST ART2 collect air samples from three locations around the town of Pablo and also from the personnel work locations who were operating the heavy equipment used to extinguish the fire.

START2 worked with Greg Parana of PES and Doug Updike and Tom Vanderweel of CDM to accomplish these tasks.

Air samples were taken in 12 locations around the top of the pit, in the bottom of the pit, middle of pit.

Air samples A-2AF and P-7F contained benzene and toluene above the laboratory detection limit; however, they did not exceed the EPA Region 3 Risk Based Concentration (RBC) value. Aluminum, barium. calcium, copper, iron, magnesium. manganese. and zinc were detected in the air samples above the laboratory detection limit; however, they also did not exceed the EPA Region 3 RBC.

(US Environmental Protection Agency (US EPA), 2002, Superfund Technical Assessment and Response Team 2 (START2) Sampling Activities Report: Pablo Tire Fire, Pablo, Lake County, Montana. TDD No. 0109-0013, August.)

EPA Report - Air Emissions from Scrap Tire Combustion - 1997

The EPA research paper completed in October 1997 examined both uncontrolled and controlled tire fires. The fire in 2001 was an uncontrolled tire fire which is of most concern to Montana DEQ and the surrounding communities. Air emissions from open tire fires have been shown to be more toxic than combustor fires. Open tire fires can cause significant acute and chronic health hazards to firefighters and nearby residents. According to the US EPA, depending on the length and degree of exposure, these health effects could include irritation of the skin, eyes, and mucous

membranes, respiratory effects, central nervous system depression, and cancer. The entire research paper can be found at https://www3.epa.gov/ttn/catc/dir1/tire_eng.pdf.

The Tire Depot has developed a strategic fire protection plan as outlined in the Operation and Maintenance Plan which was included in the license application. This plan includes placing fire extinguishers in all machines, having fire suppression equipment on site, and coordination with the local fire departments. The Tire Depot will also construct the landfill cells with a 10-foot berm of soil in between each trench and will be covered at regular intervals with adequate soil to reduce the fire potential.

Please contact me at my office if you have any questions.

Sincerely,

Great West Engineering, Inc.

Stephanie M Beckert

Stephanie M Beckert, PE
Project Manager

cc: Vern Reum, Tire Depot

Encl.

HELENA
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GreatWest engineering ®

February 14, 2020

Mr. Vern Reum
Tire Depot
55528 US Highway 93
Polson, MT 59860

RE: Tire Depot Facility
Landfill License Application
Closure & Post-Closure Cost Estimate for Documentation of Financial Assurance

Dear Vern:

We have prepared information concerning the estimated closure and post-closure costs for the proposed facility to satisfy the financial assurance requirements of licensure and to respond the Notice of Deficiency letter regarding the License Application for a New Class III Unit received by the Montana DEQ. These costs are being developed to determine the financial assurance requirements for only the new facility. Financial assurance for tire disposal sites is required under Montana Law MCA 75-10-216. The facility will be licensed as a Class III Solid Waste Management system. Therefore, the facility also needs the meet the Class III landfill requirements as outlined in Montana law.

I have covered three areas in this letter: (1) life of site; (2) landfill closure costs; and (3) fire suppression costs. These are summarized below:

1. LIFE OF SITE

The remaining overall life of the landfill site is estimated based on estimates of tire density, current waste stream volumes, and air space estimate of the landfill as calculated in the O&M Manual.

Based on the above information and assumptions, we estimate the overall site has 48 years of life. The final life of the overall site will be affected by the actual waste quantities accepted at the landfill, the amount of waste diverted out of the landfill, and the waste disposal efficiency that is achieved.

BILLINGS
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406.952.1109

SPOKANE
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2. CLOSURE WORK

The total area proposed for disposal is 28 acres. Tire Depot staff will shred tires and place them within the fill with a conveyor system. The first trench will be excavated in the north end of the existing pit. Tires are placed in the trenches in 25-foot lifts. Once a lift is placed, 5 feet of soil cover will be placed over the tires. Another lift of tires will be placed over the first lift to reach the elevation of the existing ground around the gravel pit. The fill progression will move south from the first trench. Each trench will be excavated, a 25-foot lift of tires will be placed, then 5 feet of soil cover, then another lift of tires to reach 5 feet below existing ground level, and then covered with 5 feet of soil cover and a prescriptive closure cap. The Tire Depot will keep the exposed working tire slope limited to a maximum of 1/4 (one-quarter) acre. The Tire Depot will install 10-foot wide "berms" between cells which act as a fire break.

The Montana financial assurance regulations require that the landfill financially assure for the largest planned open area during the life of the landfill. The Tire Depot plans on keeping its maximum open area limited to 0.5 acre. The following work items would be required in the event of an emergency closure or abandonment of the facility:

1) Disposal of any stockpiled tires within the facility. Tire Depot is committing to only stockpiling the tires it can store within its trailers on the exiting site. The only other tires stockpiled will be those set aside for whole tire resale. Therefore, it is estimated that a D-6 dozer and a truck to haul the trailers to the edge of the cell could place the stockpiled tires within the cell in one day. This equates to 8 hours x $250/hr for the D-6 dozer = $2,000 and 8 hours x $125/hr for the semi-truck = $1,000. Therefore, the total estimated cost to dispose of the stockpiled tires is estimated to be $3,000.

2) The overall site requires cleanup of tire shreds and various other Class III materials on the surface such as waste concrete. It is estimated that a D-6 dozer at $250/hour could clean up surface waste and place it in the fill within two days (16 hours). This equates to a total estimated cost of $4,000. During the removal of this waste, the site would also be graded to accept soil cover. The pre-grading work needed prior to placement of the vegetative layer is included in this estimate line item.

3) Installation of a two-foot thick soil cover on the working slope area of 0.5 acres. Disposal of the stockpiled tires will also incrementally increase the size of the working slope. An additional 0.5 acres of working slope will potentially be created when the stockpiled tires are placed in the pit. Therefore, the total area requiring the two-foot final cover is 1 acre.

4) Prior to reclamation, slopes exceeding a 3:1 will be broken down and regraded. This work will be done with a bulldozer. The estimated yardage is 2,400 cubic yards.

5) Installation of six inches of soil that can support a vegetative stand over the entire acre. The facility has several thousand yards of good soil material already stockpiled on site for the vegetative layer and owns additional property that will not be used for disposal of tires from which more topsoil can be salvaged. The final grading of the vegetative layer is included in the unit price for this item.

6) Vegetating the site with a seed/fertilizer mixture as outlined in the closure plan. It is assumed that the seed mixture will be tilled in using a tractor and an end wheel press drill or another acceptable seeder. In areas which are too steep for drill seeding, hydroseeding techniques will be used.

The total estimated cost for clean-up and final closure of the site is itemized in Table 1. Costs are based on a third party contractor conducting the work in accordance with DEQ requirements.

Table 1
Tire Depot – New Class III Licensed Landfill
Estimated Closure and Clean-up Costs

Activity	Quantity	Unit	Cost/Unit	Cost
Mobilization/Bonding/Insurance	1	LS	$4,000.00	$4,000.00
Disposal of Stockpiled Tires	1	LS	$3,000.00	$3,000.00
Site Cleanup	1	LS	$4,000.00	$4,000.00
24-inch Soil Cover (1 Acre)	3,230	CY	$3.50	$11,305.00
Slope Breakdown to 3:1	2,400	CY	$3.50	$8,400.00
6-inch Vegetative Layer (1 Acre)	810	CY	$3.50	$2,835.00
Seed and Fertilize	1	AC	$2,000.00	$2,000.00
Deed Notification	1	LS	$4,000.00	$4,000.00
Engineering/QA/Inspection	1	LS	$8,000.00	$8,000.00
Closure & Cleanup Cost				**$47,540.00**

The facility is not required to provide financial assurance for post-closure care since it is a Class III facility.

3. FIRE SUPPRESSION

The facility is required by statute to financially assure for fire protection. The 2001 tire fire burned between one and two days depending on which person you talk to. However, once actual fire fighting activities were under way it took less than a day of actual equipment time to extinguish the fire. In 2001 the

facility had a much larger exposure of uncovered tires waste than is planned. In the event of a tire fire, the facility staff will immediately contact the local fire departments which service this area. However, the most effective approach for fighting a tire fire is to extinguish it with soil. We anticipate that the needed equipment would include a D-8 dozer ($275/hr), front-end loader ($200/hr) and six dump trucks ($100/hr). The proposed equipment would be able to extinguish the fire in a 12-hour period maximum. The estimated cost for this effort is itemized in Table 2 below.

Table 2
Tire Depot Facility – New Class III Licensed Landfill
Estimated Fire Suppression Costs

Activity	Quantity	Unit	Cost/Unit	Cost
Mobilization/Bonding/Insurance	1	LS	$2,000.00	$2,000.00
D-8 Dozer	12	HR	$275.00	$3,300.00
Front-end Loader	12	HR	$200.00	$2,400.00
10 CY Dump Trucks	72	HR	$100.00	$7,200.00
Engineering/Inspection/Certification	1	LS	$3,500.00	$3,500.00
Fire Suppression Costs				**$18,400.00**

Therefore, the total estimated financial assurance for the facility is $65,940. This report should provide all of the information Tire Depot needs to update its financial assurance for the tire facility. If you have any questions, please contact me at my office.

Sincerely,

Great West Engineering, Inc.

Stephanie M Beckert

Stephanie Beckert, PE
Project Manager

The Tire Depot
55528 U.S. Hwy 93
Polson, MT
Phone: (406) 883-6111
Fax: (406) 883-3081
Email: tiredepot1@centurylink.net

3/25/2020

Montana Department of Environmental Quality

1520 E. 6th Ave.

Helena, MT 59601

Dear Montana DEQ Representative,

The Tire Depot Inc. (Company) cordially submits our response to your "Notice of Deficiency". The Company has selected a method of providing "Financial Assurance" as required in the MDEQ administrative rules. We have selected to utilize a trust account held at First Interstate Bank in Polson Montana. This account will be earmarked for financial assurance for all closure requirements as determined by the Montana DEQ.

We are working with Helen Pegram at First Interstate Bank and will utilize the same product offered by the bank that is currently utilized by many county and private landfills throughout northwestern Montana. We intend to pay into the account over time as authorized within the department's administrative rules. This can be done either through an annual or quarterly payment basis based on lifetime of the pit or on a per ton basis over the lifetime of the pit. In either case, we respect the Department's need to assure adequate closure and revegetation of the site, and we intend to comply completely with DEQ requirements.

Your guidance as we continue to navigate the licensing process is greatly appreciated.

Respectfully,

Vern Reum

Vern Reum

Tire Depot Inc.

TIRE DEPOT, INC.

Class III Solid Waste Management System

License Application

June 2018

Prepared by:

GreatWest engineering ®

TIRE DEPOT, INC.

Class III Solid Waste Management System License Application

June 2018

GreatWest engineering®

TABLE OF CONTENTS

License Application
License Application Addendum #1

List of Attachments

Attachment 1 Operation and Maintenance Plan
Attachment 2 Facility Location Maps
Attachment 3 Landowners and Land Use of Adjacent Properties
Attachment 4 Environmental Report
Attachment 5 Public and Private Water Supplies
Attachment 6 Tire Landfill Design Plans
Attachment 7 Hydrogeology Report, Soils Information, and Groundwater Information
Attachment 8 Traffic Impacts
Attachment 9 Closure Plan
Attachment 10 Deed Notation
Attachment 11 Liability Insurance

WASTE MANAGEMENT AND REMEDIATION DIVISION
WASTE AND UNDERGROUND TANK MANAGEMENT BUREAU
SOLID WASTE SECTION
PO BOX 200901
HELENA, MT 59620-0901
Phone: (406) 444-5300
Fax: (406) 444-1374

TO: Prospective Applicants of a Class III Solid Waste Management System License

The enclosed application is for anyone wishing to apply for a Class III Solid Waste Management System (SWMS) license. Please number or label the required attachments or enclosures with your application form and check-off those from Section IV that are included.

Facilities licensed as Class III SWMS's may accept only Group III waste [Administrative Rules of Montana 17.50.504(2)(b)]. Group III wastes include wood wastes and non-water soluble solids, such as brick, dirt, rock, rebar-free concrete, brush, lumber, and vehicle tires [ARM 17.50.503(1)(b)]. The facility may accept clean, untreated wood waste and brush for burning under the stipulations of a conditional Air Quality Open Burning Permit. However, facilities approved to burn untreated wood waste may not dispose of the ash on-site.

The licensing of an SWMS is not a quick and easy process. Be prepared for this process to take as long as a year to work through the various stages involved. The Department will review the application to ensure that it is complete. Unless all the necessary attachments are included, it is unlikely that your application for a license will be considered complete. If additional information is required, the Department will notify the applicant with a "Notice of Deficiency – Request for More Information" letter that will specify the additional information required.

Upon receipt of the application, the Department will provide written notification to the local county health officer that an application for an SWMS has been received. The Department will send an invoice for the license review fee to the applicant and the licensing process will be suspended until the license review fee has been received. Once the license application has been determined to be complete, the Department will prepare an Environmental Assessment (EA). The EA is a written analysis of a proposed licensing action to determine if an Environmental Impact Statement (EIS) is required and whether or not licensure of the proposed facility may have a significant impact on the human and natural environment. Once the EA is completed, a copy will be mailed to the adjacent landowners, local county environmental health officials, and interested persons. The Department will also submit a public notice for publication in an area newspaper notifying the public of the availability of the EA and the commencement of the 30-day comment period.

The Department is required to accept comments on the proposed project from the public for a period of 30-days following the public notice and the completion of the EA. A public meeting may also be held during the public comment period in order to discuss the proposed project with the public.

At the close of the comment period, comments that were received are reviewed and a final licensing decision is made. The decision may be to approve the license request, deny the request, or request additional information in order to respond to comments.

If the Department decides to issue a license, it will be sent to the local county Health Officer for validation. The Health Officer in the county where the proposed facility will be located must validate it. **For this reason, it is important for the applicant to keep the local health authorities informed during the licensing process and to provide them copies of the application materials.**

CLASS III SOLID WASTE MANAGEMENT SYSTEM LICENSE APPLICATION

SECTION I – APPLICANT INFORMATION

Applicant Name: Vern Reum

Applicant Mailing Address: 55528 US-93 Polson, MT 59860

Applicant Phone: 406-883-6111 Applicant Fax:

Applicant E-mail Address: tiredepot1@centurylink.net

This application is for:

- ■ New Class III SWMS
- ❒ Expansion of an existing facility (if so, facility license number: _____)
- ❒ Resource Recovery or Processing Facility
- ❒ Other (please explain)

_____

Are you the owner of the property where the facility is located? ■ Yes ❒ No See Attachment #10

If yes, attach a copy of the deed or other document that verifies you are the site owner.

If no, provide the name, address, and signature of the owner/lessor who holds title to the property, attach a copy of the lease/rental agreement, and complete the Landowner Certification in Section V.

Name: _____

Mailing Address: _____

SECTION II – FACILITY INFORMATION

Facility Name: Tire Depot, Inc.

Facility Mailing Address: 55528 US-93, Polson, MT 59860

Facility Phone: 406-883-6111 Facility Fax:

Facility 9-1-1 Address: 36344 Glover Road, Polson, MT 59860

Facility Legal Location
(i.e., Section, Township, Range; describe to the nearest quarter-quarter section) Section 26 Township 22 N, Range 20 W, E1/2 SE1/4

Facility Lat/Long: Lat. 47.63639, Long. -114.11724

SECTION II (*CONTINUED*)

Facility Geocode Location: 15-3228-26-1-01-12-0000

General description of facility location: The proposed tire landfill site is located approximately 3.5 miles south of Polson, MT on Highway 93 and is accessed off Glover Road.

Total acreage of proposed site: 40 Acreage usable for the solid waste system: 28

SECTION III – FACILITY CAPACITY, SERVICE AREA, AND WASTE ACCEPTANCE

Total Disposal Capacity: 47,900,000 passenger tire equivalent (PTE)

Service Area: Montana, Idaho, and Washington

Population to be served by the solid waste system: Lake County Residents, private tire shops located in Montana, Idaho, and Washington

Describe the estimated life of the facility and attach a description of the method used to make this determination:

See addendum #1

(*For facility expansions, provide the information pertinent to the additional life the expansion provides to the existing facility*)

Passenger tires, truck tires, tractor tires

Waste Type(s) Accepted:

Will any special or unusual wastes* be accepted? ❒ Yes ■ No
(**wastes that require special handling or present unique environmental hazards*)
If yes, describe the wastes:

Do you plan to accept household quantities of hazardous wastes and/or hazardous wastes from conditionally exempt generators? ❒ Yes ■ No
(*Note: these types and quantities of waste may be legally accepted at state licensed "Class IV" landfills, however, additional conditions must be met before such acceptance may occur*)

Does the facility plan to burn untreated wood waste? ❒ Yes ■ No

If yes, what is the total acreage of the burn-site? _____
If yes, attach the plan that describes:
a) The type of material to be burned.
b) What will be done with the ash.
c) How often the ash will be removed from site.
d) How burn pile contaminants will be identified and removed.

What is the proposed opening date for this facility? July 2019

SECTION IV – ATTACHMENTS (PLEASE NUMBER OR LABEL THE ATTACHMENTS)

- ☐ Attach the proposed facility Operation and Maintenance (O&M) Plan (ARM 17.50.1100). See Attachment #1
- ☐ Attach a map that shows the location of the proposed facility in relation to the local population center, adjacent residences, and access roadways. See Attachment #2
- ☐ Attach a description of adjacent use of land and provide a list of names and mailing addresses of all persons owning land adjacent to the proposed facility. See Attachment #3
- ☐ Attach a map that shows the location of wetlands, springs, and natural drainages on and within one-mile of the facility boundary See Attachment #4
- ☐ Attach a map that shows the locations of public and private water supplies within one-mile of the facility boundary. Attach copies of well logs for these public and private water supplies. See Attachment #5
- ☐ If the site is located within the 100-year floodplain, attach a copy of the floodplain map. N/A
- ☐ Attach a map of the proposed facility showing:
  - a) Fencing.
  - b) Access control features.
  - c) Surface water run-on/run-off controls.
  - d) Property boundary.
  - e) Location of building(s), scales, etc...
  - f) Location of on-site roadways.
  - g) Location of on-site disposal area(s) and/or burn site(s)

  See Attachment #6
- ☐ Attach the drainage control plan that describes the measures used to prevent surface water run-on from entering, and surface water run-off from leaving, the waste management areas. See Attachment #1 Section IV
- ☐ Attach the geologic and soil information for the proposed site that includes a site geologic map and a soil profile to a depth ten (10) to twenty (20) feet below the lowest point solid waste will be deposited. See Attachment #7
- ☐ Attach a hydrogeologic report that includes existing well-logs and information on groundwater depth, availability, quality, and quantity. See Attachment #7
- ☐ Attach the cut and fill plan. See Attachment #6
- ☐ Attach a copy of the information confirming that the existing bridges and roads will support loaded vehicles and additional traffic. Describe how the site operations affect the existing local transportation networks and traffic flows. See Attachment #8 for transportation information
- ☒ Attach a closure plan for the landfill that includes:
  - a) soil specifications for the final cover (if applicable).
  - b) revegetation requirements
  - c) steps that will be taken to prevent erosion and ponding on the final cover.
  - d) proposed use of land after facility has closed.

  See Attachment #9
- ☐ Attach a copy of the Montana Natural Heritage Program's (NHP) database information on sensitive, threatened, or endangered species or habitats on and within one-mile of the facility boundary. The NHP database may be accessed at: http://mtnhp.org/ See Attachment #4 - Exhibit F
- ☐ Attach a copy of the cultural resource file search completed for the site. The search is conducted by the State Historic Preservation Office (SHPO). SHPO charges a fee for this search. A copy of the "File Search Request Form" may be accessed at http://mhs.mt.gov/Portals/11/shpo/docs/FSRF.xlsx. See Attachment #4 - Exhibit E
- ☐ Attach a copy of the proposed deed notation (ARM 17.50.1113). See Attachment #10
- ☐ Attach a copy of the general liability insurance policy (ARM 17.50.1114). See Attachment #11
- ☐ Is the proposed site located in a Sage Grouse core, habitat, or connectivity area? Yes ☐ No ☐

  If yes, attach a copy of the recommendation letter from DNRC's Sage Grouse Habitat Conservation Program. (To begin the evaluation process with the Sage Grouse Habitat Conservation Program, visit https://sagegrouse.mt.gov/projects/.)

SECTION V - CERTIFICATIONS

LANDOWNER CERTIFICATION

I am the: *(check one)*

Property Owner ☐ Designated Representative of the Property Owner ☐
(Provide verification of status as representative)

By signing below, I state that I am the owner or the representative of the owner of the property described in this application ("the Property") and that I am authorized to make the acknowledgements and consent as provided in this paragraph. I affirm that I or the owner that I represent obtained or had the opportunity to obtain the advice of independent legal counsel regarding the potential risks and liabilities from the use of the Property as a solid waste management system. I acknowledge that I or the owner I represent have been informed and are aware of the uses and activities that are ongoing or proposed for the Property and consent to those uses and activities. Furthermore, I understand that issuance by the State of Montana of a license to operate a solid waste management system on the Property and the terms and conditions of any such license do not relieve or insulate the owner of the Property from any liability, duty, or responsibility arising under the Montana Solid Waste Management Act, as that act may be amended from time to time, or any other environmental law.

Property Owner Signature: Vern Reum Date: 6-7-18
(attach a copy of the deed or other document that verifies the site owner)

ZONING CERTIFICATION

I hereby certify that the site of the planned solid waste management system is in accordance with local government zoning and ordinances (to be signed by appropriate local government official having knowledge of local zoning ordinances).

Printed Name: Jacob Feistner

Signature: Jacob Feistner Title: Planning Director

Representing: Lake County Planning Dept. Date: 6/8/2018

HEALTH OFFICER CERTIFICATION

I, NICHOLE McKINSEY, DO am the Health Officer or Designated Representative of the County. I certify that the site of the proposed solid waste management system meets the physical requirements of Montana laws and rules governing solid waste management and any applicable local health requirements.

Signature: [illegible] Date: 6/7/2018

Title: LAKE COUNTY HEALTH OFFICER

APPLICANT CERTIFICATION

I am the party responsible for operation of this proposed facility. I certify that the above-described solid waste management system will be constructed and operated in accordance with Sections 75-10-201 through 75-10-233, Montana Code Annotated (MCA), the rules adopted pursuant thereto, and in accordance with conditions which have or may be imposed in the license.

Applicant Printed Name: Vern Reum

Applicant Signature: Vern Reum

Title: President Date: 6/8/18

Class III Solid Waste System
License Application
Tire Depot, Inc.

Addendum #1. Total Disposal Capacity

Tire Waste Capacity

New License Life Analysis	
Total Fill Volume (CY)	1,928,643
Final + Intermediate Cover Volume (CY)	477,858
Waste Volume (CY)	1,450,785
Incoming Waste (PTE/yr)	1,000,000
PTE (lbs)	20
Incoming Waste (tons/yr)	10,000
Tire Density (lbs/CY)	660
Incoming Waste (CY/yr)	30,303
Life Remaining (Years)	**47.9**

Attachment 1

Operation and Maintenance Plan

The Tire Depot

June 2018

Operations and Maintenance Plan

GreatWest engineering®

Table of Contents

I. Introduction 1
II. Background 1
III. Access Control & Operating Hours 1
IV. Tire Acceptance & Storage 4
V. Tire Processing & Shredder & Chipper 4
VI. Tire Fill & Soil Cover Operations 5
VII. Closure and Post Closure 6
VIII. Financial Assurance and Insurance 6
IX. Safety 6
X. Fire protection plan 6
XIII. Number of Employees 10
XIV. Potential for End Use 10

Appendix A Facility License

Appendix B Fire Notification List

Appendix C Fire Extinguisher List

Appendix D Weekly Inspection Form

Appendix E County Agreement for site access

I. Introduction

This Operation and Maintenance Plan (OMP) is intended to be used as a guidance document to ensure the tire disposal facility is operated and maintained in compliance with State and Federal Rules & Regulations. The new tire disposal facility will operate similar to the existing tire disposal facility. The information presented in the OMP is based on the best available technical practices which are currently available and applicable to the operation of the tire disposal facility. This document will require periodic revision to incorporate new disposal techniques, regulations or designs as they change with the available technology.

II. Background

The existing Tire Depot facility (solid waste license #390) is located adjacent to US Highway 93 approximately 3.5 miles south of Polson, Montana on the east side of the highway. The facility is located on 10.9 acres within the W ½, SW ¼ of Section 25, T.22N., R. 20 W. The existing 8-acre area licensed for disposal operations is shown on Figure 1. The 28-acre area for proposed disposal operations is also shown on Figure 1. The facility is licensed with the Montana DEQ as a Class III Tire Resource Recovery System. A copy of the existing facility license is included in Appendix A.

The existing facility was originally permitted in 1991 by Mr. Vern Reum as a Class III landfill for tire disposal. Figure 1 shows the current configuration of the facility and the proposed configuration of the new facility.

The new Tire Depot will be located on 40 acres owned by Vern Reum. The property is located adjacent to US Highway 93 approximately 3.5 miles south of Polson, MT on the west side of the highway. The property is within the E ½, SE ¼, of Section 26, T 22 North, R 20 W. The property is bounded by Glover Road on the south, Highway 93 and a parcel owned by Lake County on the east, County Facilities Lane on the north, and an historic rail line on the west. The property was used as a gravel source for Treasure State Concrete and is currently an open pit. Treasure State Concrete is holding the open cut mining bond until the site is licensed as a tire disposal facility, then the bond will be transferred to Vern Reum as a solid waste disposal license.

The area useable for solid waste disposal is approximately 28 acres. The 12 acres not planned for tire disposal will be used for access roads, facility operations including soil stockpiling, storage and staging of cut and fill material, and equipment storage.

III. Access Control & Operating Hours

The public and delivery trucks will continue to deliver tires to the existing Tire Depot facility. The Tire Depot is open from 8 a.m. to 5 p.m. Monday through Friday except major holidays. The Tire Depot has two entrances from the US 93 Frontage Road to the 10.9-acre parcel of property owned by the Tire Depot. Of this parcel, 8 acres is licensed for Class III disposal and tire recovery (See Figure 1). These entrances are both on the west highway frontage side of the property. The southwest entrance is gated and padlocked. There is no indication to the

general public that this is an entrance or exit to The Tire Depot as the neighboring business shares this highway access to their location. The neighboring business also has a gate which is locked during non-business hours.

The northwest access is clearly posted “Personnel Only” with no public access allowed. The entrance to the existing facility is secured by a rolling chainlink gate with barbwire security strands on the top. The gate along with the rest of the chain link fencing is eight feet tall. This gate is closed and padlocked at the end of the operating hours. This is the primary access to the existing facility. Cameras are located at the northwest access.

The office is clearly marked and is located on the west side of the property with highway access. The Tire Depot signs are on the shop building as well as a lighted reader board sign on the highway side.

The west side fence of the existing facility is a privacy chainlink fence with security barbwire on top standing eight feet tall and covering the highway frontage of the business. The north side of the property also has the same fencing. This portion of the perimeter fencing meets Motor Vehicle Wrecking Facility License standards. The south side and a portion of the east side of the property is fenced with four strand barbwire. The portion of east boundary of the facility which is unfenced abuts another 20-acre parcel which is owned by the Tire Depot and it not accessible except through the west side gates of the 10.9-acre parcel described above.

The new facility has a five-strand barbed wire fence surrounding the property already in place. A locking gate will be installed at the entrance of the facility off Glover Road.

The existing facility has an infrared camera system along the property boundaries. The new facility will have cameras along the boundary that will be linked to the existing camera system. The camera system allows employees to monitor the property boundary and video footage is recorded on a DVR so that in the event that an incident occurs there is photographic evidence.

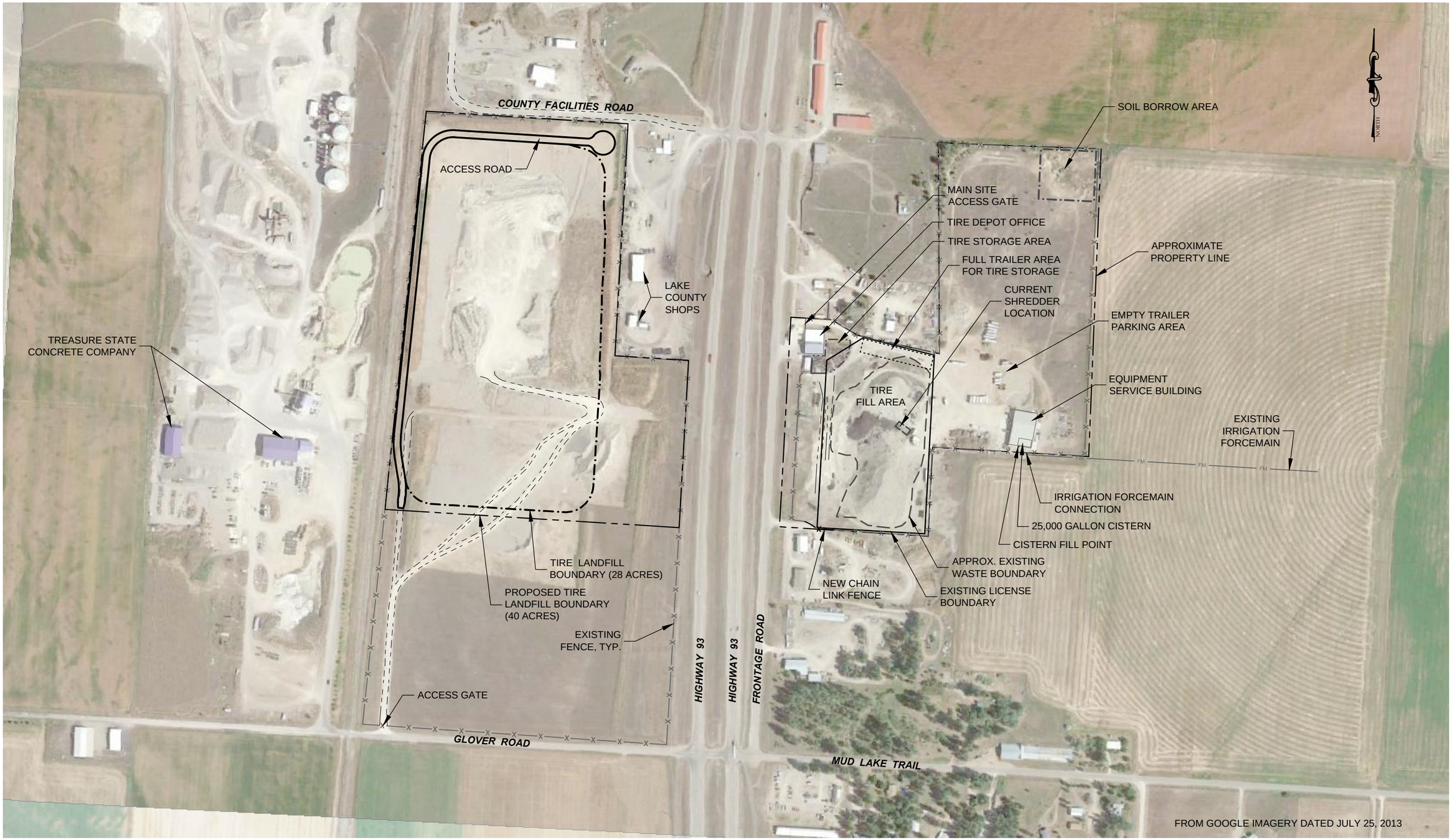

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Figure 1
Site Plan

REUM TIRE DEPOT
TIRE LANDFILL

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\License\1-16134-License-OM Site Plan.dwg

IV. Tire Acceptance & Storage

The Tire Depot accepts whole tires from its customers that typically arrive on-site in semi-trailers operated by their own fleet. Some scrap tires arrive via Republic Services who also does customer pick-up in the local Polson area. Other scrap tires are delivered from the local Lake County residents. Full trailers are temporarily parked within the existing licensed area until they are shredded or chipped. Shredding or chipping of those tires typically takes place within a one to three day period. The tires will be shredded or chipped at the existing facility and will be placed in a walking floor trailer. The walking floor trailers will transport the shreds or chips to the new facility.

The empty trailers are then parked in a staging area on the 20 acre parcel adjacent to the existing facility awaiting departure for another customer pick-up. If the Tire Depot receives more tires than the chipper or shredder can keep up with, the trailers will remain parked full within the existing licensed area until the chipper or shredder is available. Unprocessed tires will not be stockpiled on the ground, they will remain in the trailers. The location for staging full tire trailers is shown on Figure 1. The full trailers will be staged on the northern most part of the licensed pit area along the driveway. The maximum number of trailers staged in both areas combined should not exceed 20 trailers at any given time. Tires being stockpiled for resale and reuse are stockpiled adjacent to the Tire Depot office building and on Tire Depot property east of the licensed area.

The Tire Depot currently accepts approximately 1,000,000 equivalent passenger tires (PTE) per year. The Tire Depot accounts for its tire count on either a per tire basis or on an equivalent tonnage count. When the Tire Depot accepts tires by the ton it uses the industry and DEQ standard of 20 lbs per passenger tire or 1 ton per 100 tires to convert the tonnage to PTE.

V. Tire Processing & Shredder & Chipper

As tires are unloaded at the shredder, employees inspect individual tires for potential resale. Tires that are suitable for resale are separated from the waste stream. The Tire Depot currently recovers all good used truck tire, passenger tire, and pickup truck tire casings for resale to an outside vendor. The collective amount of used tires casings stored on the property for resale, range from 100 – 300 at any given time. These tires are stored on the northwest portion of the existing property behind the privacy fence. These tires are constantly cycled through the facility. The Tire Depot also has used truck tire sidewalls cut and bundled in groups of 25 that are sold to various markets. These sidewalls are stored on the southeast corner of the licensed pit area for easy placement into the pit if needed. The Tire Depot also currently stockpiles used innertubes for resale.

The Tire Depot currently operates a retail tire business adjacent to the main office. All good used tires are stored at the retail shop. Most of the retail tires are stored inside the building however some overflow sizes are stored outside the building on the concrete slab located on the south side of the retail shop. These good used tires are recovered from the chipper

unloading area and moved to the retail shop by pick-up. All junk tires recovered from retail customers are removed from the shop daily and loaded into a cage trailer or open top container directly outside of the retail shop building. Once the trailer or open top container is full of scrap tires from customers they are then moved and unloaded at the chipper where they are shredded and placed into the pit.

The Tire Depot currently uses a 2012 Barclay 5-inch minus shredder to shred all car tires, light truck and semi-truck tires that the chipper is capable of handling. The Tire Depot plans to purchase a return conveyor belt to the shredder which will re-shred the shreds to a smaller size. The Tire Depot plans to purchase a chipper in the future that will produce tire chips which are 10-inches or less. The purpose of shredding tires is to reduce the amount of air space in the pit after the tires are shredded and placed in the pit for cover.

The shredder or chipper will remain at the existing facility. The shreds or chips will be placed in a walking floor transfer trailer to be hauled to the new facility. Approximately four Tire Depot transfer trailer trucks per day will cross Highway 93 to the new facility. The Tire Depot has an agreement with Lake County to use the County Facilities Road to access the site from the north (Appendix E). The transfer trailers will back onto the new facility from the County Facilities Road and dump tires into the pit. A loader will move tires in the pit to achieve 20-30 foot tall lifts. All other oversize tires like large loader tires are either quartered or placed whole directly in the pit and covered with shredded tires. The Tire Depot has no stockpile of waste tires outside of the licensed pit area. There are some retail tires outside the business retail shop as well as the used truck tire casings under the large advertising sign that are for sale and are mentioned above.

VI. Tire Fill & Soil Cover Operations

Trenches will be excavated in the existing gravel pit that are no more than 80-feet wide at the bottom of the trench with 2:1 side slopes. The trenches will be excavated a maximum of 6-feet below the lowest elevation in the existing pit.

The first trench will be excavated in the north end of the existing pit. Tires are placed in the trenches in 25-foot lifts. Once a lift is placed, 5 feet of soil cover is placed over the tires. Another lift of tires will be placed over the first lift to reach the elevation of the existing ground around the gravel pit. The fill progression will move south from the first trench. Each trench will be excavated, a 25-foot lift of tires will be placed, then 5 feet of soil cover, then another lift of tires to reach 5 feet below existing ground level, and then covered with 5 feet of soil cover and a prescriptive closure cap. The Tire Depot will keep the exposed working tire slope limited to a maximum of 1/4 (one-quarter) acre. The Tire Depot will install 10-foot wide “berms” between cells which act as a fire break.

The Tire Depot will place soil cover on the entire working area every ninety days. Photographic evidence will be collected and submitted to DEQ every two months documenting adequate soil cover has been placed. Soil cover material is excavated from the portion of the disposal facility that has not been landfilled with tires yet.

Run-on stormwater is controlled by the berms located around the facility boundary and the access road. Stormwater will not run-off the site because the fill is designed to stay below the elevation of the native ground.

VII. Closure and Post Closure

The final tire fill configuration is shown in the plans. The top of the tire landfill will not exceed the elevation of the existing surrounding ground. The final closure will consist of two feet minimum of soil cover with a 6-inch layer of soil capable of supporting vegetation. All topsoil will be stripped and selectively stockpiled for future incorporation within the vegetative layer of the final cover system. The closure cap will be seeded with a native seed mixture. The tire landfill will be closed as each cell is completed.

At the end of the landfill life, the landfill area will be closed and used for range land or open space. After closure, the landfill will be monitored for adequate vegetation and settlement. Areas lacking vegetation will be reseeded.

VIII. Financial Assurance and Insurance

The Tire Depot will be subject to Financial Assurance on a per tire basis including tire storage above ground. The Tire Depot does carry liability insurance for its operation.

IX. Safety

The Tire Depot operates under OSHA safety standards. A first aid station is located in the main office. Notices are displayed on the wall and all employees have been informed of its location and the correct procedure for emergency protocols. The Tire Depot has a safety manual and has had the facility inspected by an OSHA-qualified safety inspector in the past. The Tire Depot does in-house safety training of its employees. The Tire Depot has posted signs around the property prohibiting smoking and other open flames.

X. Fire protection plan

In the event of a tire fire, staff will immediately contact 911 and ask for a response from both the Ronan Fire Department and the Polson Fire Department. Ronan Fire Department is the closest responding agency. Ronan has a substation in Pablo that would be the first to respond should the services for fire protection be needed. Polson Fire Department will also respond as needed on a mutual aid basis. Once the Fire Departments have been notified the Tire Depot will immediately notify the Montana DEQ through a phone call and email notice. A full list of all parties to be notified in the event of a fire are included in Appendix B.

The Tire Depot has 25,000 gallons of water available on the existing site in an underground cistern located underneath the floor of the equipment service building east of the existing tire landfill. This water supply will be used for fighting fires and dust control on site. During the summer months, the Tire Depot has irrigation rights for 17 acres and water access

through a 4-inch pressurized mainline from an irrigation ditch to the cistern location which can be re-used to fill the cistern. The locations of the cistern and pressurized mainline are shown on Figure 1.

There are fire extinguishers located in the main office building as well as in the equipment service building located on 20 acres just east of the shredding area. The Tire Depot also owns this property. The Tire Depot also has fire extinguishers mounted in all the major equipment on the site. Appendix C contains a list of the equipment that has fire extinguishers. There are two types of fire extinguishers located throughout the facilities. The two types are dry-chemical and foam-activated maintained specifically for tire fires. All employees have been instructed on proper fire extinguisher use along with the locations of each extinguisher.

The Tire Depot also has liquid tire foam additive stored on site so that the local fire departments can deploy tire foam in the event of a tire fire. Tire foam additive is stored inside the equipment service building shown on Figure 1. The tire foam will continue to be located at the existing facility and will be transferred to the new facility in the event of a fire. The tire foam cannot be subjected to freezing temperatures so it will be stored in the heated shop at the existing facility.

It has been determined that should a tire fire break out the best method of extinguishing the fire is to smother the fire by covering with sandy loam which is available on the soil borrow area located on the northeast portion of the existing property. Another source of sandy loam is in on site stockpiles at the new facility. In the event of a tire fire, the Tire Depot has an arrangement with Treasure State Gravel in Polson to quickly provide heavy earthmoving equipment to smother a fire before it progresses too quickly. The Tire Depot also has cooperation from Lake County located adjacent to the new facility to supply equipment to aid in the quick covering of any exposed tires for the purpose of fire suppression.

The Tire Depot has a strict policy of prohibiting any open flames on the property. If welding or other operations producing sparks are conducted on site, staff will remove tire shreds from the working area for a distance of at least 20 feet from the working area. The other alternative is to cover exposed shreds with sheet metal or some other non-flammable material during the welding operation.

XI. Regular Inspections and Documentation

Tire Depot staff will conduct weekly inspections of the landfill and document them in a log kept on site. A weekly inspection form is included in Appendix D. Inspections will document any evidence of surface and subsurface fires, size of exposed tire working area, condition of cover material, and condition of site access controls.

XII. Dust Control

The Tire Depot will monitor dust on site. Tire Depot facility does not typically experience dust issues. Shredding tires does not generate dust but soil hauling and placement activities can

cause dust issues occasionally. If dust becomes an issue on site it will be controlled with a water truck and motor grader.

Facility Equipment List

Quantity	Year	Make	Description
1	1990	INTL	Roll-Off Semi
1	1992	KEN	Semi
1	1995	VOL	Semi
1	1995	KEN	Semi
1	1996	VOL	Semi
2	1998	FRHT	Semi
1	2000	VOL	Semi
1	2001	FRHT	Semi
1	2001	FRHT	Semi
2	2006	FRHT	Semi
120	Varies	ALLOY	28 ft low/high cube single axel trailers
1	1992	FRU	Trailer for Roll-off Truck
1	1968	MICHIGAN	125 Loader
1		MICHIGAN	75B Loader
1	1969	GALION	T500 Road Grader
1	1981	KEN	Semi (used to move the shredder and chipper)
1	1985	CHEVY	Dump Truck
1	1995	VOLVO	Dump Truck
1	1987	FORD	Trailer Jockey Yard Truck
1	1990	CAT	Excavator 200B
1	1999	CAT	Excavator 312
1		INTL	Dozer
1	1993	ASPEN	20 ft. Tire Trailer
1	1996	FRHT	22 ft. Van Truck
1	1985	ALLOY	Converter Dolly Unit
1	1988	DORSE	Converter Dolly Unit
1	1983	COMET	Converter Dolly Unit
1	1991	EIGHT	Converter Dolly Unit
1	1994	EIGHT	Converter Dolly Unit
1	1994	EIGHT	Converter Dolly Unit
1	1987	FRUEH	Converter Dolly Unit
1	1987	COMET	Converter Dolly Unit
1			Converter Dolly Unit
1			Converter Dolly Unit
7			50 yard Container Units (for roll off semi)
8			40 yard Container Units (for roll off semi)
1	2012	Barclay	Shredder
1			60’ Discharge Conveyor
1			8’ x 16’ Infeed Conveyor
1	1998	Mustang	Skid Steer
1		TSI	TC-300 Wheel Crusher
1		VOIGHT	Truck Sidewall Cutter
1		SATURN	Truck Tire Sidewall Cutter
2		BRANICK	Tire Slicers
1	2007	Takeuchi	TW 65 Wheel Loader/Fork lift
1		Voight	Bead Puller

XIII. Number of Employees

The Tire Depot employs approximately 15 employees year round. These employees consist of yard workers, yard supervisor, CDL licensed truck drivers, mechanics and office personnel. The success of The Tire Depot to render service to the customers requires a united work force and full participation from all employees.

XIV. Potential for End Use

The Tire Depot recognizes the need to be good stewards of our environment and is looking to the future for better ways to dispose of unwanted waste. Though scrap tires are processed by shredding and landfilled in accordance to Montana State Department of Environmental Quality requirements, they do pose a risk to the environment. Tires use up air space and pose significant fire danger and a real potential to emit catastrophic pollutants into our environment when burning. The Tire Depot has looked at several options to utilize scrap tires that pose little environmental dangers. This includes several reuse alternatives. New technology gives hope that scrap tires can be used to create new renewable energy that is environmentally safe and economical. These are just a few of the options Tire Depot is looking at to help make our world a better place to live with a future for generations to come.

Appendix A

Facility License

Montana Department of Environmental Quality

WASTE MANAGEMENT AND REMEDIATION DIVISION
WASTE AND UNDERGROUND TANK MANAGEMENT BUREAU
SOLID WASTE LICENSING PROGRAM
PO BOX 200901
HELENA, MT 59620-0901
406-444-5300

STATE OF MONTANA

SOLID WASTE MANAGEMENT SYSTEM

ANNUAL LICENSE RENEWAL

LICENSE NUMBER 390

VERN REUM

IS LICENSED TO OPERATE THE

TIRE DEPOT

MAJOR CLASS III TIRE RESOURCE RECOVERY SYSTEM

(FOR THE ACCEPTANCE/DISPOSAL OF 1,000 TONS OR MORE ANNUALLY)

LOCATED AT

55528 US HWY 93, POLSON, MT 59860

LAKE COUNTY

FOR THE PERIOD

JULY 1, 2016 TO JUNE 30, 2017

THIS ANNUAL LICENSE IS CONDITIONED ON THE CONSTRUCTION AND MANAGEMENT OF THE SYSTEM AS APPROVED BY THE DEPARTMENT AND ON CONDITIONS IMPOSED BY THE ORIGINAL LICENSE. THE LICENSEE SHOULD BE AWARE THAT ITS FAILURE TO COMPLY WITH APPLICABLE LAW OR RULE, IN PARTICULAR TITLE 75, CHAPTER 10, PARTS 1 AND 2, MONTANA CODE ANNOTATED, AND ADMINISTRATIVE RULES OF MONTANA TITLE 17, CHAPTER 50, SUB-CHAPTERS 4, 5, AND 10 - 14, INCLUDING THE PAYMENT OF APPLICABLE FEES, MAY RESULT IN ENFORCEMENT ACTIONS, LICENSE REVOCATION, OR DENIAL OF AN APPLICATION FOR RENEWAL.

EDWARD A. THAMKE, BUREAU CHIEF
WASTE AND UNDERGROUND TANK MANAGEMENT BUREAU

THIS CERTIFICATE IS NOT TRANSFERABLE. A LICENSE RENEWAL APPLICATION IS DUE APRIL 1, 2017.

Appendix B

Fire Notification List

Telephone List

Tire Depot

Office Number	883-6111
Vern Reum, Owner	250-8285 (cell), 883-6110 (home)
Lori Felton, Office Manager	250-8542 (cell), 675-5538 (home)

Lake County

Sheriff Department:

- Non Emergency 883-7301
- Emergency 911
- LC Emergency Services 883-7253 (office), 249-2893 (cell)

Lake County Fire Department	883-3960
Ronan Fire Department	676-4235
St. Joseph Medical Center, Polson	911 or 883-5680

State of Montana-Department of Environmental Quality

Solid Waste Management Program:

- Rick Thompson, Program Manager 444-5345

Waste and Underground Tank Management Bureau

- Ed Thanke, Bureau Chief 444-6748

24 Hour MT Disaster & Emergency Services	324-4777
DEQ Spill Hotline	444-0379
National Spill Response Center	800-424-8802
USEPA Montana Office	457-5000

Consultants

On-Call Engineer:

Bob Church, Great West Engineering	431-8941 (cell) 449-8627 (office)

Contractors

Treasure State Concrete	883-8061
Crockett Excavating and Trucking	833-6135

Appendix C

Fire Extinguisher List

Fire Extingishers

	New	Had
Dumptruck 1	X	
Michigan 75	X	
Michigan 125	X	
Dumptruck 2		X
Cat 225	X	
Orange Yard truck	X	
Cat 312B		X
Dozer	X	
White Yard truck	X	
Volvo Yard Truck	X	
Takeuchi		X
Blue Yard truck Flat Bed	X	
Red Yard truck Pick up	X	

Appendix D

Weekly Inspection Form

Tire Depot
Weekly Inspection Report

Date: _____

Inspected By: _____

Weather During Week (Temperatures & Precipitation): _____

_____

_____

Work Activities

# of Trailers Received During Last Week: _____

# of Full Trailers Parked on Site: _____

Days Tires Shredded: _____

Tire Fill Depth (ft): _____

Tire Fill Area (___ ft x ___ ft)

Cistern Volume (gal) _____

Soil Cover Activities

Soil Cover Placed During Week: ☐ Yes ☐ No

If yes location: _____

Depth: _____

Last Date of Bi-monthly Cover: _____

Condition of Site Access Controls/Facilities

Perimeter Fence: _____

Gates: _____

Cameras: _____

Corrective Actions: _____

_____

Tire Fire

Any Evidence of Tire Fire: ☐ Yes ☐ No

Evidence Type (smoke, heat, flames, cracked soil cover, other): _____

_____

_____

Corrective Action: _____

_____

_____

Special Occurrences or Incidents: _____

_____

_____

Appendix E

County Agreement for Site Access

Lake County Commissioners *406-883-7204* *Fax (406) 883-7283*

LAKE COUNTY

106 4th Ave. E. *Polson, Mt. 59860*

April 9, 2018

Vern Reum
Tire Depot
55528 Hwy 93
Polson, MT 59860

RE: Access to property via County Facilities Lane.

The Lake County Commissioners approve your request for commercial access in the County right-of-way known as County Facilities Lane for the purpose of accessing property to stock pile tires for future use.

You are advised this is a secure area and access is limited to County hours of operation. You are responsible for any improvements required by the County to include a secure gate and any other improvements deemed necessary in the future due to road degradation and dust mitigation caused by operations. This can be revoked with a 30-day notice.

If you require further clarification, please feel free to contact the Lake County Commissioners office.

Respectfully,

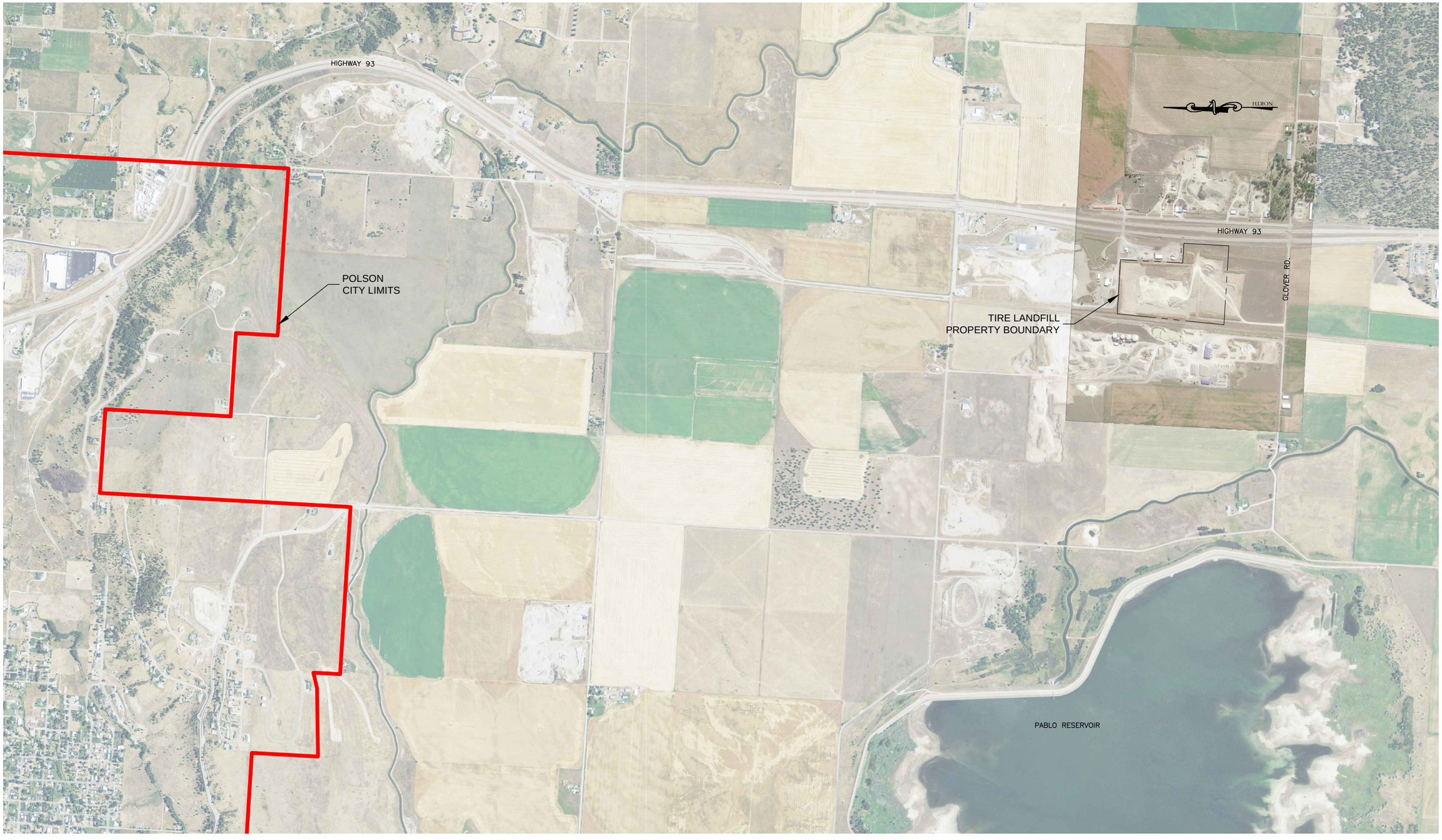
The Board of Lake County Commissioners

Gale Decker, Chairman | Dave Stipe, Member | William D. Barron, Member

Cc: Lake County Roads Department

Attachment 2

Facility Location Maps



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Location Map

REUM TIRE DEPOT
TIRE LANDFILL

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Site Map

REUM TIRE DEPOT
TIRE LANDFILL

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Attachment 3

Landowners and Land Use of Adjacent Properties

Attachment 3. Land Use

The proposed tire landfill is approximately 3.5 miles south of Polson, MT on the west side of Montana Highway 93. It is bounded on the east side by Lake County shops and Highway 93. The properties across Highway 93 are owned by the licensee and other private parties. The property is bounded on the north side by Lake County property. The west side of the property is bounded by a railroad with privately owned property across from the railroad. The south side of the property is bounded by private property. All of the immediately surrounding property is either County owned or industrially used. The names and addresses of the owners are listed below and are noted on the accompanying map. See Attachment #2 for a map showing surrounding property owners.

North Boundary

Owner	Lake County
Legal Description	S26, T22 N, R20 W, PT W2NE & W158' OF E2NE
Geocode	15-3228-26-1-01-04-000
Mailing Address	106 4th Ave E Polson, MT 59860-2125

Owner	Lake County
Legal Description	S26, T22 N, R20 W, E1/2NE, LESS TRS & LESS HWY (32.67 AC) EXEMPT 1992
Geocode	15-3228-26-1-01-14-0000
Mailing Address	Lake County Courthouse Polson, MT 59860-2137

West Boundary

Owner	Cenex Harvest States Cooperatives
Legal Description	S26, T22 N, R20 W, AMENDED TRACT A OF SP 170 16.76 ACRES
Geocode	15-3228-26-1-01-16-0000
Mailing Address	PO Box 909 Laurel, MT 590444-0909

Owner	Rehbein Douglas A Living Trust ETAL
Legal Description	S26, T22 N, R20 W, 5057, PARCEL 002, AMENDED TRACT B SP 170 87.18 ACRES
Geocode	15-3228-26-1-01-09-0000
Mailing Address	PO Box 1380 Bigfork, MT 59911

South Boundary

Owner	Rehbein Douglas A Living Trust ETAL
Legal Description	S26, T22 N, R20 W, E2SE LESS TR TO CO & HWY
Geocode	15-3228-26-1-01-12-0000
Mailing Address	PO Box 1380 Bigfork, MT 59911

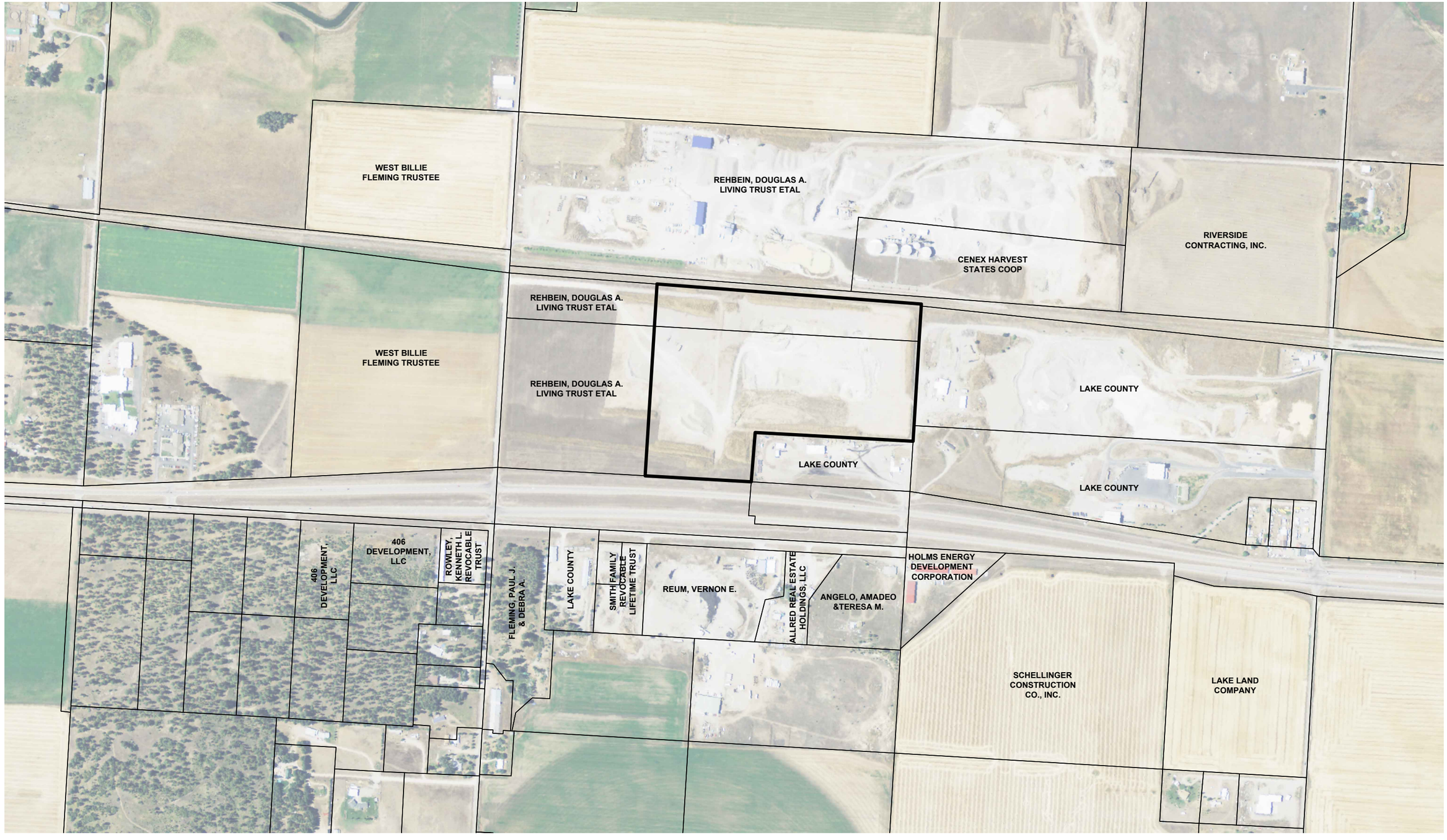
East Boundary

Owner	Lake County
Legal Description	S26, T22 N, R20 W, TR IN NESE, LESS HWY (10.02 AC)
Geocode	15-3228-26-1-01-13-0000
Mailing Address	106 4th Ave E Polson, MT 59860-2125

East of Highway 93

Owner	Vernon E Reum (Licensee)
Legal Description	S25, T22 N, R20 W, TR B ON COS 5243 IN W2SW4 LESS HWY
Geocode	15-3228-25-3-01-10-0000
Mailing Address	35414 Courville Trail Polson, MT 59860-7121

Owner	Smith Family Revocable Lifetime Trust
Legal Description	S25, T22 N, R20 W, TR 1 COS 4329 IN W2SW4 LESS HWY
Geocode	15-3228-25-3-01-09-0000
Mailing Address	395 Mission View Drive Polson, MT 59860-4141



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NORTH

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SCALE IN FEET

Adjacent Property Owners

REUM TIRE DEPOT
TIRE LANDFILL

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Attachment 4

Environmental Report

TIRE DEPOT

Environmental Report

Tire Landfill License Application

May 2018

GreatWest engineering®

Table of Contents

1.0 Affected Environment / Environmental Consequences 1

1.1 Land Use / Important Farmland / Formally Classified Lands 1

1.1.1 Affected Environment 1

1.1.2 General Land Use 1

1.1.3 Important Farmland 1

1.1.4 Formally Classified Lands 1

1.1.5 Environmental Consequences 1

1.1.6 Mitigation 1

1.2 Floodplains 1

1.2.1 Affected Environment 1

1.2.2 Environmental Consequences 1

1.2.3 Mitigation 2

1.3 Wetlands 2

1.3.1 Affected Environment 2

1.3.2 Environmental Consequences 2

1.3.3 Mitigation 2

1.4 Cultural Resources 2

1.4.1 Affected Environment 2

1.4.2 Environmental Consequences 2

1.4.3 Mitigation 2

1.5 Biological Resources 2

1.5.1 Affected Environment 2

1.5.2 Environmental Consequences 3

1.5.3 Mitigation 3

1.6 Water Quality Issues 3

1.6.1 Affected Environment 3

1.6.2 Environmental Consequences 4

1.6.3 Mitigation 4

1.7 Coastal Resources 4

1.8 Socio-economic/Environmental Justice 4

1.8.1 Affected Environment 4

1.8.2 Environmental Consequences 4
1.8.3 Mitigation 5
1.9 Miscellaneous Issues 5
2.0 Cumulative Effects 5
3.0 Summary of Mitigation 6

List of Exhibits

Exhibit A: Facility Location Map
Exhibit B: NRCS Soil and Land Use Reports
Exhibit C: FEMA Flood Insurance Rate Map
Exhibit D: Natural Heritage Program Wetlands Map
Exhibit E: Agency Response Letters
Exhibit F: Natural Heritage Program Species of Concern Search Results, Sage Grouse Map
Exhibit G: Tire Landfill Area Groundwater Wells
Exhibit H: Underground Storage Tanks
Exhibit I: Polson Nonattainment Area Map

1.0 Affected Environment / Environmental Consequences

1.1 Land Use / Important Farmland / Formally Classified Lands

1.1.1 Affected Environment

The affected area was once used as gravel pit by Treasure State Concrete and is located in T22N, R20W, Sec 26, E 1/2 SE 1/4, Geocode 15-3228-26-1-01-12-0000 (Exhibit A; Figure 1).

1.1.2 General Land Use

The proposed tire landfill site is located approximately 3.5 miles south of Polson on Highway 93 and was once used as a gravel pit by Treasure State Concrete.

1.1.3 Important Farmland

The proposed tire landfill site is considered predominately prime farmland if irrigated (Exhibit B). However, the property has been used as a gravel pit and very little vegetation is present in the areas that have been proposed for use for the tire Landfill. The property is not currently irrigated and contains Class 4 soils which have very severe limitations that reduce the choice of plants or that require very careful management, or both (Exhibit B).

1.1.4 Formally Classified Lands

The proposed project site is not located on any formally classified lands but is located approximately one mile east from the Pablo National Wildlife Refuge. The proposed project poses no risk to the Refuge.

1.1.5 Environmental Consequences

The proposed tire landfill property will utilize an in-place open cut gravel pit that is not serving any other purpose. Due to a lack of quality soils, the site does not offer any agricultural benefits.

1.1.6 Mitigation

Mitigation will not be required for the construction of the Tire landfill.

1.2 Floodplains

1.2.1 Affected Environment

The Tire landfill project site does not fall within any floodplains, according to the FEMA Flood Insurance Rate Maps (Exhibit C).

1.2.2 Environmental Consequences

There will be no direct environmental consequences to floodplains because construction activities are proposed outside of the floodplain.

1.2.3 Mitigation

Mitigation is not applicable because there will be no adverse environmental impacts to floodplains.

1.3 Wetlands

1.3.1 Affected Environment

The Montana Natural Heritage Program Mapping service does not show any mapped wetlands within the boundaries of the proposed tire landfill property (Exhibit D).

1.3.2 Environmental Consequences

There will be no adverse environmental impacts to wetlands because construction activities for this project will not be located in wetlands.

1.3.3 Mitigation

Mitigation is not applicable because no environmental impacts on wetlands are likely to be incurred.

1.4 Cultural Resources

1.4.1 Affected Environment

The Montana State Historic Preservation Office (SHPO) conducted a search for previously completed cultural investigations with the project area (Exhibit E). They did not discover any known cultural resources in the area that was evaluated.

1.4.2 Environmental Consequences

No adverse environmental impacts are anticipated for the tire landfill site since there are no structures more than 50 years old and no evidence of culturally significant activities have been observed at this location to date.

1.4.3 Mitigation

If cultural materials are discovered during construction, work will be halted and SHPO will be contacted to perform further investigations. The Contractor will be given instruction to shut down construction operations if any cultural material is found during the work.

1.5 Biological Resources

1.5.1 Affected Environment

The proposed solid waste site is located in the Mission Valley. The valley floor is composed of Quaternary material including glacial lake deposits, glacial outwash, and glacial till. According to the logs of deeper wells located south of the site (in Townships 19, 20, 21 N) encountered Quaternary-aged strata are underlain by deep alluvium composed of gravel and course sand (Smith, 2004). That deep alluvium can produce large volumes of water where it

is greater than 20 feet thick (Smith, 2004). Below the deep alluvium is bedrock composed of Proterozoic Belt Supergroup sedimentary rock; the Mission and Salish mountains bordering the Mission Valley are composed of the same bedrock material.

Local geologic data indicate that the site is located on Quaternary alluvium (Smith, 2004). The Quaternary alluvium is the product of several glacial and glaciaolacustrine advance and retreat cycles. The result of those processes is a deposit of intercalated silt, sand and gravel strata that are, in many places, laterally and vertically discontinuous. That situation complicates attempts to develop stratigraphic and hydrostratigraphic correlations (Smith, 2004). Despite the apparent complexities of the stratigraphy in the Mission Valley, LaFave (2004) concludes that the valley fill material can be considered to be a single aquifer.

The Montana Natural Heritage database lists a number of species of concern proximal to the tire landfill property (Exhibit F). Greater Sage Grouse habitat is not known to occur in the area according to the Montana Sage Grouse Habitat Conservation Program (Exhibit F).

1.5.2 Environmental Consequences

As noted in section 1.5.1, the Montana Natural Heritage Program database lists a number of animal species of concern in the area around the proposed tire landfill site (Exhibit F). However, habitat at this property has already been disturbed and the historical uses and activities make them inhospitable to the animal species listed. No impact on high quality habitat will occur at those locations.

1.5.3 Mitigation

Considering this site was an open cut gravel pit, the majority of impacts to the existing wildlife and vegetation have already been done. Incorporation of best management practices such as minimizing ground disturbance, washing off-road equipment prior to entering construction sites, revegetation with a native seed mixture, mulching, and fertilizing of disturbed areas to reduce weed establishment and prevent erosion will be implemented.

1.6 Water Quality Issues

1.6.1 Affected Environment

Records from the Montana Bureau of Mines and Geology's Ground-Water Information Center (GWIC) data base indicate that 48 wells have been drilled within one mile of the proposed solid waste site (Exhibit G). The majority of those local wells are for domestic use.

We used data from the closest eight wells, listed in Exhibit G, to the proposed site to develop groundwater elevations. These wells are all located within 2,000 feet of the site. Those data include each well's ground surface elevation and static water level, which allow for that calculation. Other well logs used for this analysis do not include ground surface elevations, so we estimated that value on the basis of GWIC-provided locations, local anecdotal information, and topographic data. We used the known or estimated ground surface elevations to calculate static water level (SWL) elevations.

Four of the eight wells proximal to the proposed solid waste site were drilled to depths greater than 100 feet. The remaining three were drilled to depths less than or equal to 100 feet. The fact that the SWLs in the deep wells are lower in elevation than those within the shallow wells leads us to conclude that the proposed solid waste site and/or the area proximal to the site may be underlain by perched saturated zones.

According to the lithology reported in these eight local well logs, the uppermost stratigraphic unit is composed of intercalated strata of varying grain size including sand, silt, gravel, and cobbles. Clay strata occur at depths as shallow as 52 feet below ground surface (bgs) and are intercalated with silt, sand, and gravel strata to depths of over 1,000 feet. Some of the gravel units interbedded with the clay produce water at rates ranging from 15 to 60 gpm. The most productive water-bearing zones in the deepest well, GWIC ID 212210, occur from 505 to 694 ft bgs, yielding 70 gpm in total.

No impact to surface water is anticipated with the proposed tire landfill.

1.6.2 Environmental Consequences

Considering groundwater is below the floor elevation of the proposed tire landfill, no environmental consequences are anticipated for any aspect of the project.

1.6.3 Mitigation

None of the agencies queried have indicated a requirement for mitigation.

1.7 Coastal Resources

Not Applicable

1.8 Socio-economic/Environmental Justice

1.8.1 Affected Environment

The Polson Tire Depot accepts approximately 1,000,000 equivalent passenger tires (PTE) per year. The tires are shredded and then landfilled. Currently, the Tire Depot disposes of the shredded tires on-site following the protocols set forth in the Operations and Maintenance Manual. With the existing disposal area set to reach final elevations within 3 years, the proposed tire landfill will provide over 40 years of additional capacity. The Tire Depot employs approximately 16 employees year round, and has been a steady employer since its inception in 1991.

1.8.2 Environmental Consequences

The tire landfill will not negatively affect the environment.

1.8.3 Mitigation

None of the agencies queried have indicated a requirement for mitigation with respect to socio-economic or environmental justice perspectives.

1.9 Miscellaneous Issues

The proposed tire landfill site is approximately 3.5 miles outside the Polson Nonattainment Area for particulate air pollution. Nonetheless, the Tire Depot will provide operational protocols with the Operation and Maintenance documents that assure the implementation of dust reducing practices.

2.0 Cumulative Effects

The proposed tire landfill poses no threat to the environment, wildlife, or cultural resources. Since the proposed site has already been used as an open cut gravel pit, one could argue that the tire landfill will utilize an area that currently offers little benefit, and, once the landfill is closed, will present an area that blends in with the natural surroundings. This expansion offers positive societal effects as it will maintain a number of local employment opportunities.

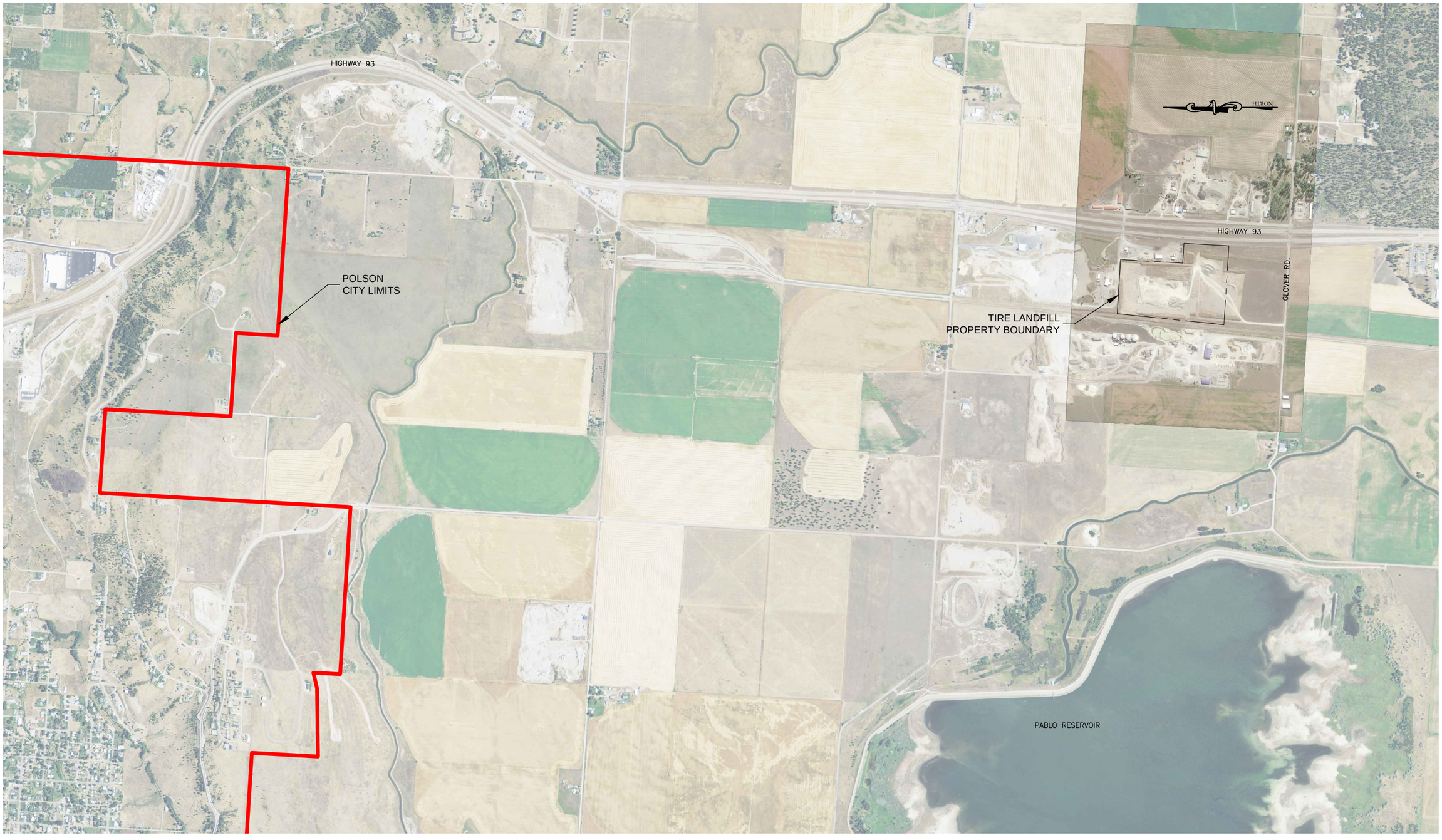
The Tire Depot recognizes the need to be good stewards of our environment and is looking to the future for better ways to dispose of unwanted waste. The Tire Depot has looked at several options to utilize scrap tires that pose little environmental dangers. This includes several reuse alternatives. New technology gives hope that scrap tires can be used to create new renewable energy that is environmentally safe and economical.

3.0 Summary of Mitigation

Environmental Resource	Environmental Consequence	Proposed Mitigation
Land Use	Utilization of in-place open cut gravel pit for placement of shredded tire waste.	None Required
Floodplains	None; construction will take place outside of the floodplain.	Not Applicable
Wetlands	None; construction will not take place on wetlands.	Not Applicable
Cultural Resources	There are no known cultural resources located within the project area.	If cultural materials are discovered during construction, work will be halted and SHPO contacted to perform further investigation.
Biological Resources	None Anticipated	Incorporation of best management practices such as minimizing ground disturbance, washing off-road equipment prior to entering construction sites, revegetation with a native seed mixture, mulching, and fertilizing of disturbed areas to reduce weed establishment and prevent erosion will be implemented.
Water Quality Issues	None Anticipated	BMPs will be used to minimize surface water runoff during construction. Any other permits required through DEQ review will be obtained.
Socio-Economic/Environmental Justice Issues	None Anticipated.	None Required
Miscellaneous Issues	3.5 miles outside of Nonattainment Area for particulate air pollution.	Develop dust control protocol via O&M Manual.

Exhibit A

Facility Location Map



0 750 1500
SCALE IN FEET

GreatWest engineering®

Location Map

REUM TIRE DEPOT
TIRE LANDFILL

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\License\1-16134-License-Facility Location Map.dwg

Exhibit B

NRCS Soil and Land Use Reports

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Lake County Area, Montana

Reum Tire Depot

April 16, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Lake County Area, Montana.....13
81—Jocko gravelly loam, 0 to 4 percent slopes.....13
82—Jocko gravelly loam, 4 to 15 percent slopes.....14
101—McCollum fine sandy loam, 0 to 2 percent slopes.....15
104—McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes.....17
155—Sacheen loamy fine sand, 0 to 8 percent slopes.....18
174—Walstead gravelly loam, 0 to 2 percent slopes.....19
Soil Information for All Uses.....21
Suitabilities and Limitations for Use.....21
Building Site Development.....21
Unpaved Local Roads and Streets.....21
Construction Materials.....26
Gravel Source.....26
Roadfill Source.....31
Land Classifications.....36
Farmland Classification.....36
Irrigated Capability Class.....40
Nonirrigated Capability Class.....44
References.....49

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	8.4	19.5%
82	Jocko gravelly loam, 4 to 15 percent slopes	0.1	0.3%
101	McCollum fine sandy loam, 0 to 2 percent slopes	5.9	13.6%
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	22.8	53.0%
155	Sacheen loamy fine sand, 0 to 8 percent slopes	4.0	9.4%
174	Walstead gravelly loam, 0 to 2 percent slopes	1.9	4.3%
Totals for Area of Interest		**43.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lake County Area, Montana

81—Jocko gravelly loam, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 4w70
Elevation: 2,500 to 3,900 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Farmland of local importance

Map Unit Composition

Jocko and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jocko

Setting

Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash

Typical profile

A - 0 to 13 inches: gravelly loam
Bw1 - 13 to 19 inches: very gravelly loam
Bw2 - 19 to 25 inches: very gravelly loamy sand
Bk - 25 to 60 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: Shallow to Gravel (SwGr) 15-19" p.z. (R044XW150MT)
Hydric soil rating: No

Minor Components

Lamoose

Percent of map unit: 5 percent
Landform: Outwash plains
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: No

Walstead
Percent of map unit: 5 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Jocko, very gravelly loam
Percent of map unit: 5 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Shallow to Gravel (SwGr) 15-19" p.z. (R044XW150MT)
Hydric soil rating: No

82—Jocko gravelly loam, 4 to 15 percent slopes

Map Unit Setting
National map unit symbol: 4w71
Elevation: 2,400 to 3,600 feet
Mean annual precipitation: 14 to 19 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Farmland of local importance

Map Unit Composition
Jocko and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jocko

Setting
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash

Typical profile
A - 0 to 7 inches: gravelly loam
Bw1 - 7 to 16 inches: very gravelly loam
Bw2 - 16 to 22 inches: very gravelly loamy sand
Bk - 22 to 60 inches: extremely gravelly coarse sand

Properties and qualities
Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: Shallow to Gravel (SwGr) 15-19" p.z. (R044XW150MT)
Hydric soil rating: No

Minor Components

Kerl

Percent of map unit: 6 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Silty (Si) 15-19" p.z. (R044XW184MT)
Hydric soil rating: No

Mccollum

Percent of map unit: 6 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Jocko, stony loam

Percent of map unit: 3 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Shallow to Gravel (SwGr) 15-19" p.z. (R044XW150MT)
Hydric soil rating: No

101—McCollum fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 4vvw
Elevation: 2,300 to 3,400 feet
Mean annual precipitation: 14 to 24 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 105 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mccollum and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mccollum

Setting

Landform: Alluvial fans, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 29 inches: fine sandy loam
Bw2 - 29 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Selon

Percent of map unit: 10 percent
Landform: Stream terraces, alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

104—McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 4vvz
Elevation: 1,300 to 4,600 feet
Mean annual precipitation: 14 to 20 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mccollum and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mccollum

Setting

Landform: Alluvial fans, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 29 inches: fine sandy loam
Bw2 - 29 to 42 inches: fine sandy loam
2C - 42 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Jocko

Percent of map unit: 10 percent
Landform: Alluvial fans, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Shallow to Gravel (SwGr) 15-19" p.z. (R044XW150MT)
Hydric soil rating: No

Sacheen

Percent of map unit: 5 percent
Landform: Stream terraces, alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Sandy (Sy) 15-19" p.z. (R044XW183MT)
Hydric soil rating: No

155—Sacheen loamy fine sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 4vy7
Elevation: 1,300 to 4,600 feet
Mean annual precipitation: 14 to 20 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 105 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Sacheen and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sacheen

Setting

Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 4 inches: loamy fine sand
C - 4 to 60 inches: loamy fine sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups
Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Mccollum
Percent of map unit: 10 percent
Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

174—Walstead gravelly loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 4vyz
Elevation: 2,900 to 5,000 feet
Mean annual precipitation: 16 to 25 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 70 to 125 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Walstead and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Walstead

Setting
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile
A - 0 to 13 inches: gravelly loam
Bw - 13 to 32 inches: very gravelly loam
Bk - 32 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Mcdonald

Percent of map unit: 4 percent
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Finleypoint

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Flott

Percent of map unit: 3 percent
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Unpaved Local Roads and Streets

Unpaved local roads and streets are those roads and streets that carry traffic year round but have a graded surface of local soil material or aggregate.

Description:

Unpaved local roads and streets are those roads and streets that carry traffic year round but have a graded surface of local soil material or aggregate.

The roads and streets consist of

(1) the underlying local soil material, either cut or fill, which is called "the sub-grade";

(2) the surface, which may be the same as the subgrade or may have aggrate such as crushed limestone added.

They are graded to shed water, and conventional drainage measures are provided. These roads and streets are built mainly from the soil at the site. Soil interpretations for local roads and streets are used as a tool in evaluating soil suitability and identifying soil limitations for the practice. The rating is for soils in their present condition and does not consider present land use. Soil properties and qualities that affect local roads and streets are those that influence the ease of excavation and grading and the traffic-supporting capacity. The properties and qualities that affect the ease of excavation and grading are hardness of bedrock or a cemented pan, depth to bedrock or a cemented pan, depth to a water table, flooding, the amount of large stones, and slope. The properties that affect traffic-supporting capacity are soil strength as inferred from the AASHTO group index and the Unified classification, subsidence, shrink-swell behavior, potential frost action, and depth to the seasonal high water table. The dust generating tendacy of the soil is also considered.

Map—Unpaved Local Roads and Streets

Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Unpaved Local Roads and Streets

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	Somewhat limited	Jocko (85%)	Dusty (0.06)	8.4	19.5%
			Jocko, very gravelly loam (5%)	Dusty (0.05)		
				Large stones (0.00)		
			Walstead (5%)	Frost action (0.50)		
				Dusty (0.04)		
82	Jocko gravelly loam, 4 to 15 percent slopes	Somewhat limited	Jocko (85%)	Slope (0.16)	0.1	0.3%
				Dusty (0.05)		
				Large stones (0.00)		
			McCollum (6%)	Frost action (0.50)		
			Kerl (6%)	Slope (0.63)		
				Frost action (0.50)		
				Dusty (0.11)		
			Jocko, stony loam (3%)	Slope (0.16)		
				Dusty (0.05)		
				Large stones (0.00)		
101	McCollum fine sandy loam, 0 to 2 percent slopes	Somewhat limited	McCollum (90%)	Frost action (0.50)	5.9	13.6%
			Selon (10%)	Frost action (0.50)		
				Dusty (0.01)		
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	Somewhat limited	McCollum (85%)	Frost action (0.50)	22.8	53.0%
			Jocko (10%)	Dusty (0.06)		
155	Sacheen loamy fine sand, 0 to 8 percent slopes	Not limited	Sacheen (90%)		4.0	9.4%
174	Walstead gravelly loam, 0 to 2 percent slopes	Somewhat limited	Walstead (90%)	Frost action (0.50)	1.9	4.3%
				Dusty (0.04)		
			Finleypoint (3%)	Frost action (0.50)		
				Dusty (0.04)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Flott (3%)	Frost action (0.50)		
				Dusty (0.04)		
Totals for Area of Interest					**43.0**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Somewhat limited	38.9	90.6%
Not limited	4.0	9.4%
Totals for Area of Interest	**43.0**	**100.0%**

Rating Options—Unpaved Local Roads and Streets

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Construction Materials

Construction materials interpretations are tools designed to provide guidance to users in selecting a site for potential source of various materials. Individual soils or groups of soils may be selected as a potential source because they are close at hand, are the only source available, or they meets some or all of the physical or chemical properties required for the intended application. Example interpretations include roadfill, sand and gravel, topsoil and reclamation material.

Gravel Source

Gravel consists of natural aggregates (2 to 75 millimeters in diameter) suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. Only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains gravel, the soil is considered a likely source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness. The ratings are for the whole soil, from the surface to a depth of about 6 feet. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be gravel.

The soils are rated "good," "fair," or "poor" as potential sources of gravel. A rating of "good" or "fair" means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Gravel Source

Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Poor

Fair

Good

Not rated or not available

Soil Rating Lines

Poor

Fair

Good

Not rated or not available

Soil Rating Points

Poor

Fair

Good

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Gravel Source

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	Poor	Jocko (85%)	Thickest layer (0.00)	8.4	19.5%
				Bottom layer (0.00)		
			Jocko, very gravelly loam (5%)	Thickest layer (0.00)		
				Bottom layer (0.00)		
			Walstead (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
82	Jocko gravelly loam, 4 to 15 percent slopes	Poor	Jocko (85%)	Thickest layer (0.00)	0.1	0.3%
				Bottom layer (0.00)		
			McCollum (6%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Kerl (6%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Jocko, stony loam (3%)	Thickest layer (0.00)		
				Bottom layer (0.00)		
101	McCollum fine sandy loam, 0 to 2 percent slopes	Poor	McCollum (90%)	Bottom layer (0.00)	5.9	13.6%
				Thickest layer (0.00)		
			Selon (10%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	Fair	McCollum (85%)	Thickest layer (0.00)	22.8	53.0%
				Bottom layer (0.13)		
155	Sacheen loamy fine sand, 0 to 8 percent slopes	Poor	Sacheen (90%)	Bottom layer (0.00)	4.0	9.4%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Thickest layer (0.00)		
			McCollum (10%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
174	Walstead gravelly loam, 0 to 2 percent slopes	Poor	Walstead (90%)	Bottom layer (0.00)	1.9	4.3%
				Thickest layer (0.00)		
			McDonald (4%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Finleypoint (3%)	Thickest layer (0.00)		
				Bottom layer (0.00)		
Totals for Area of Interest					**43.0**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Fair	22.8	53.0%
Poor	20.2	47.0%
Totals for Area of Interest	**43.0**	**100.0%**

Rating Options—Gravel Source

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Roadfill Source

Roadfill is soil material that is excavated in one place and used in road embankments in another place. The soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments. The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The soils are rated "good," "fair," or "poor" as potential sources of roadfill. The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place.

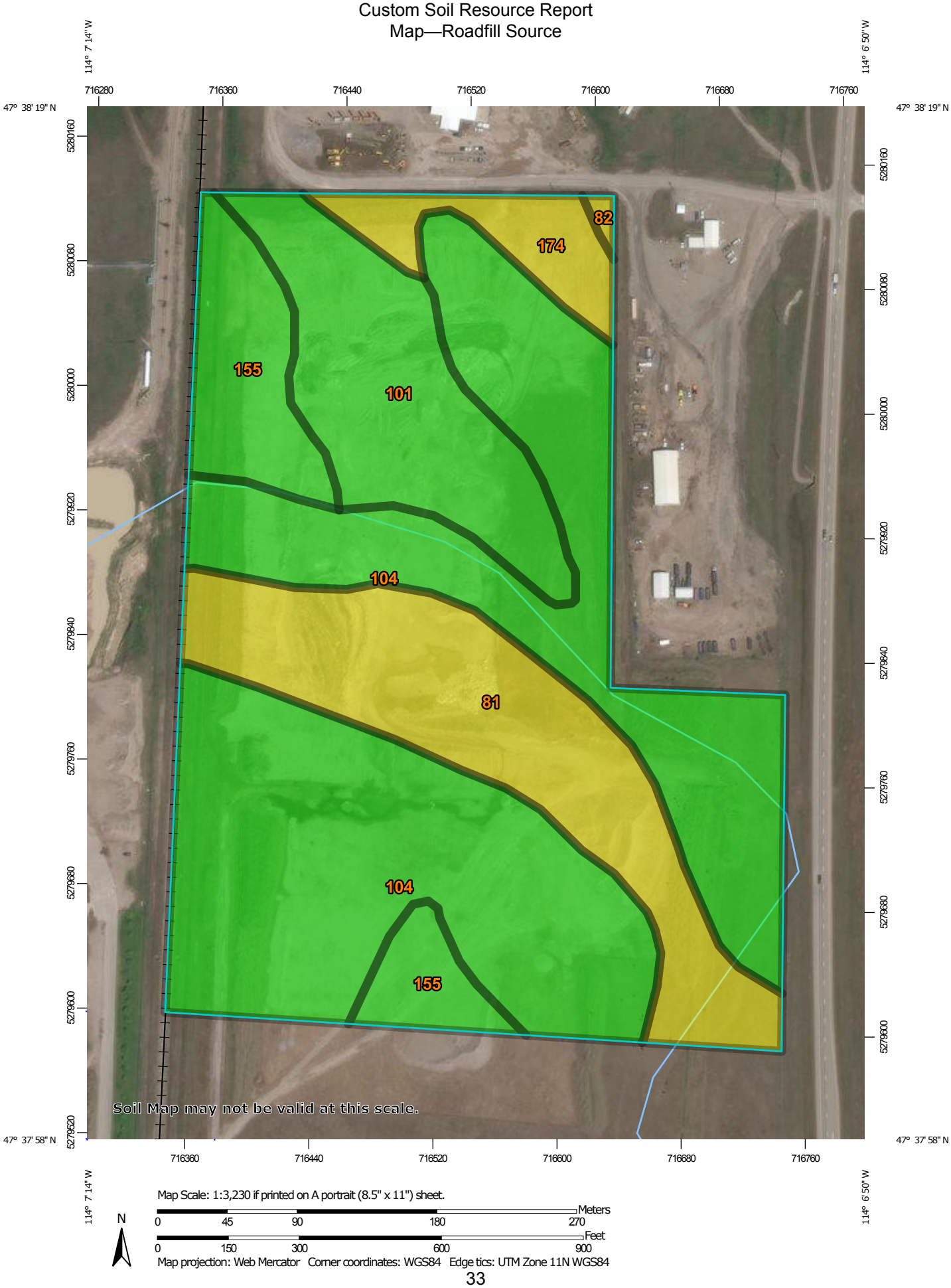
The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential). Normal compaction, minor processing, and other standard construction practices are assumed.

Numerical ratings between 0.00 and 0.99 are given after the specified features. These numbers indicate the degree to which the features limit the soils as sources of roadfill. The lower the number, the greater the limitation.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Roadfill Source



Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Poor

Fair

Good

Not rated or not available

Soil Rating Lines

Poor

Fair

Good

Not rated or not available

Soil Rating Points

Poor

Fair

Good

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Roadfill Source

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	Fair	Jocko (85%)	Cobble content (0.73)	8.4	19.5%
			Jocko, very gravelly loam (5%)	Cobble content (0.41)		
			Walstead (5%)	Dusty (0.99)		
82	Jocko gravelly loam, 4 to 15 percent slopes	Fair	Jocko (85%)	Cobble content (0.45)	0.1	0.3%
			Kerl (6%)	Dusty (0.90)		
			Jocko, stony loam (3%)	Cobble content (0.41)		
101	McCollum fine sandy loam, 0 to 2 percent slopes	Good	McCollum (90%)		5.9	13.6%
			Selon (10%)			
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	Good	McCollum (85%)		22.8	53.0%
			Sacheen (5%)			
155	Sacheen loamy fine sand, 0 to 8 percent slopes	Good	Sacheen (90%)		4.0	9.4%
			McCollum (10%)			
174	Walstead gravelly loam, 0 to 2 percent slopes	Fair	Walstead (90%)	Dusty (1.00)	1.9	4.3%
			Finleypoint (3%)	Cobble content (0.78)		
				Dusty (0.99)		
Totals for Area of Interest					**43.0**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Good	32.6	75.9%
Fair	10.3	24.1%
Totals for Area of Interest	**43.0**	**100.0%**

Rating Options—Roadfill Source

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

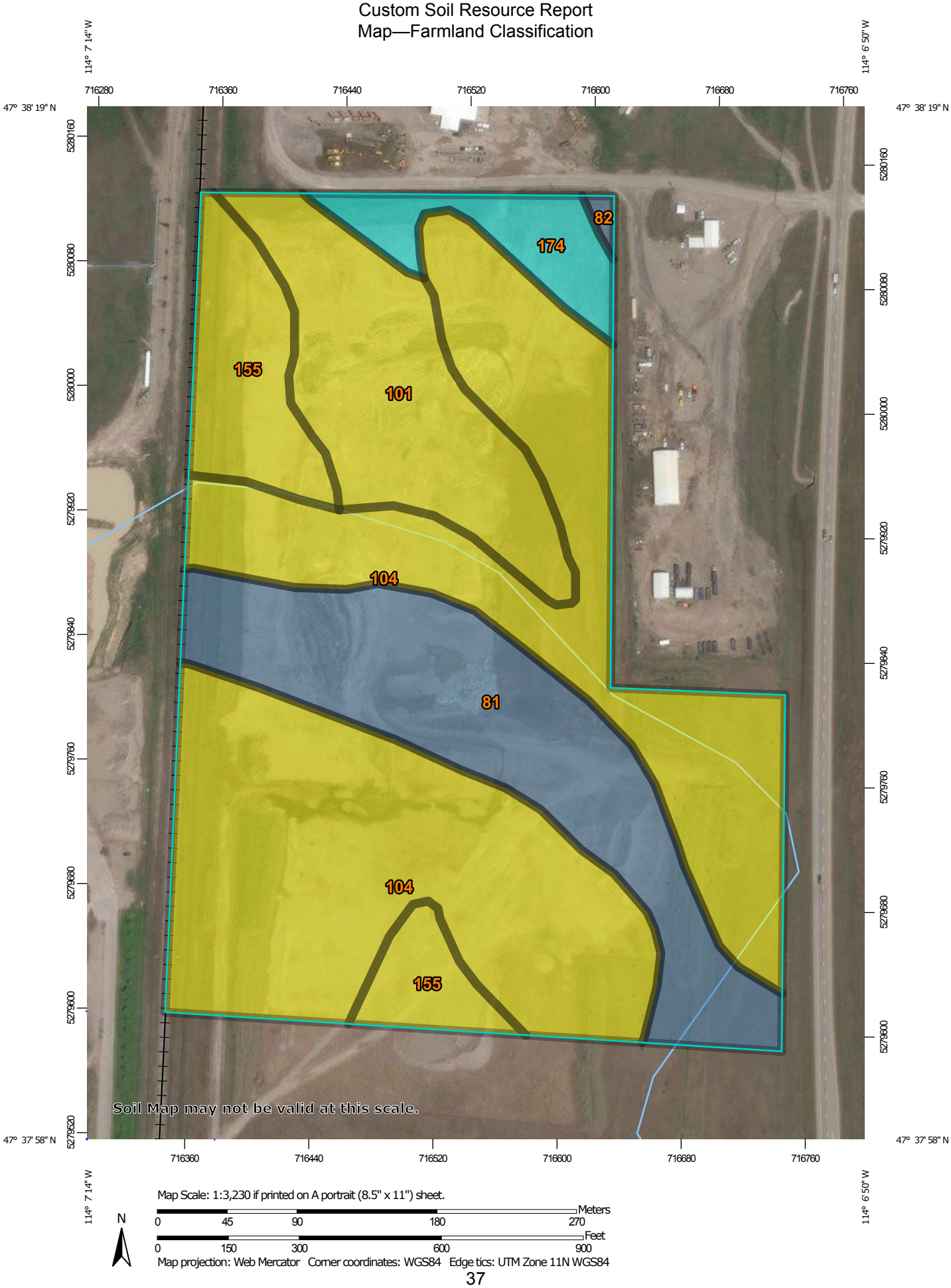
Tie-break Rule: Lower

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.



Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	Farmland of local importance	8.4	19.5%
82	Jocko gravelly loam, 4 to 15 percent slopes	Farmland of local importance	0.1	0.3%
101	McCollum fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated	5.9	13.6%
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	Prime farmland if irrigated	22.8	53.0%
155	Sacheen loamy fine sand, 0 to 8 percent slopes	Prime farmland if irrigated	4.0	9.4%
174	Walstead gravelly loam, 0 to 2 percent slopes	Farmland of statewide importance	1.9	4.3%
Totals for Area of Interest			**43.0**	**100.0%**

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Irrigated Capability Class

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Custom Soil Resource Report
Map—Irrigated Capability Class

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Soil Rating Lines

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Soil Rating Points

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Irrigated Capability Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	4	8.4	19.5%
82	Jocko gravelly loam, 4 to 15 percent slopes	4	0.1	0.3%
101	McCollum fine sandy loam, 0 to 2 percent slopes	4	5.9	13.6%
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	4	22.8	53.0%
155	Sacheen loamy fine sand, 0 to 8 percent slopes	4	4.0	9.4%
174	Walstead gravelly loam, 0 to 2 percent slopes	3	1.9	4.3%
Totals for Area of Interest			**43.0**	**100.0%**

Rating Options—Irrigated Capability Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Nonirrigated Capability Class

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

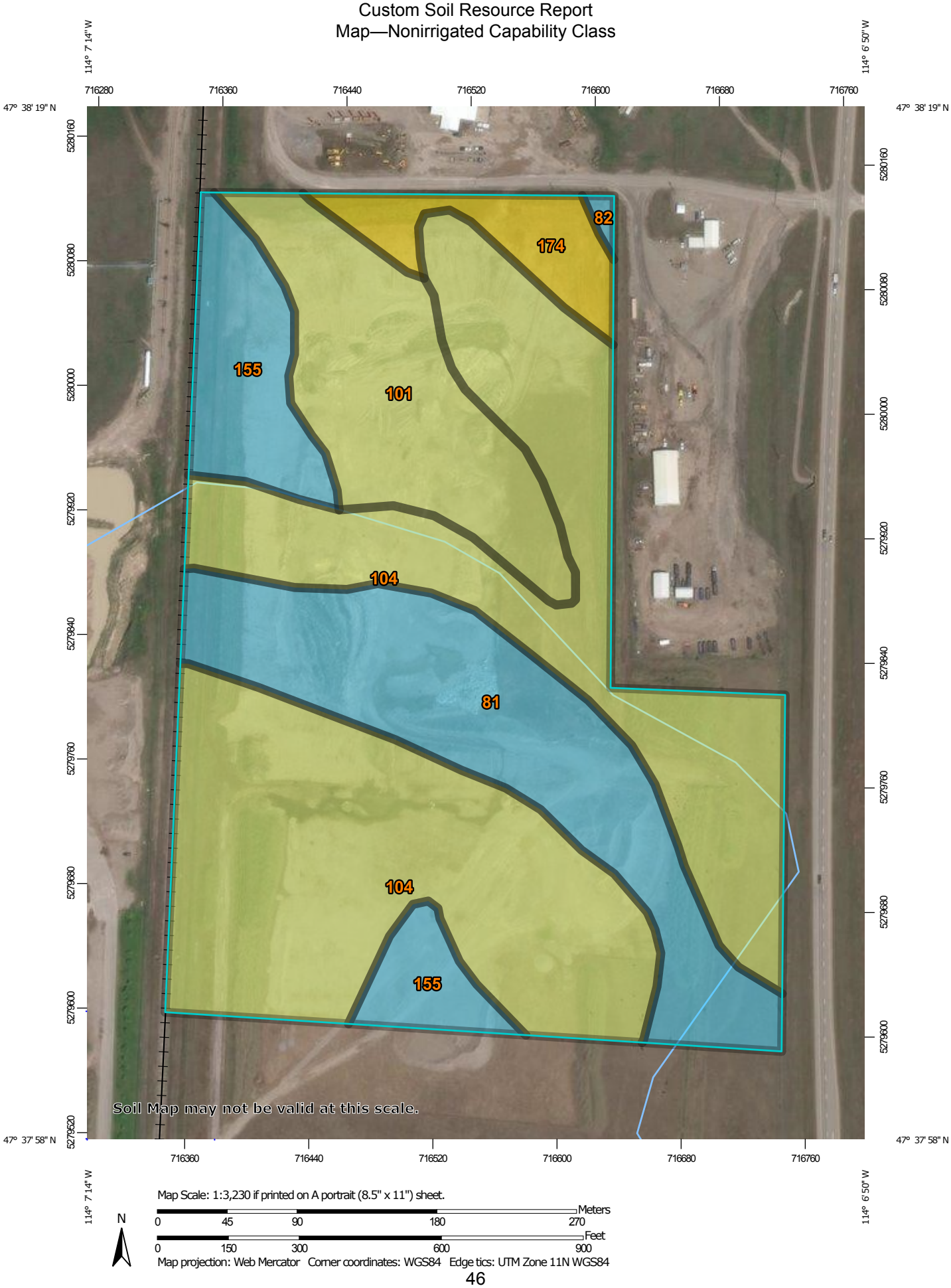
Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Custom Soil Resource Report
Map—Nonirrigated Capability Class



Map Scale: 1:3,230 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Soil Rating Lines

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Soil Rating Points

Capability Class - I

Capability Class - II

Capability Class - III

Capability Class - IV

Capability Class - V

Capability Class - VI

Capability Class - VII

Capability Class - VIII

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Nonirrigated Capability Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	6	8.4	19.5%
82	Jocko gravelly loam, 4 to 15 percent slopes	6	0.1	0.3%
101	McCollum fine sandy loam, 0 to 2 percent slopes	4	5.9	13.6%
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	4	22.8	53.0%
155	Sacheen loamy fine sand, 0 to 8 percent slopes	6	4.0	9.4%
174	Walstead gravelly loam, 0 to 2 percent slopes	3	1.9	4.3%
Totals for Area of Interest			**43.0**	**100.0%**

Rating Options—Nonirrigated Capability Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Exhibit C

FEMA Flood Insurance Rate Map

National Flood Hazard Layer FIRMette

FEMA

47°38'22.95"N

114°7'23.34"W

114°6'44.38"W

47°37'57.73"N

Feet

0 250 500 1,000 1,500 2,000

1:6,241.13

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth
- Regulatory Floodway *Zone AE, AO, AH, VE, AR*

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

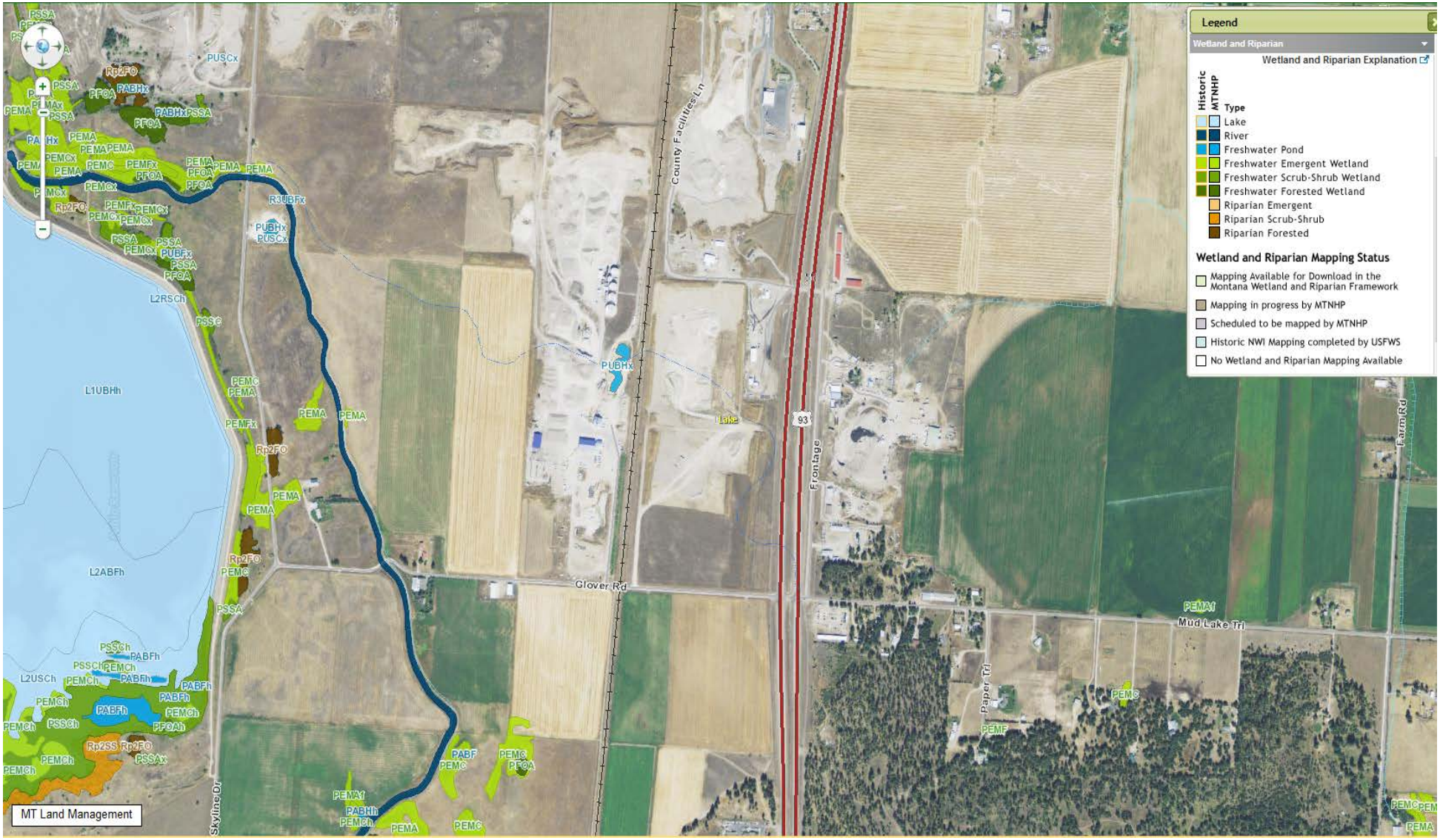
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/16/2018 at 1:41:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Exhibit D

Natural Heritage Program Wetland Map



Map of known aquatic and wetland areas, Reum Tire Depot, Polson, Montana (Montana Natural Heritage Program map viewer, 2018, http://mtnhp.org/mapviewer/?t=6).

Exhibit E

Agency Response Letters

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

April 12, 2018

Montana Department of Environmental Quality – Stormwater
Rainie DeVaney, Section Supervisor
DEQ MPEDS Permitting Section,
PO Box 200901
Helena, MT 59620-0901

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Environmental Quality – Stormwater

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

The proposed solid waste site will be 28 acres of a permitted opencut excavation/gravel pit. Tire Depot plans to convert the existing opencut excavation to a solid waste facility for tire monofill. An adjacent 12 acres not planned for tire disposal will be used for access roads, facility operations including soil stockpiling, storage and staging of cut and fill material, and equipment storage.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project please check the box below and countersign the bottom of this letter and return to Great West Engineering, Inc., at the address listed below.

BILLINGS
6780 Trade Center Ave
Billings, MT 59101
406 652.5000
Fax 406 248 1363

BOISE
3050 N. Lakeharbor Ln.
Suite 201
Boise, ID 83703
208 576.6646

MISSOULA
112 W. Front Street
Missoula, MT 59802
406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Environmental Quality – Stormwater has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

April 12, 2018

Montana Department of Environmental Quality – Air Quality
David Klemp, Air Quality Bureau Chief
DEQ Air Quality Bureau
PO Box 200901
Helena, MT 59620-0901

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Environmental Quality – Air Quality

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Billings, MT 59101
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Fax 406.248 1363

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3050 N. Lakeharbor Ln.
Suite 201
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208.576.6646

MISSOULA
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Missoula, MT 59802
406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Environmental Quality – Air Quality has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

Montana Department of Environmental Quality – Open cut
Chris Cronin, Section Supervisor
DEQ Opencut Mining Section
PO Box 200901
Helena, MT 59620-0901

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Environmental Quality – Open cut

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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BILLINGS
6780 Trade Center Ave
Billings, MT 59101
406.652.5000
Fax 406.248.1363

BOISE
3050 N. Lakeharbor Ln
Suite 201
Boise, ID 83703
208.576.6646

MISSOULA
112 W. Front Street
Missoula, MT 59802
406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Environmental Quality – Open cut has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

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April 12, 2018

Montana Department of Fish, Wildlife and Parks
Montana Department of Fish, Wildlife and Parks, Region 1
490 North Meridian Road
Kalispell, MT 59901

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Fish, Wildlife and Parks

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Fish, Wildlife and Parks has reviewed the enclosed proposal and has no comments.

_____
Signature

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406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering ®

April 12, 2018

Montana Department of Natural Resources and Conservation
1625 Eleventh Ave
Helena, MT 59620-1601

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Natural Resources and Conservation

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Helena, MT 59604

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Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Natural Resources and Conservation has reviewed the enclosed proposal and has no comments.

_____
Signature

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PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering ®

April 12, 2018

Montana Department of Transportation
PO Box 201001
Helena MT 59620

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana Department of Transportation

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana Department of Transportation has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
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Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering ®

April 12, 2018

Montana State Historic Preservation Office
Damion Murdo, State Historic Preservation Office,
Cultural Records Management
PO Box 201202
Helena MT 59620

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Montana State Historic Preservation Office

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Montana State Historic Preservation Office – including File Search Request Form has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

US Environmental Protection Agency, Montana Office
Federal Building,
10 West 15th Street, Suite 3200
Helena, MT 59625

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear US Environmental Protection Agency

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The US Environmental Protection Agency has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

US Fish and Wildlife Service, Ecological Services
585 Shepherd Way
Helena, MT 59601

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear US Fish and Wildlife Service

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The US Fish and Wildlife Service has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

US Army Corps of Engineers
10 West 15th Street, Suite 2200
Helena MT 59626

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear US Army Corps of Engineers

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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BILLINGS
6780 Trade Center Ave
Billings, MT 59101
406 652 5000
Fax 406.248 1363

BOISE
3050 N Lakeharbor Ln
Suite 201
Boise, ID 83703
208.576.6646

MISSOULA
112 W Front Street
Missoula, MT 59802
406 493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The US Army Corps of Engineers has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering

April 12, 2018

US Department Natural Resource and Conservation Service
7487 Montana Highway 200
Plains, MT 59859

RE: **New Solid Waste Facility for Tire Depot in Lake County, Montana**

Dear US Department Natural Resource and Conservation Service

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Sincerely,

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Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The US Department Natural Resource and Conservation Service has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering

April 12, 2018

US Department of Transportation
585 Shephard Way
Helena, MT 59601

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear US Department of Transportation

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Sincerely,

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Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The US Department of Transportation has reviewed the enclosed proposal and has no comments.

_____
Signature

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GreatWest engineering

April 12, 2018

Lake County Floodplain Administrator
Lake County Courthouse,
106 Fourth Avenue East
Polson, MT 59860

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Floodplain Administrator

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Lake County Floodplain Administrator has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering ®

April 12, 2018

Confederated Salish & Kootenai Tribes
P.O. Box 278
Pablo, MT 59855

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Confederated Salish & Kootenai Tribes

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Confederated Salish & Kootenai Tribes has reviewed the enclosed proposal and has no comments.

_____

Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

April 12, 2018

CSKT Disaster Emergency Services
Dale Nelson
P.O. Box 278
Pablo, MT 59855

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear CSKT Disaster Emergency Services

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The CSKT Disaster Emergency Services has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
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GreatWest engineering ®

April 12, 2018

Polson Rural Fire District
106 1st Street East
Polson MT 59860

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Polson Rural Fire District

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

The proposed solid waste site will be 28 acres of a permitted opencut excavation/gravel pit. Tire Depot plans to convert the existing opencut excavation to a solid waste facility for tire monofill. An adjacent 12 acres not planned for tire disposal will be used for access roads, facility operations including soil stockpiling, storage and staging of cut and fill material, and equipment storage.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project please check the box below and countersign the bottom of this letter and return to Great West Engineering, Inc., at the address listed below.

BILLINGS
6780 Trade Center Ave
Billings, MT 59101
406.652.5000
Fax 406.248.1363

BOISE
3050 N. Lakeharbor Ln
Suite 201
Boise, ID 83703
208.576.6646

MISSOULA
112 W. Front Street
Missoula, MT 59802
406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Polson Rural Fire District has reviewed the enclosed proposal and has no comments.

_____

Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering

April 12, 2018

Lake County Public Health Department
802 Main St A.
Polson, MT 59860

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Public Health Department

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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6780 Trade Center Ave
Billings, MT 59101
406 652.5000
Fax 406 248 1363

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208.576.6646

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112 W. Front Street
Missoula, MT 59802
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Helena, MT 59604

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Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Lake County Public Health Department has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
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GreatWest engineering ®

April 12, 2018

Lake County Planning Department
Jacob Feistner, Planning Director
Lake County Courthouse,
106 4th Ave E
Polson, MT. 59860

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Planning Department

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Lake County Planning Department has reviewed the enclosed proposal and has no comments.

_____
Signature

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Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering

April 12, 2018

Lake County Road Department
Jay Garrick, Lake County Road Dpartment Director
Lake County Courthouse,
106 4th Ave E
Polson, MT. 59860

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Road Department

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Lake County Road Department has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

Lake County Weed Control
Tom Benson, Lake County Weed Control
PO Box 670,
Pablo, MT 59855

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Weed Control

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Lake County Weed Control has reviewed the enclosed proposal and has no comments.

_____
Signature

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631

www.greatwesteng.com

GreatWest engineering ®

April 12, 2018

Occupational Safety and Health Administration
2900 4th Ave. N,
Billings, MT 59101

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Occupational Safety and Health Administration

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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3050 N. Lakeharbor Ln.
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Boise, ID 83703
208.576.6646

MISSOULA
112 W. Front Street
Missoula, MT 59802
406.493.0312

Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

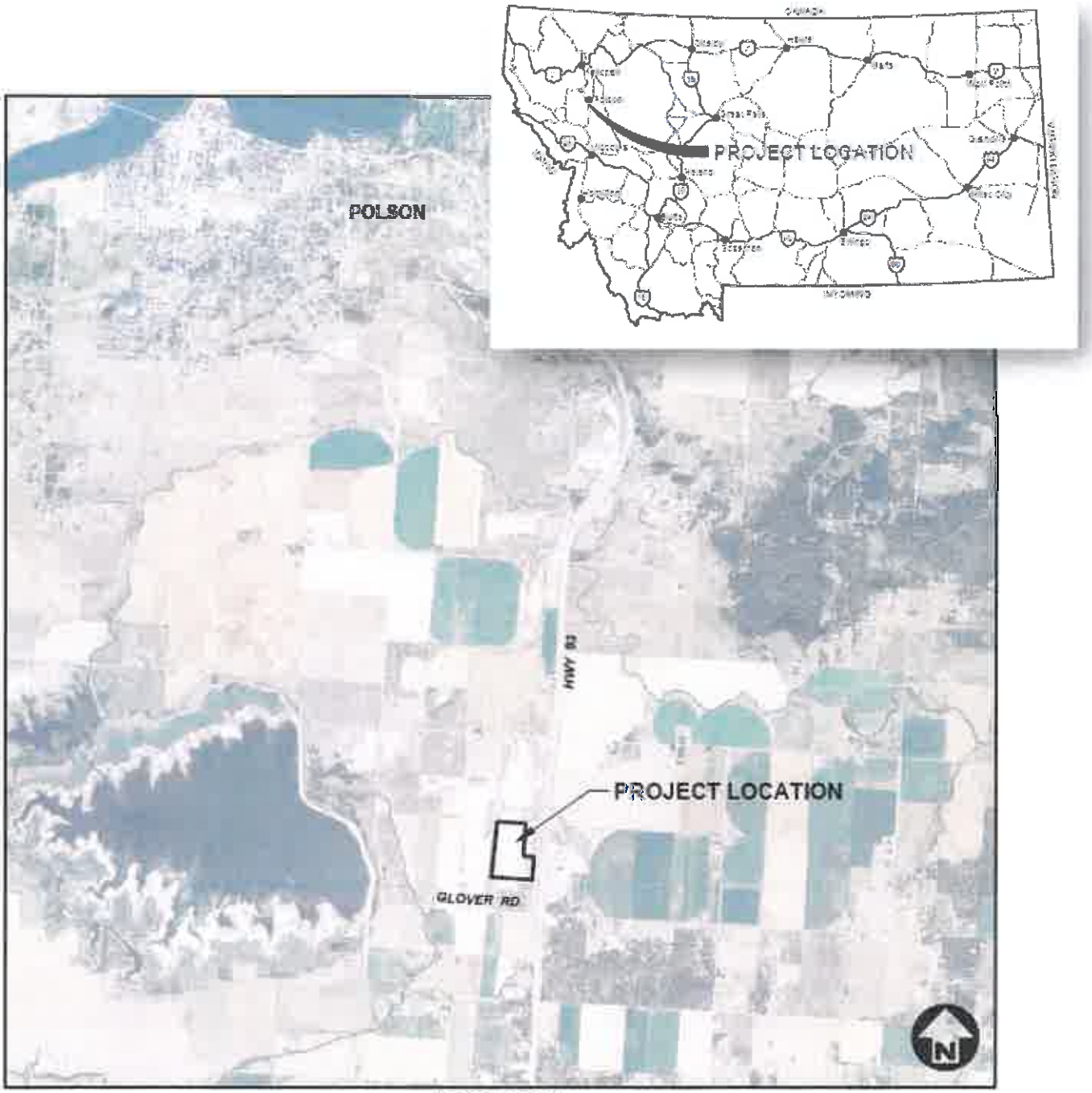
Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] The Occupational Safety and Health Administration has reviewed the enclosed proposal and has no comments.

_____
Signature

Aerial Vicinity Map
Proposed New Solid Waste Facility for Tire Depot



NOT TO SCALE

GreatWest engineering
2501 BELT VIEW DRIVE
HELENA, MT 59601
(406)449-5627

HELENA
PO Box 4817 ▪ 2501 Belt View Drive
Helena, MT 59604
406.449.8627 ▪ Fax 406.449.8631
www.greatwesteng.com

GreatWest engineering

April 12, 2018

Lake County Conservation District
64352 US Hwy 93
Ronan MT 59864

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Dear Lake County Conservation Distric

We are requesting your review of possible environmental impacts from a proposed tire monofill Class III Solid Waste Management System for Tire Depot. The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SE ¼); one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (please see enclosed Aerial Vicinity Map).

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Please return your written comments to Andrea Stanley, Geologist, astanley@greatwesteng.com or the following address:

Great West Engineering, Inc.
PO Box 4817
Helena, MT 59604

If you need any further information or wish to discuss the project, please contact me at (406) 493-0312.

Sincerely,

Great West Engineering, Inc.

Andrea Stanley, PG
Geologist

Attachment: Aerial Vicinity Map

[ ] Lake County Conservation Distric has reviewed the enclosed proposal and has no comments.

_____
Signature

LAKE COUNTY ENVIRONMENTAL HEALTH
106 FOURTH AVENUE EAST
POLSON, MT 59860-2175

PH: 406-883-7236 FAX: 406-883-7205
Email:envhealth@lakemt.gov

May 4, 2018

Andrea Stanley, PG
Geologist
Great West Engineering, INC.
P.O. Box 4817
Helena, Montana 59604

RE: New Solid Waste Facility for Tire Depot in Lake County, Montana

Ms. Stanley:

Thank you for requesting review of possible environmental impacts from a proposed tire monofill Class II Solid Waste Management System for Tire Depot. The only comment that I have is concerning the proximity of the existing public water supply (MT#0004515) serving the Lake County Solid Waste, Weed, and Road Department buildings. The public water supply is located on Lake County property to the north of the proposed development.

Do not hesitate to contact me or this department should you have any questions as you proceed with review.

Sincerely,

Diana K. Luke, R.S.

Diana Luke, R.S.
Director

From: Stephanie Beckert
To: Travis Craig
Subject: Fwd: SHPO File Search Request - for New Solid Waste Facility in Lake County, Montana
Date: Monday, April 16, 2018 1:31:25 PM
Attachments: 2018041604.pdf

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: "Murdo, Damon" <dmurdo@mt.gov>
Date: 4/16/18 1:20 PM (GMT-07:00)
To: Andrea Stanley <astanley@greatwesteng.com>
Cc: Stephanie Beckert <sbeckert@greatwesteng.com>
Subject: RE: SHPO File Search Request - for New Solid Waste Facility in Lake County, Montana

Big Sky. Big Land. Big History.
Montana
Historical Society

April 16, 2018

Andrea Stanley
Great West Engineering, Inc.
2501 Beltview Dr.
Helena MT 59601

RE: NEW SOLID WASTE FACILITY FOR TIRE DEPOT, LAKE COUNTY. SHPO Project #: 2018041604

Dear Andrea:

I have conducted a cultural resource file search for the above-cited project located in Sections 26, T22N R20W. According to our records there has been no previously recorded site within the designated search locale. The absence of cultural properties in the area does not mean that they do not exist but rather may reflect the absence of any previous cultural resource inventory in the area, as our records indicated none.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are to be altered and are over fifty years old we would recommend that they be recorded and a determination of their eligibility be made.

As long as there will be no disturbance or alteration to structures over fifty years of age we feel that

there is a low likelihood cultural properties will be impacted. We, therefore, feel that a recommendation for a cultural resource inventory is unwarranted at this time. However, should structures need to be altered or if cultural materials be inadvertently discovered during this project we would ask that our office be contacted and the site investigated.

If you have any questions regarding the cultural resources within the proposed project area, please contact me at (406) 444-7767 or by e-mail at dmurdo@mt.gov. I have attached an invoice for the file search. Thank you for consulting with us.

Sincerely,

Damon Murdo
Cultural Records Manager
State Historic Preservation Office

File: DEQ/AIR&WATER WASTE MNG/2018

From:	Andrea Stanley
To:	Travis Craig
Cc:	Stephanie Beckert
Subject:	FW: USFWS reply - Tire Depot Waste Facility, Pablo, MT
Date:	Wednesday, May 9, 2018 9:08:27 AM

Good morning Travis,

Please see the attached response from US FWS regarding Tire Depot and add to project file.

Thanks!
Andrea

Andrea Stanley, PG | Geologist
Great West Engineering, Inc.
DIRECT: 406-493-0312
CELL: 406-203-6374

www.greatwesteng.com

From: Conard, Ben <ben_conard@fws.gov>
Sent: Wednesday, May 9, 2018 7:06 AM
To: Andrea Stanley <astanley@greatwesteng.com>
Cc: Ben Conard <ben_conard@fws.gov>
Subject: USFWS reply - Tire Depot Waste Facility, Pablo, MT

Ms. Stanley,

Thank you for your letter and supporting material dated April 12, 2018, requesting U.S. Fish and Wildlife Service comments on the proposed Solid Waste Facility for Tire Depot, located one mile north of Pablo, Montana.

This email represents our official response to your inquiry for your records.

The U.S. Fish and Wildlife Service reviewed the maps and project description and has no comments or concerns regarding federally-listed threatened or endangered species or critical habitat. The species that occur in greater Lake County are not supported within the proposed project footprint and would not be affected.

Thank you for the opportunity to comment. Do not hesitate to contact me if we may be of any further assistance.

Regards,
Ben Conard

Ben Conard
U.S. Fish and Wildlife Service - Montana Ecological Services Office
780 Creston Hatchery Road
Kalispell, MT 59901
phone: (406) 758-6882

From: Stephanie Beckert
To: Travis Craig
Subject: Fwd: SHPO File Search Request - for New Solid Waste Facility in Lake County, Montana
Date: Monday, April 16, 2018 1:31:25 PM
Attachments: 2018041604.pdf

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
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Date: 4/16/18 1:20 PM (GMT-07:00)
To: Andrea Stanley <astanley@greatwesteng.com>
Cc: Stephanie Beckert <sbeckert@greatwesteng.com>
Subject: RE: SHPO File Search Request - for New Solid Waste Facility in Lake County, Montana

Big Sky. Big Land. Big History.
Montana
Historical Society

April 16, 2018

Andrea Stanley
Great West Engineering, Inc.
2501 Beltview Dr.
Helena MT 59601

RE: NEW SOLID WASTE FACILITY FOR TIRE DEPOT, LAKE COUNTY. SHPO Project #: 2018041604

Dear Andrea:

I have conducted a cultural resource file search for the above-cited project located in Sections 26, T22N R20W. According to our records there has been no previously recorded site within the designated search locale. The absence of cultural properties in the area does not mean that they do not exist but rather may reflect the absence of any previous cultural resource inventory in the area, as our records indicated none.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are to be altered and are over fifty years old we would recommend that they be recorded and a determination of their eligibility be made.

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Sincerely,

Damon Murdo
Cultural Records Manager
State Historic Preservation Office

File: DEQ/AIR&WATER WASTE MNG/2018

Exhibit F

Natural Heritage Program Species of Concern Search Results, Sage Grouse Map

Map of know Sage Grouse Habitat Conservation Areas, Reum Tire Depot, Polson, Montana (Montana Sage Grouse Habitat Conservation Program map viewer, 2018, https://sagegrouse.mt.gov/ProgramMap).

Montana Natural Heritage - SOC Report Species List Last Updated **05/03/2016**

Animal Species of Concern

12 Species of Concern
Filtered by the following criteria:
MT Status = Species of Concern
Township = 022N020W (based on mapped Species Occurrences)

MONTANA Natural Heritage Program

A program of the Montana State Library's Natural Resource Information System **operated by the** University of Montana.

Expand All | Collapse All

Introduction

Species of Concern

Species of Concern
12 Species
Filtered by the following criteria:
MT Status = Species of Concern
Township = 022N020W (based on mapped **Species Occurrences**)

MAMMALS (MAMMALIA)

2 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
Corynorhinus townsendii Townsend's Big-eared Bat	**Vespertilionidae** Bats	G4	S3		Sensitive - Known on Forests (BD, BRT, CG, FLAT, HLC, KOOT, LOLO)	SENSITIVE	SGCN3	5%	87%	Caves in forested habitats
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Fergus, Flathead, Gallatin, Garfield, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Phillips, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Silver Bow, Treasure, Valley, Yellowstone								
Myotis lucifugus Little Brown Myotis	**Vespertilionidae** Bats	G3	S3				SGCN3	3%	100%	Generalist
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Mccone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone								

BIRDS (AVES)

7 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
Ardea herodias Great Blue Heron	**Ardeidae** Bitterns / Egrets / Herons / Night-Herons	G5	S3	MBTA			SGCN3	3%	100%	Riparian forest
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, Mccone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Treasure, Valley, Wheatland, Wibaux, Yellowstone **State Rank Reason:** Small breeding population size, evidence of recent declines, and declining regeneration of riparian cottonwood forests due to altered hydrology and grazing.								
Chlidonias niger Black Tern	**Laridae** Gulls / Terns	G4G5	S3B	MBTA; BCC11		SENSITIVE	SGCN3	7%	100%	Wetlands
		Species Occurrences verified in these Counties: Blaine, Carter, Cascade, Chouteau, Daniels, Flathead, Glacier, Golden Valley, Lake, Madison, Missoula, Phillips, Pondera, Powell, Roosevelt, Sanders, Sheridan, Teton, Yellowstone **State Rank Reason:** Species has a small breeding population size and negative short-term population trends.								
Dolichonyx oryzivorus Bobolink	**Icteridae** Blackbirds	G5	S3B	MBTA			SGCN3	9%	100%	Moist grasslands
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Madison, Mccone, Meagher, Missoula, Musselshell, Park, Petroleum, Phillips, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Sweet Grass, Teton, Valley, Wheatland, Wibaux, Yellowstone **State Rank Reason:** Species has undergone recent large population declines in Montana and a patchwork of declines and increases have been documented in surrounding states and provinces.								
Gavia immer Common Loon	**Gaviidae** Loons	G5	S3B	MBTA	Sensitive - Known on Forests (FLAT, KOOT, LOLO)		SGCN3	1%	14%	Mountain lakes w/ emergent veg
		Species Occurrences verified in these Counties: Flathead, Glacier, Lake, Lewis and Clark, Lincoln, Missoula, Powell, Sanders, Teton								
Hydroprogne caspia Caspian Tern	**Laridae** Gulls / Terns	G5	S2B	MBTA		SENSITIVE	SGCN2	0%	4%	Large rivers, lakes
		Species Occurrences verified in these Counties: Broadwater, Garfield, Lake, Mccone, Phillips, Pondera, Powell, Sheridan, Teton, Toole, Valley								
Numenius americanus Long-billed Curlew	**Scolopacidae** Sandpipers	G5	S3B	MBTA; BCC10; BCC11; BCC17		SENSITIVE	SGCN3	19%	100%	Grasslands
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Madison, Mccone, Meagher, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone								
Sterna forsteri Forster's Tern	**Laridae** Gulls / Terns	G5	S3B	MBTA		SENSITIVE	SGCN3	1%	59%	Wetlands
		Species Occurrences verified in these Counties: Beaverhead, Blaine, Cascade, Chouteau, Hill, Lake, Lewis and Clark, Petroleum, Phillips, Powell, Roosevelt, Sheridan, Teton								

FISH (ACTINOPTERYGII)

3 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
Oncorhynchus clarkii lewisi Westslope Cutthroat Trout	**Salmonidae** Trout	G4T4	S2		Sensitive - Known on Forests (BD, BRT, CG, FLAT, HLC, KOOT, LOLO)	SENSITIVE	SGCN2		34%	Mountain streams, rivers, lakes
		Species Occurrences verified in these Counties: Beaverhead, Broadwater, Cascade, Chouteau, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Teton, Wheatland **State Rank Reason:** The Westslope Cutthroat trout is currently ranked "S2" in Montana because it is at risk due to very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to extirpation in the state.								
Prosopium coulteri Pygmy Whitefish	**Salmonidae** Trout	G5	S3				SGCN3, SGIN	1%	1%	Deep mountain lakes and tributaries
		Species Occurrences verified in these Counties: Flathead, Lake, Lincoln, Missoula **State Rank Reason:** The Pygmy Whitefish is currently listed as an "S3" species of concern in Montana because they are potentially at risk because of limited and/or declining numbers, range and/or habitat, even though it may be abundant in some areas.								
Salvelinus confluentus Bull Trout	**Salmonidae** Trout	G4	S2	LT; CH	Threatened, Critical Habitat on Forests (BD, BRT, FLAT, HLC, KOOT, LOLO)	SPECIAL STATUS	SGCN2	5%	18%	Mountain streams, rivers, lakes

		Species Occurrences verified in these Counties: Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders

Potential Species of Concern

Special Status Species

Additions To Statewide List

Species Removed From Statewide List

Species of Greatest Inventory Need

Citation for data on this website:
Montana Animal Species of Concern Report. Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. Retrieved on 4/16/2018, from http://mtnhp.org/SpeciesOfConcern/?AorP=a

Montana Natural Heritage - SOC Report

Species List Last Updated **05/03/2016**

Plant Species of Concern

5 Species of Concern
Filtered by the following criteria:
MT Status = Species of Concern
Township = 022N020W (based on mapped Species Occurrences)

MONTANA Natural Heritage Program

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Introduction

Species of Concern

Species of Concern
5 Species
Filtered by the following criteria:
MT Status = Species of Concern
Township = 022N020W (based on mapped **Species Occurrences**)

FERNS AND FERN ALLIES (PTERIDOPHYTA)

1 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
Equisetum palustre Marsh Horsetail		**Equisetaceae** Horsetails	G5	S3					
			Species Occurrences verified in these Counties: Beaverhead, Flathead, Glacier, Lake, Lincoln, Madison, Missoula, Ravalli, Sanders **State Rank Reason:** Equisetum palustre is known from a small number of sites in seven counties of western Montana.						

FLOWERING PLANTS - DICOTS (MAGNOLIOPSIDA)

1 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
Castilleja covilleana Coville Indian Paintbrush		**Orobanchaceae** Broomrape Family	G3G4	S3		Sensitive - Known on Forests (BRT) Sensitive - Suspected on Forests (BD)		2	Subalpine slopes
			Species Occurrences verified in these Counties: Flathead, Lake, Missoula, Ravalli **State Rank Reason:** This species is known in Montana, primarily from the West Fork of the Bitterroot River on the Bitterroot National Forest. 5 occurrences are known from historical collections or have unknown status. A few occurrences contain minor amounts of spotted knapweed and others occur in habitats that are susceptible to invasion by knapweed and other invasive species. Timber harvest activities may also pose a threat to some populations.						

FLOWERING PLANTS - MONOCOTS (LILIOPSIDA)

3 SPECIES
MT STATUS = SPECIES OF CONCERN
TOWNSHIP = 022N020W (based on mapped **Species Occurrences**)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
Acorus americanus Sweetflag	**Acorus calamus [misapplied]**	**Acoraceae** Sweetflag/Calamus Family	G5	S1S2					Wetland/Riparian
			Species Occurrences verified in these Counties: Flathead, Lake **State Rank Reason:** This species occurs at the edge of its range in Montana, where it has been collected from two localities in the vicinity of Flathead Lake. Current status of these populations is largely unknown. The species has likely been negatively impacted by hydrologic alterations and devolopment in the area.						
Carex lacustris Lake-bank Sedge		**Cyperaceae** Sedges	G5	S1S2		Sensitive - Known on Forests (FLAT)		2	Fens and marshes
			Species Occurrences verified in these Counties: Lake, Missoula **State Rank Reason:** A rare species in Montana, known only from a few occurrences from Lake County.						
Dichanthelium oligosanthes var. scribnerianum Scribner's Panic Grass	**Panicum oligosanthes var. scribnerianum, Panicum scribnerianum**	**Poaceae** Grasses	G5T5	S1S2					Mesic, sandy woodlands (low-elevation)
			Species Occurrences verified in these Counties: Lake, Powder River **State Rank Reason:** Scribner's panic grass is a plant of dry woodlands, known from widely separated sites in southeastern and northwestern Montana. Only one large-sized population is known in the state, two others are very small, and the fourth occurrence is known only from a historical collection. Occurrences in eastern Montana may be negatively impacted by cattle grazing. The largest occurrence in the state lies adjacent to Highway 93 and negative impacts associated with expansion of the highway is likely. Invasive weeds and forest encroachment are also problems at this site.						

Potential Species of Concern

Special Status Species

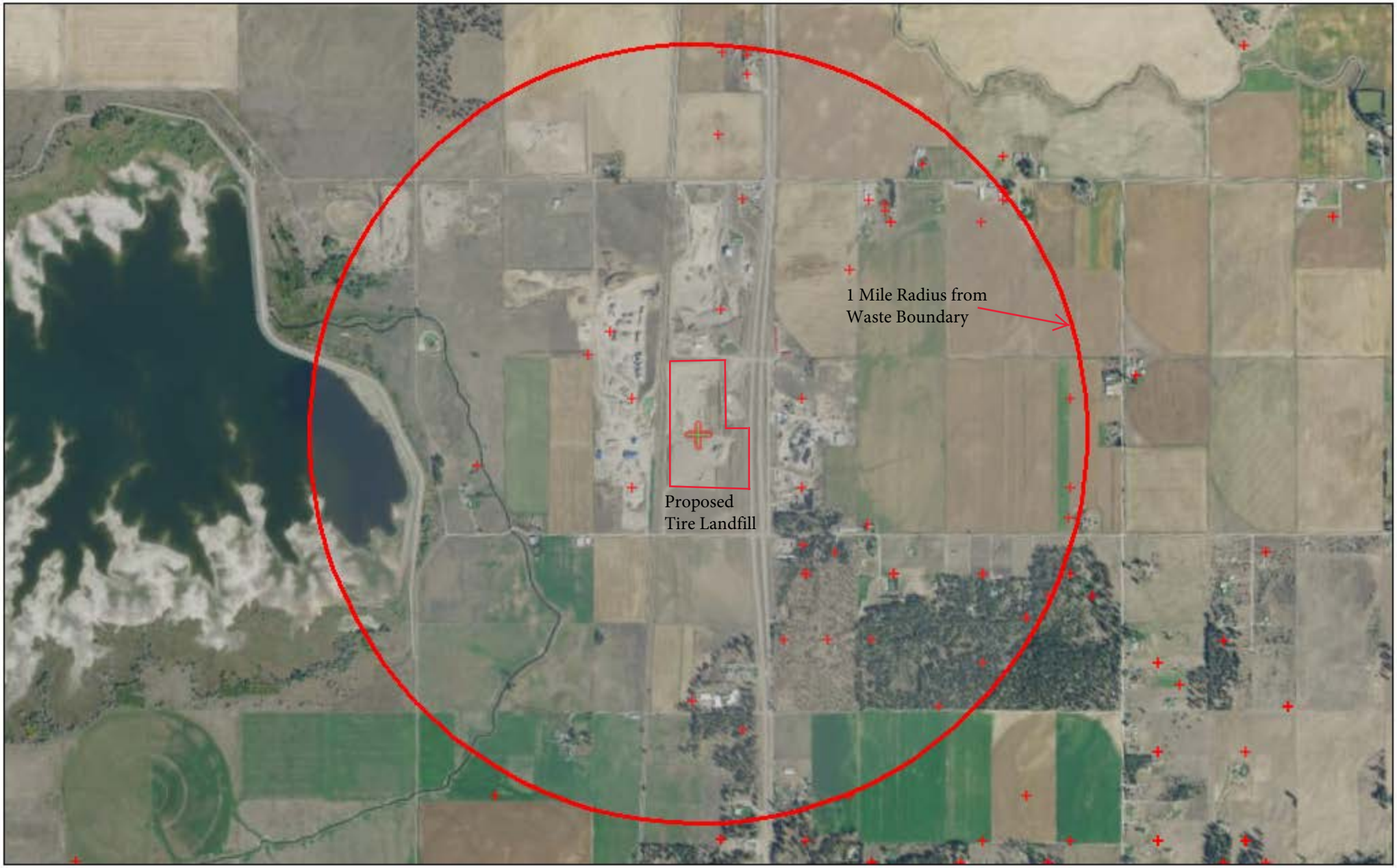
Additions To Statewide List

Species Removed From Statewide List

Citation for data on this website:
Montana Plant Species of Concern Report. Montana Natural Heritage Program. Retrieved on 4/16/2018, from http://mtnhp.org/SpeciesOfConcern/?AorP=p

Exhibit G

Tire Landfill Area Groundwater Wells



+ GWIC wells

Map created using the Digtal Atlas May 4, 2018
http://msl.mt.gov/GIS/Atlas

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Montana Digital Atlas

5/4/2018

Groundwater Information Center Wells

Record Count: 48

Site Name	GWIC ID	Use Type	Site Type	Date Completed	Depth	Water Level	Depth Water Enters	Drill Method	Driller	Township	Range	Section	Subsection	Subdivision	Block	Lot	County	Latitude	Longitude	Lat/Lon Datum	Location Method
HERN LONNIE	77003	DOMESTIC	WELL	6/2/1974	330	247	0	FORWARD ROTARY	PRESTON	22N	20W	24	CDDC				LAKE	47.6463	-114.1030	NAD27	MAP
FLEMING PAUL	77007	DOMESTIC	WELL	1/1/1912	117	117	0			22N	20W	25	CDCC				LAKE	47.6316	-114.1063	NAD27	MAP
GARCIA MRS	77006	DOMESTIC	WELL	10/21/1961	97	85	0	CHURN	CAMP WELL DRILLING	22N	20W	25	BABD				LAKE	47.6447	-114.1052	NAD27	MAP
877 MUD LAKE TRAIL	222621	DOMESTIC	WELL	11/18/2005	480	167	450	ROTARY	WESTERN WATER WORKS INC	22N	20W	25	DDCD				LAKE	47.6319	-114.0941	NAD27	NAV-GPS
MANGELS C.W.	241050	DOMESTIC	WELL	12/20/2007	133	93	0	ROTARY	MAIN HARBOR PUMPS AND WELL DRILLING	22N	20W	25	B				LAKE	47.6420	-114.1074	NAD27	TRS-SEC
MANGELS ARTHUR G.	242672	DOMESTIC	WELL	4/23/2008	1,200	285	1,150	ROTARY	ALLWEST DRILLING INC	22N	20W	23	DA				LAKE	47.6509	-114.1151	NAD27	TRS-SEC
GARCIA DONALD	703324	DOMESTIC	WELL	1/9/1983	300	86	0		HOLMES	22N	20W	25	BABD				LAKE	47.6444	-114.1052	NAD27	MAP
CSK TRIBES	703326	PUBLIC WATER SUPPLY	WELL	5/30/1983	451	87	451		O.K.	22N	20W	35	ADCC				LAKE	47.6244	-114.1169	NAD27	UNKNOWN
BEUS WAYNE	703327	DOMESTIC	WELL	4/24/1970	74	51	62	CABLE	OSBORNE	22N	20W	36	BBAB				LAKE	47.6305	-114.1083	NAD27	UNKNOWN
MANGELS WALTER	77001	DOMESTIC	WELL	11/10/1975	340	240	340	CABLE	PRESTON	22N	20W	23	DADD				LAKE	47.6500	-114.1136	NAD27	MAP
GRIFFIN MARY E	77033	DOMESTIC	WELL	2/27/1984	100	62	100	FORWARD ROTARY	CASTLIO DRILLING	22N	20W	36	BBBA				LAKE	47.6308	-114.1102	NAD27	MAP
HERN LEONARD	77005	DOMESTIC	WELL	8/25/1974	800	260	0	AIR FORWARD ROTARY	PRESTON	22N	20W	25	ABA				LAKE	47.6448	-114.0990	NAD83	TRS-SEC
REINER JOHN & LOIS	77023	DOMESTIC	WELL	6/1/1961	158	100	158	CHURN	MORRISON	22N	20W	35	DAA				LAKE	47.6232	-114.1148	NAD83	TRS-SEC
FULLER MABEL	77030	DOMESTIC	WELL	11/29/1977	98	69	0	CABLE	OKEEFE DRILLING CO	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
BURTCH RAY	77008	DOMESTIC	WELL	5/30/1975	85	60	85	AIR COMPRESSOR	JEROME AND OKEEFE DRILLING CO	22N	20W	25	CC				LAKE	47.6331	-114.1112	NAD83	TRS-SEC
RIEBE TED & BETTY	77009	DOMESTIC	WELL	10/30/1978	492	198	492	CABLE	JOHNSON	22N	20W	25	DA				LAKE	47.6367	-114.0950	NAD83	TRS-SEC
BUTT ALFRED	77010	DOMESTIC	WELL	2/28/1958	59	8	0	HAND DUG		22N	20W	25	DD				LAKE	47.6331	-114.0950	NAD83	TRS-SEC
MATSON ART	77011	DOMESTIC	WELL	3/12/1979	113	78	0	CABLE	JOHNSON	22N	20W	26	AAA				LAKE	47.6449	-114.1148	NAD83	TRS-SEC
GILL MICHEAL J OR RUTH M	77026	DOMESTIC	WELL	6/1/1939	80	14	0			22N	20W	36	A				LAKE	47.6277	-114.0976	NAD83	TRS-SEC
GILL MICHAEL	77027	PUBLIC WATER SUPPLY	WELL	6/7/1968	338	170	0	CHURN	CAMP WELL DRILLING	22N	20W	36	A				LAKE	47.6277	-114.0976	NAD83	TRS-SEC
FULLER MABEL	77031	DOMESTIC	WELL	7/16/1978	98	65	98	CABLE	JOHNSON	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
W. MANGEL	133895	MONITORING	WELL		500	200	0			22N	20W	23	DADB				LAKE	47.6507	-114.1145	NAD83	MAP
GILL MICHEAL J.	137296	DOMESTIC	WELL	4/6/1978	372	190	0	FORWARD ROTARY	CASS	22N	20W	36	AAC	MTN. VIEW			LAKE	47.6286	-114.0963	NAD83	TRS-SEC
WOLF CHERYL	146866	DOMESTIC	WELL	7/19/1994	102	67	0	ROTARY	CYCLONE DRILLING INC	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
NELSON WAYNE	169596	DOMESTIC	WELL	11/12/1998	76	0	76	ROTARY	JEROMES DRILLING CO	22N	20W	23	DD				LAKE	47.6475	-114.1163	NAD83	TRS-SEC
TREASURE STATE CONSTRUCTION INC.	152775	OTHER	WELL	2/17/1995	100	0	0	ROTARY	BILLMAYER DRILLING	22N	20W	26					LAKE	47.6385	-114.1242	NAD83	TRS-SEC
BYRNES DON & JACQUELINE	156615	DOMESTIC	WELL	2/28/1996	284	0	0	ROTARY	LOCHNER	22N	20W	25	BAB				LAKE	47.6448	-114.1071	NAD83	TRS-SEC
BLEAZARD JAY	165210	DOMESTIC	WELL	11/4/1997	399	198	399	ROTARY	ALLWEST DRILLING INC	22N	20W	36	AB				LAKE	47.6295	-114.1003	NAD83	TRS-SEC
REUM VERN	169255	DOMESTIC	WELL	8/28/1998	250	0	0	ROTARY	A & M	22N	20W	25	CB				LAKE	47.6367	-114.1112	NAD83	TRS-SEC
FROLANDER JEANNE	175468	DOMESTIC	WELL	7/22/1999	102	91	102	CABLE	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	25	AB				LAKE	47.6439	-114.1004	NAD83	TRS-SEC
PARKER GREG AND CONNIE	200492	DOMESTIC	WELL	11/1/2002	472	138	472	ROTARY	ALLWEST DRILLING INC	22N	20W	36	BA	PAPER TRAIL			LAKE	47.6295	-114.1056	NAD83	TRS-SEC
54945 HWY 93 SOUTH	212210	COMMERCIAL	WELL	4/5/2004	1,080	0	510	ROTARY	WESTERN WATER WORKS INC	22N	20W	26	ACC				LAKE	47.6394	-114.1228	NAD83	TRS-SEC
LAKE COUNTY SOLID WASTE DISTRICT	213544	PUBLIC WATER SUPPLY	WELL	7/29/2004	520	165	0	ROTARY	ACE DRILLING	22N	20W	26	AD				LAKE	47.6403	-114.1161	NAD83	TRS-SEC
LARSON ED	217333	DOMESTIC	WELL	2/16/2005	140	0	140	ROTARY	JEROMES DRILLING CO	22N	20W	25	BA				LAKE	47.6439	-114.1058	NAD83	TRS-SEC
MILLER DON	187689	DOMESTIC	WELL	1/3/2001	448	138	448	ROTARY	WESTERN WATER WORKS INC	22N	20W	36	AB	WHITING		3	LAKE	47.6295	-114.1003	NAD83	TRS-SEC

Site Name	GWIC ID	Use Type	Site Type	Date Completed	Depth	Water Level	Depth Water Enters	Drill Method	Driller	Township	Range	Section	Subsection	Subdivision	Block	Lot	County	Latitude	Longitude	Lat/Lon Datum	Location Method
CENEX HARVEST STATE POLSON ASHPALT TERMINAL	200490	OTHER	WELL	6/6/2002	78	36	54	ROTARY	ALLWEST DRILLING INC	22N	20W	26	DB	PLAT #170	B		LAKE	47.6367	-114.1215	NAD83	TRS-SEC
HEISER NICK AND MYMA	200491	DOMESTIC	WELL	8/13/2001	120	84	120	ROTARY	ALLWEST DRILLING INC	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
KOVARIK JADE	216416	DOMESTIC	WELL	6/24/2003	476	136	0	ROTARY	ALLWEST DRILLING INC	22N	20W	36	AC	PAPER TRAIL SUB		1	LAKE	47.6259	-114.1003	NAD83	TRS-SEC
TREASURE STATE CONCRETE	205791	OTHER	WELL	6/17/2003	474	134	468	ROTARY	ACE DRILLING	22N	20W	26	DC				LAKE	47.6330	-114.1215	NAD83	TRS-SEC
CHOWNING, CLINT AND MELISSA	216678	DOMESTIC	WELL	2/9/2005	283	181	262	ROTARY	ALLWEST DRILLING INC	22N	20W	25	BA				LAKE	47.6439	-114.1058	NAD83	TRS-SEC
VIOLETTE, DONALD	227254	DOMESTIC	WELL	6/21/2006	120	63	0	ROTARY	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
VIOLETTE, JAMES	227256	DOMESTIC	WELL	6/9/2006	480	146	0	ROTARY	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
REHBEIN DOUG AND ANNETTE	241005	DOMESTIC	WELL	11/30/2007	785	140	0	ROTARY	CASTLIO DRILLING	22N	20W	26	CCA			1 & 4	LAKE	47.6339	-114.1309	NAD83	TRS-SEC
AILPORT, PAUL	279173	DOMESTIC	WELL	7/24/2014	88	68	85		MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36					LAKE	47.6241	-114.1030	NAD83	TRS-SEC
406 RENTAL PROPERTIES	291664	COMMERCIAL	WELL	3/24/2017	500	93	455	ROTARY	OH WELL DRILLING & PUMP	22N	20W	36	BCA				LAKE	47.6268	-114.1096	NAD83	TRS-SEC
406 RENTAL PROPERTIES	287956	COMMERCIAL	WELL	6/17/2016	477	130	477	ROTARY	OH WELL DRILLING & PUMP	22N	20W	36	BCB				LAKE	47.6268	-114.1123	NAD83	TRS-SEC
SAMPSON AUDRY	77032	DOMESTIC	WELL	7/19/1988	102	60	88	FORWARD ROTARY	CAMP WELL DRILLING	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
STONEHOCKER RON	77034	DOMESTIC	WELL	6/30/1973	422	65	422	CABLE	JOHNSON	22N	20W	36	BDB				LAKE	47.6268	-114.1070	NAD83	TRS-SEC

Exhibit H

Underground Storage Tanks

There are no underground storage tanks located within one mile of the proposed tire landfill property. The closest underground storage tank is located over two miles to the south at the Pablo Elementary School (Facility ID: 2404823).

Exhibit I

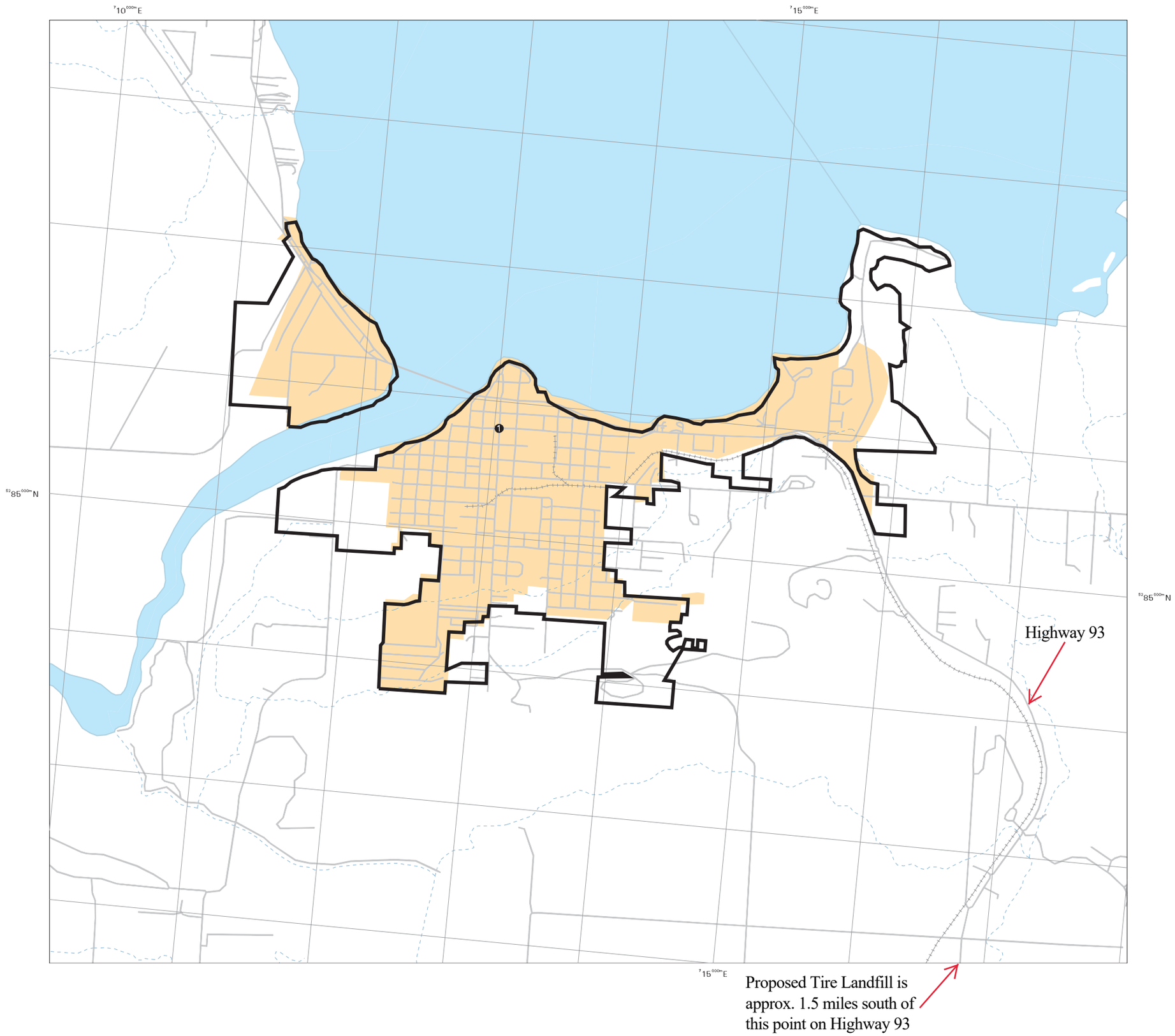
Polson Nonattainment Area Map

LAKE COUNTY

Polson PM-10 Nonattainment Area

POLSON PM-10 Nonattainment Area:
Boundary defined by the Polson city limits.

❶ Polson Saddle Shop tribal monitoring site. AIRS number 30-047-0028, UTM location Zone 11, 712939mE; 5285806mN.



LEGEND

- Designated PM-10 Nonattainment Area Boundary
- Improved Road
- Interstate Highway
- Trail
- Railroad
- River
- Stream
- UTM Grid
- Municipal Area
- Water Body

NRIS does not guarantee the data for functionality, accuracy, or being free from errors. The user assumes responsibility to verify usability for their purposes.

Background data from TIGER files and BLM PLSS or UTM grid generated in Arc/Info.

0 1500 3000 4500
Scale of Feet

0 300 600 900
Scale of Meters

N

Montana State Library
Natural Resource Information System

Map #98NRIS248-bd - 08/28/98

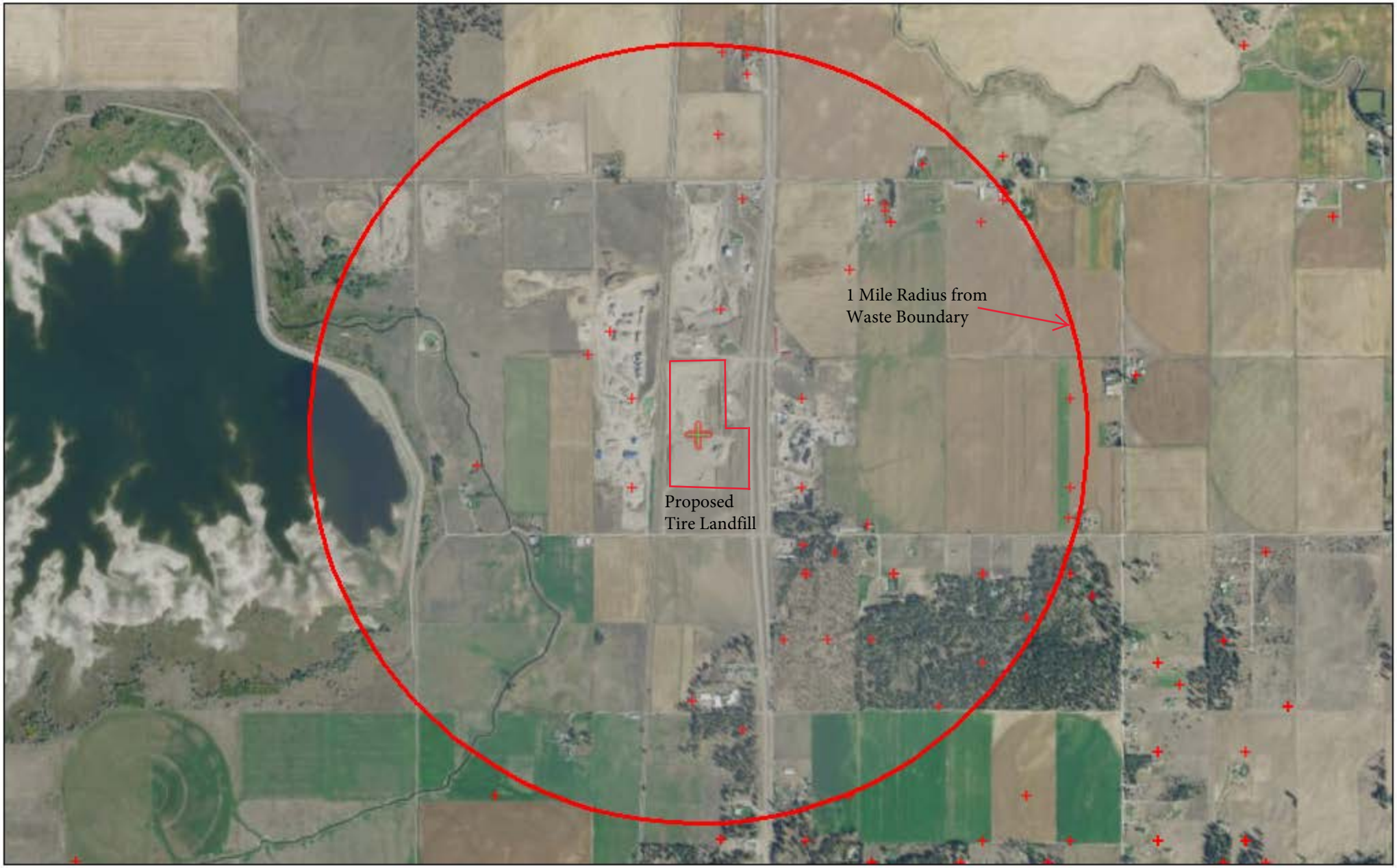
Attachment 5

Public and Private Water Supplies

Attachment 5. Water Supplies

The Montana Ground Water Information Center (GWIC) lists 48 water-supply wells within a one-mile radius of the waste boundary of the proposed Tire Landfill.

A list of the recorded wells is included in this section.



+ GWIC wells

Map created using the Digtal Atlas May 4, 2018
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Montana Digital Atlas

5/4/2018

Groundwater Information Center Wells

Record Count: 48

Site Name	GWIC ID	Use Type	Site Type	Date Completed	Depth	Water Level	Depth Water Enters	Drill Method	Driller	Township	Range	Section	Subsection	Subdivision	Block	Lot	County	Latitude	Longitude	Lat/Lon Datum	Location Method
HERN LONNIE	77003	DOMESTIC	WELL	6/2/1974	330	247	0	FORWARD ROTARY	PRESTON	22N	20W	24	CDDC				LAKE	47.6463	-114.1030	NAD27	MAP
FLEMING PAUL	77007	DOMESTIC	WELL	1/1/1912	117	117	0			22N	20W	25	CDCC				LAKE	47.6316	-114.1063	NAD27	MAP
GARCIA MRS	77006	DOMESTIC	WELL	10/21/1961	97	85	0	CHURN	CAMP WELL DRILLING	22N	20W	25	BABD				LAKE	47.6447	-114.1052	NAD27	MAP
877 MUD LAKE TRAIL	222621	DOMESTIC	WELL	11/18/2005	480	167	450	ROTARY	WESTERN WATER WORKS INC	22N	20W	25	DDCD				LAKE	47.6319	-114.0941	NAD27	NAV-GPS
MANGELS C.W.	241050	DOMESTIC	WELL	12/20/2007	133	93	0	ROTARY	MAIN HARBOR PUMPS AND WELL DRILLING	22N	20W	25	B				LAKE	47.6420	-114.1074	NAD27	TRS-SEC
MANGELS ARTHUR G.	242672	DOMESTIC	WELL	4/23/2008	1,200	285	1,150	ROTARY	ALLWEST DRILLING INC	22N	20W	23	DA				LAKE	47.6509	-114.1151	NAD27	TRS-SEC
GARCIA DONALD	703324	DOMESTIC	WELL	1/9/1983	300	86	0		HOLMES	22N	20W	25	BABD				LAKE	47.6444	-114.1052	NAD27	MAP
CSK TRIBES	703326	PUBLIC WATER SUPPLY	WELL	5/30/1983	451	87	451		O.K.	22N	20W	35	ADCC				LAKE	47.6244	-114.1169	NAD27	UNKNOWN
BEUS WAYNE	703327	DOMESTIC	WELL	4/24/1970	74	51	62	CABLE	OSBORNE	22N	20W	36	BBAB				LAKE	47.6305	-114.1083	NAD27	UNKNOWN
MANGELS WALTER	77001	DOMESTIC	WELL	11/10/1975	340	240	340	CABLE	PRESTON	22N	20W	23	DADD				LAKE	47.6500	-114.1136	NAD27	MAP
GRIFFIN MARY E	77033	DOMESTIC	WELL	2/27/1984	100	62	100	FORWARD ROTARY	CASTLIO DRILLING	22N	20W	36	BBBA				LAKE	47.6308	-114.1102	NAD27	MAP
HERN LEONARD	77005	DOMESTIC	WELL	8/25/1974	800	260	0	AIR FORWARD ROTARY	PRESTON	22N	20W	25	ABA				LAKE	47.6448	-114.0990	NAD83	TRS-SEC
REINER JOHN & LOIS	77023	DOMESTIC	WELL	6/1/1961	158	100	158	CHURN	MORRISON	22N	20W	35	DAA				LAKE	47.6232	-114.1148	NAD83	TRS-SEC
FULLER MABEL	77030	DOMESTIC	WELL	11/29/1977	98	69	0	CABLE	OKEEFE DRILLING CO	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
BURTCH RAY	77008	DOMESTIC	WELL	5/30/1975	85	60	85	AIR COMPRESSOR	JEROME AND OKEEFE DRILLING CO	22N	20W	25	CC				LAKE	47.6331	-114.1112	NAD83	TRS-SEC
RIEBE TED & BETTY	77009	DOMESTIC	WELL	10/30/1978	492	198	492	CABLE	JOHNSON	22N	20W	25	DA				LAKE	47.6367	-114.0950	NAD83	TRS-SEC
BUTT ALFRED	77010	DOMESTIC	WELL	2/28/1958	59	8	0	HAND DUG		22N	20W	25	DD				LAKE	47.6331	-114.0950	NAD83	TRS-SEC
MATSON ART	77011	DOMESTIC	WELL	3/12/1979	113	78	0	CABLE	JOHNSON	22N	20W	26	AAA				LAKE	47.6449	-114.1148	NAD83	TRS-SEC
GILL MICHEAL J OR RUTH M	77026	DOMESTIC	WELL	6/1/1939	80	14	0			22N	20W	36	A				LAKE	47.6277	-114.0976	NAD83	TRS-SEC
GILL MICHAEL	77027	PUBLIC WATER SUPPLY	WELL	6/7/1968	338	170	0	CHURN	CAMP WELL DRILLING	22N	20W	36	A				LAKE	47.6277	-114.0976	NAD83	TRS-SEC
FULLER MABEL	77031	DOMESTIC	WELL	7/16/1978	98	65	98	CABLE	JOHNSON	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
W. MANGEL	133895	MONITORING	WELL		500	200	0			22N	20W	23	DADB				LAKE	47.6507	-114.1145	NAD83	MAP
GILL MICHEAL J.	137296	DOMESTIC	WELL	4/6/1978	372	190	0	FORWARD ROTARY	CASS	22N	20W	36	AAC	MTN. VIEW			LAKE	47.6286	-114.0963	NAD83	TRS-SEC
WOLF CHERYL	146866	DOMESTIC	WELL	7/19/1994	102	67	0	ROTARY	CYCLONE DRILLING INC	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
NELSON WAYNE	169596	DOMESTIC	WELL	11/12/1998	76	0	76	ROTARY	JEROMES DRILLING CO	22N	20W	23	DD				LAKE	47.6475	-114.1163	NAD83	TRS-SEC
TREASURE STATE CONSTRUCTION INC.	152775	OTHER	WELL	2/17/1995	100	0	0	ROTARY	BILLMAYER DRILLING	22N	20W	26					LAKE	47.6385	-114.1242	NAD83	TRS-SEC
BYRNES DON & JACQUELINE	156615	DOMESTIC	WELL	2/28/1996	284	0	0	ROTARY	LOCHNER	22N	20W	25	BAB				LAKE	47.6448	-114.1071	NAD83	TRS-SEC
BLEAZARD JAY	165210	DOMESTIC	WELL	11/4/1997	399	198	399	ROTARY	ALLWEST DRILLING INC	22N	20W	36	AB				LAKE	47.6295	-114.1003	NAD83	TRS-SEC
REUM VERN	169255	DOMESTIC	WELL	8/28/1998	250	0	0	ROTARY	A & M	22N	20W	25	CB				LAKE	47.6367	-114.1112	NAD83	TRS-SEC
FROLANDER JEANNE	175468	DOMESTIC	WELL	7/22/1999	102	91	102	CABLE	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	25	AB				LAKE	47.6439	-114.1004	NAD83	TRS-SEC
PARKER GREG AND CONNIE	200492	DOMESTIC	WELL	11/1/2002	472	138	472	ROTARY	ALLWEST DRILLING INC	22N	20W	36	BA	PAPER TRAIL			LAKE	47.6295	-114.1056	NAD83	TRS-SEC
54945 HWY 93 SOUTH	212210	COMMERCIAL	WELL	4/5/2004	1,080	0	510	ROTARY	WESTERN WATER WORKS INC	22N	20W	26	ACC				LAKE	47.6394	-114.1228	NAD83	TRS-SEC
LAKE COUNTY SOLID WASTE DISTRICT	213544	PUBLIC WATER SUPPLY	WELL	7/29/2004	520	165	0	ROTARY	ACE DRILLING	22N	20W	26	AD				LAKE	47.6403	-114.1161	NAD83	TRS-SEC
LARSON ED	217333	DOMESTIC	WELL	2/16/2005	140	0	140	ROTARY	JEROMES DRILLING CO	22N	20W	25	BA				LAKE	47.6439	-114.1058	NAD83	TRS-SEC
MILLER DON	187689	DOMESTIC	WELL	1/3/2001	448	138	448	ROTARY	WESTERN WATER WORKS INC	22N	20W	36	AB	WHITING		3	LAKE	47.6295	-114.1003	NAD83	TRS-SEC

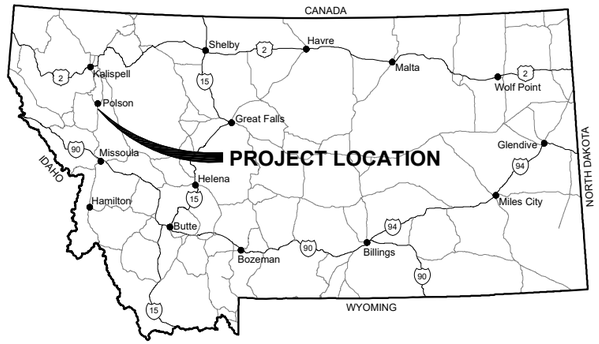
Site Name	GWIC ID	Use Type	Site Type	Date Completed	Depth	Water Level	Depth Water Enters	Drill Method	Driller	Township	Range	Section	Subsection	Subdivision	Block	Lot	County	Latitude	Longitude	Lat/Lon Datum	Location Method
CENEX HARVEST STATE POLSON ASHPALT TERMINAL	200490	OTHER	WELL	6/6/2002	78	36	54	ROTARY	ALLWEST DRILLING INC	22N	20W	26	DB	PLAT #170	B		LAKE	47.6367	-114.1215	NAD83	TRS-SEC
HEISER NICK AND MYMA	200491	DOMESTIC	WELL	8/13/2001	120	84	120	ROTARY	ALLWEST DRILLING INC	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
KOVARIK JADE	216416	DOMESTIC	WELL	6/24/2003	476	136	0	ROTARY	ALLWEST DRILLING INC	22N	20W	36	AC	PAPER TRAIL SUB		1	LAKE	47.6259	-114.1003	NAD83	TRS-SEC
TREASURE STATE CONCRETE	205791	OTHER	WELL	6/17/2003	474	134	468	ROTARY	ACE DRILLING	22N	20W	26	DC				LAKE	47.6330	-114.1215	NAD83	TRS-SEC
CHOWNING, CLINT AND MELISSA	216678	DOMESTIC	WELL	2/9/2005	283	181	262	ROTARY	ALLWEST DRILLING INC	22N	20W	25	BA				LAKE	47.6439	-114.1058	NAD83	TRS-SEC
VIOLETTE, DONALD	227254	DOMESTIC	WELL	6/21/2006	120	63	0	ROTARY	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
VIOLETTE, JAMES	227256	DOMESTIC	WELL	6/9/2006	480	146	0	ROTARY	MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36	BA				LAKE	47.6295	-114.1056	NAD83	TRS-SEC
REHBEIN DOUG AND ANNETTE	241005	DOMESTIC	WELL	11/30/2007	785	140	0	ROTARY	CASTLIO DRILLING	22N	20W	26	CCA			1 & 4	LAKE	47.6339	-114.1309	NAD83	TRS-SEC
AILPORT, PAUL	279173	DOMESTIC	WELL	7/24/2014	88	68	85		MAIN HARBOR PUMPS & WELL DRILLING	22N	20W	36					LAKE	47.6241	-114.1030	NAD83	TRS-SEC
406 RENTAL PROPERTIES	291664	COMMERCIAL	WELL	3/24/2017	500	93	455	ROTARY	OH WELL DRILLING & PUMP	22N	20W	36	BCA				LAKE	47.6268	-114.1096	NAD83	TRS-SEC
406 RENTAL PROPERTIES	287956	COMMERCIAL	WELL	6/17/2016	477	130	477	ROTARY	OH WELL DRILLING & PUMP	22N	20W	36	BCB				LAKE	47.6268	-114.1123	NAD83	TRS-SEC
SAMPSON AUDRY	77032	DOMESTIC	WELL	7/19/1988	102	60	88	FORWARD ROTARY	CAMP WELL DRILLING	22N	20W	36	BB				LAKE	47.6295	-114.1110	NAD83	TRS-SEC
STONEHOCKER RON	77034	DOMESTIC	WELL	6/30/1973	422	65	422	CABLE	JOHNSON	22N	20W	36	BDB				LAKE	47.6268	-114.1070	NAD83	TRS-SEC

Attachment 6

Tire Landfill Design Plans

Attachment 6. Tire Landfill Design Plans

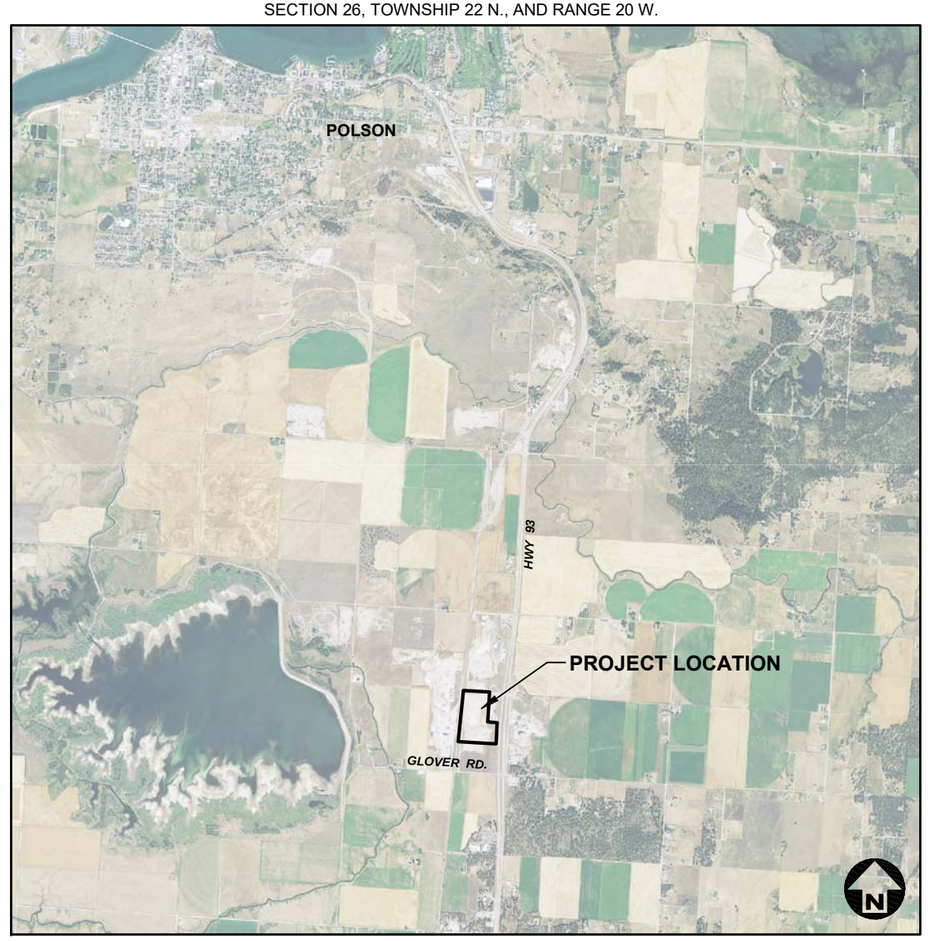
The design drawings showing the elements outlined on the Class III Solid Waste Management System License is included in the Construction Plans, included here as attachment 6.



REUM TIRE DEPOT
TIRE LANDFILL

CONSTRUCTION PLANS

SECTION 26, TOWNSHIP 22 N., AND RANGE 20 W.



NOT TO SCALE

SHEET INDEX

PROJECT: 1-16134
DATE: MAY 17, 2018

SHEET 1	COVER
SHEET 2	LEGEND - ABBREVIATIONS AND GENERAL NOTES
SHEET 3	EXISTING SITE PLAN
SHEET 4	EXCAVATION GRADING PLAN
SHEET 5	FINAL GRADING PLAN
SHEET 6	SECTIONS
SHEET 7	SECTIONS
SHEET 8	SECTIONS
SHEET 9	ACCESS ROAD PLAN AND PROFILE
SHEET 10	ACCESS ROAD PLAN AND PROFILE
SHEET 11	DETAILS

PLANS PREPARED FOR:

VERN REUM, OWNER
REUM TIRE DEPOT

APPROVED BY:

STEPHANIE M. BECKERT, P.E.
GREAT WEST ENGINEERING

MONTANA STEPHANIE MICHELLE BECKERT 17606PE PROFESSIONAL ENGINEER LICENSED 5-17-2018

QA/QC BY:

ROBERT CHURCH, P.E.
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PLANS PREPARED BY:

BRET ANDERSON

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NO.	REVISION DESCRIPTION	BY	DATE

SET NO.

SHEET NO.
1

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-01-Cover.dwg

ABBREVIATIONS

@	AT
Δ	ANGLE OF DEFLECTION, DELTA ANGLE
<PT	ANGLE POINT
AB	ANCHOR BOLT
ABDN	ABANDON
AC	ASBESTOS CONCRETE
ADDN	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURE, ARCHITECTURAL
ASPH	ASPHALT
AVE	AVENUE
AVG	AVERAGE
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BLK	BLOCK
BLVD	BOULEVARD
BM	BEAM, BENCHMARK
BOT	BOTTOM
BRG	BEARING
BRKT	BRACKET
BVC	BEGIN VERTICAL CURVE
C–C	CENTER TO CENTER
CHAN	CHANNEL
CHK	CHECK
CI	CAST IRON
CIPC	CAST–IN–PLACE CONCRETE
CIRC	CIRCULAR
CJ	CONSTRUCTION JOINT, CONTROL JOINT
℄	CENTER LINE
CLR	CLEAR, CLEARANCE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUE, CONTINUED, CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CP	CONTROL PANEL, CONTROL POINT
CPLG	COUPLING
CTR	CENTER
CTV	CABLE TELEVISION
CU	CUBIC, COPPER
CF	CUBIC FEET
CULV	CULVERT
CY	CUBIC YARD
DET	DETAIL
DI	DUCTILE IRON, DRAIN INLET
DIA, ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DR	DRIVE
DWG	DRAWING
E	EAST
EA	EACH
EL, ELEV	ELEVATION
ELB	ELBOW
ELEC	ELECTRIC, ELECTRICAL
ENCL	ENCLOSE
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EQ	EQUAL, EQUALLY
EQ SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EVC	END VERTICAL CURVE
EW	EACH WAY
EXC	EXCAVATE
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXST	EXISTING
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FDN	FOUNDATION
FES	FLARED END SECTION
FET	FLARED END TERMINAL
FF	FINISHED FLOOR
FG	FINISH GRADE
FHYD	FIRE HYDRANT
FJ	FLANGE JOINT
FL	FLOW LINE
FLEX	FLEXIBLE
FM	FORCEMAIN
FT	FOOT, FEET
FO	FIBER OPTIC
FTG	FOOTING, FITTING
G	NATURAL GAS
GA	GAGE, GAUGE
GAL	GALLON
GALV	GALVANIZED
GND	GROUND
GVL	GRAVEL
HB	HOSE BIB
HDPE	HIGH DENSITY POLYETHYLENE
HOR, HORIZ	HORIZONTAL
HWY	HIGHWAY
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
JB	JUNCTION BOX
JT	JOINT
K	RATE OF VERTICAL CURVATURE
LBS	POUNDS
LF	LINEAR FEET
LN	LANE
LPG	LIQUID PROPANE GAS
LT	LEFT
MAX	MAXIMUM
MD	MEASURE DOWN
MFD	MANUFACTURED
MFR	MANUFACTURE, MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MOV	MOTOR OPERATED VALVE
MPWSS	MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS
N	NORTH
NE	NORTHEAST
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OH	OVERHEAD
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
OPNG	OPENING
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	PLAIN END, POLYETHYLENE
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNL	PANEL
PRC	POINT OF REVERSE CURVATURE
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE, PREPARATION
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R, RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDCR	REDUCER
REBAR	REINFORCEMENT BAR
REF	REFERENCE
REINF	REINFORCE
REQD	REQUIRED
RR	RAILROAD
RST	REINFORCING STEEL
RT	RIGHT
R/W	RIGHT–OF–WAY
S	SOUTH, SANITARY SEWER
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SDWK	SIDEWALK
SE	SOUTHEAST
SECT	SECTION
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SLP	SLOPE
SPEC	SPECIFICATION
SQ	SQUARE
SSTL	STAINLESS STEEL
STA	STATION
SS	SANITARY SEWER SERVICE
STD	STANDARD
ST	STREET
STL	STEEL
STRUCT	STRUCTURE
SW	SOUTHWEST
SYM	SYMMETRICAL
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TEL	TELEPHONE
TEMP	TEMPORARY
THRU	THROUGH
TYP	TYPICAL
UG	UNDERGROUND
UGP	UNDERGROUND POWER
UGT	UNDERGROUND TELEPHONE
UTIL	UTILITY
V	VALVE, VOLT
VB	VALVE BOX
VERT	VERTICAL
VOL	VOLUME
W	WEST, WATER
WTR	WATER
WD	WOOD
W/	WITH
W/O	WITHOUT
WL	WETLAND
WM	WIRE MESH, WATER METER
WS	WATERSTOP, WATER SURFACE, WATER SERVICE
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
XFMR	TRANSFORMER
X–ING	CROSSING
XS	CROSS SECTION
YD	YARD

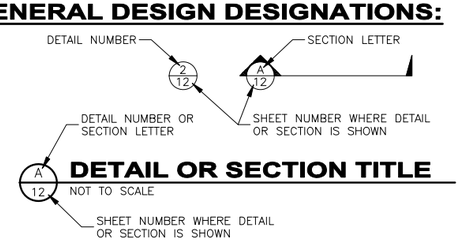
LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
		MAJOR CONTOUR			STUMP
		MINOR CONTOUR			SHRUB/BUSH
OHT	OHT	OVERHEAD TELEPHONE			TREE–CONIFER
UGT	UGT	UNDERGROUND TELEPHONE			TREE–DECIDUOUS
CTV	CTV	CABLE TELEVISION			TREE LINE
FO	FO	FIBER OPTIC			COMMUNICATION MANHOLE
G	G	NATURAL GAS	C	C	COMMUNICATION VAULT
OHP	OHP	OVERHEAD POWER	T	T	TELEPHONE RISER
UGP	UGP	UNDERGROUND POWER	TV	TV	CABLE TV RISER
S	S	SANITARY SEWER			NATURAL GAS METER
SS SS SS	SS SS SS	SANITARY SEWER SERVICE	G	G	NATURAL GAS RISER
FM	FM	SANITARY SEWER FORCEMAIN			NATURAL GAS VALVE
SD	SD	STORM DRAIN			LIGHT POLE
		STORM CULVERT			STREET LIGHT POLE
W	W	WATER	P	P	POWER RISER
WS WS WS	WS WS WS	WATER SERVICE			PAD MOUNTED TRANSFORMER
		CHAINLINK FENCE	P	P	POWER VAULT
X X X	X X X	BARBED WIRE FENCE			UTILITY POLE
		WOOD FENCE			GUY WIRE
		PAVED ROAD	S	S	SANITARY MANHOLE
		GRAVEL ROAD	CO	CO	SANITARY CLEANOUT
		PROPERTY/LOT LINE			SANITARY LAMPHOLE
		PROPERTY EASEMENT	ST	ST	STORM MANHOLE
		PROPERTY SETBACK			STORM ROUND INLET
		RIGHT–OF–WAY			STORM SQUARE INLET
		CITY LIMIT/DISTRICT BOUNDARY			STORM CATCH BASIN
		RAILROAD			11.25° ELBOW
		DITCH			22.50° ELBOW
		WATER EDGE			45° ELBOW
WL		WETLAND			90° ELBOW
		BUILDING			TEE
		BENCHMARK			CROSS
		CONTROL POINT			CAP
		PROPERTY PIN			FIRE HYDRANT
		BORING			GATE VALVE
		MONITORING WELL			REDUCER
		TEST PIT			WATER METER
		BOLLARD	W	W	WELL
		MAIL BOX			CURB STOP
		SIGN			FROST FREE HYDRANT

GENERAL NOTES:

1. THIS IS A STANDARD LEGEND AND ABBREVIATION LIST. THEREFORE, NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT.
2. UNLESS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK WILL CONFORM TO THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, SIXTH EDITION, APRIL 2010 (REFERRED TO COLLECTIVELY AS MPWSS).
3. EXISTING UNDERGROUND UTILITIES SHOWN ARE FROM THE BEST INFORMATION AVAILABLE. THIS INFORMATION IS APPROXIMATE AND MAY BE INCOMPLETE. FOR ACCURATE LOCATION, THE CONTRACTOR SHALL CONTACT, PRIOR TO EXCAVATION, THE UTILITIES UNDERGROUND LOCATION CENTER AT: 1–800–424–5555.

GENERAL DESIGN DESIGNATIONS:



NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

STEPHANIE A. JAMES ★ MICHELLE R. SMITH ★ REBECCA E. CARTER ★ BRIAN A. NEIN ★ PROFESSIONAL ENGINEER ★ CERTIFICATE NO. 11-2018

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REUM TIRE DEPOT

TIRE LANDFILL

LEGEND - ABBREVIATIONS AND GENERAL NOTES

SHEET NO.
2
OF 11

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F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-03-SP.dwg

REUM TIRE DEPOT

TIRE LANDFILL

EXISTING SITE PLAN

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STEPHANIE MICHELLE BECKER
LICENSED PROFESSIONAL ENGINEER
MONTANA
5/17/2018

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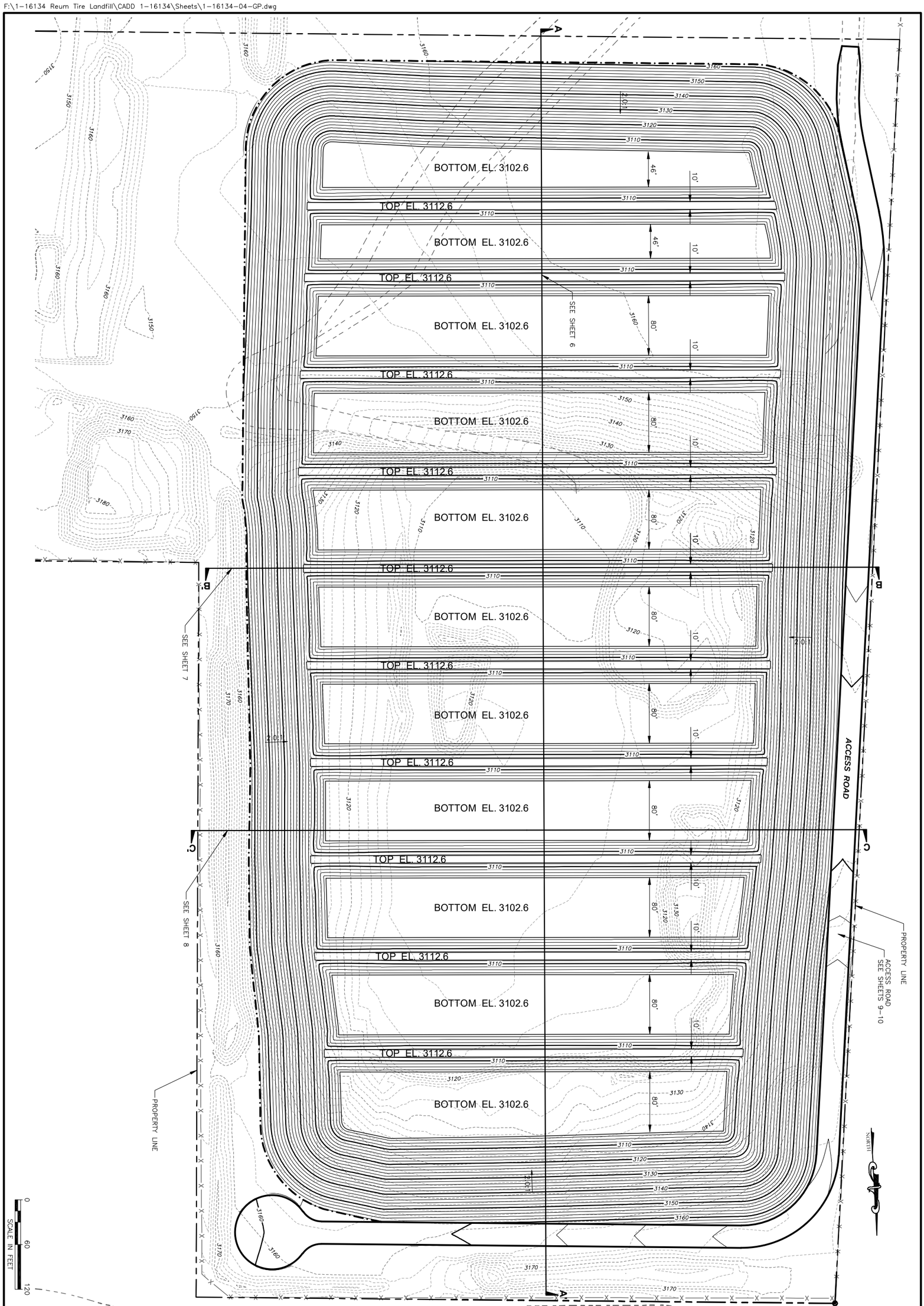
SHEET NO. 3 OF 11

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-04-GP.dwg



REUM TIRE DEPOT

TIRE LANDFILL

EXCAVATION GRADING PLAN

SHEET NO. 4 OF 11

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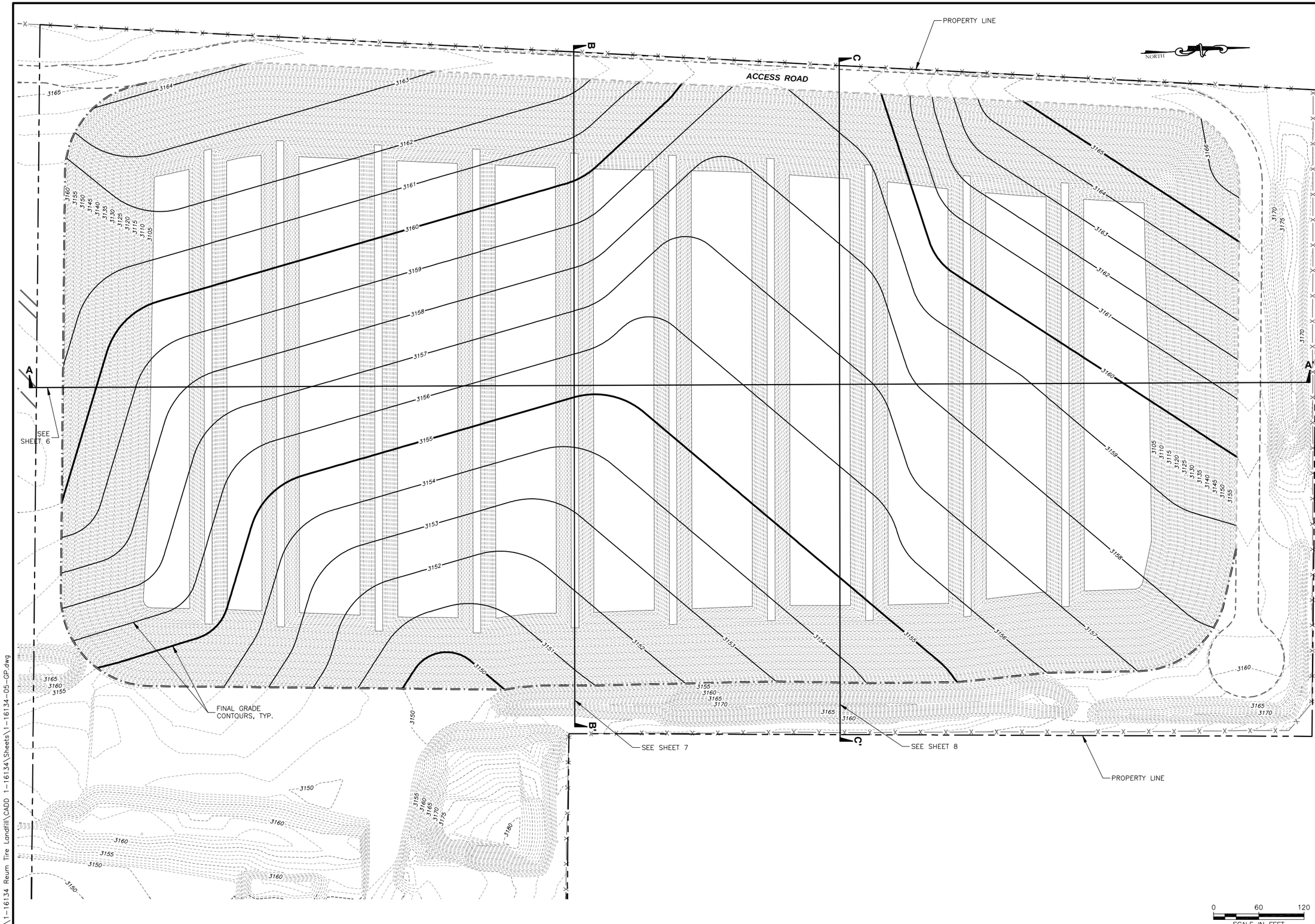
STEPHANIE MICHELLE BECKER
LICENSED PROFESSIONAL ENGINEER
5-17-2018

PROJECT:	1-16134
DESIGNED:	BAA / SMB
DRAWN:	BAA
CHECKED:	REC
APPROVED:	SMB
DATE:	MAY 17, 2018

NO.	REVISION DESCRIPTION	BY	DATE



NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

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PROFESSIONAL ENGINEER
CERTIFICATE NUMBER 47895

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(406)449-8627

REUM TIRE DEPOT
TIRE LANDFILL
FINAL GRADING PLAN

SHEET NO.
5
OF 11

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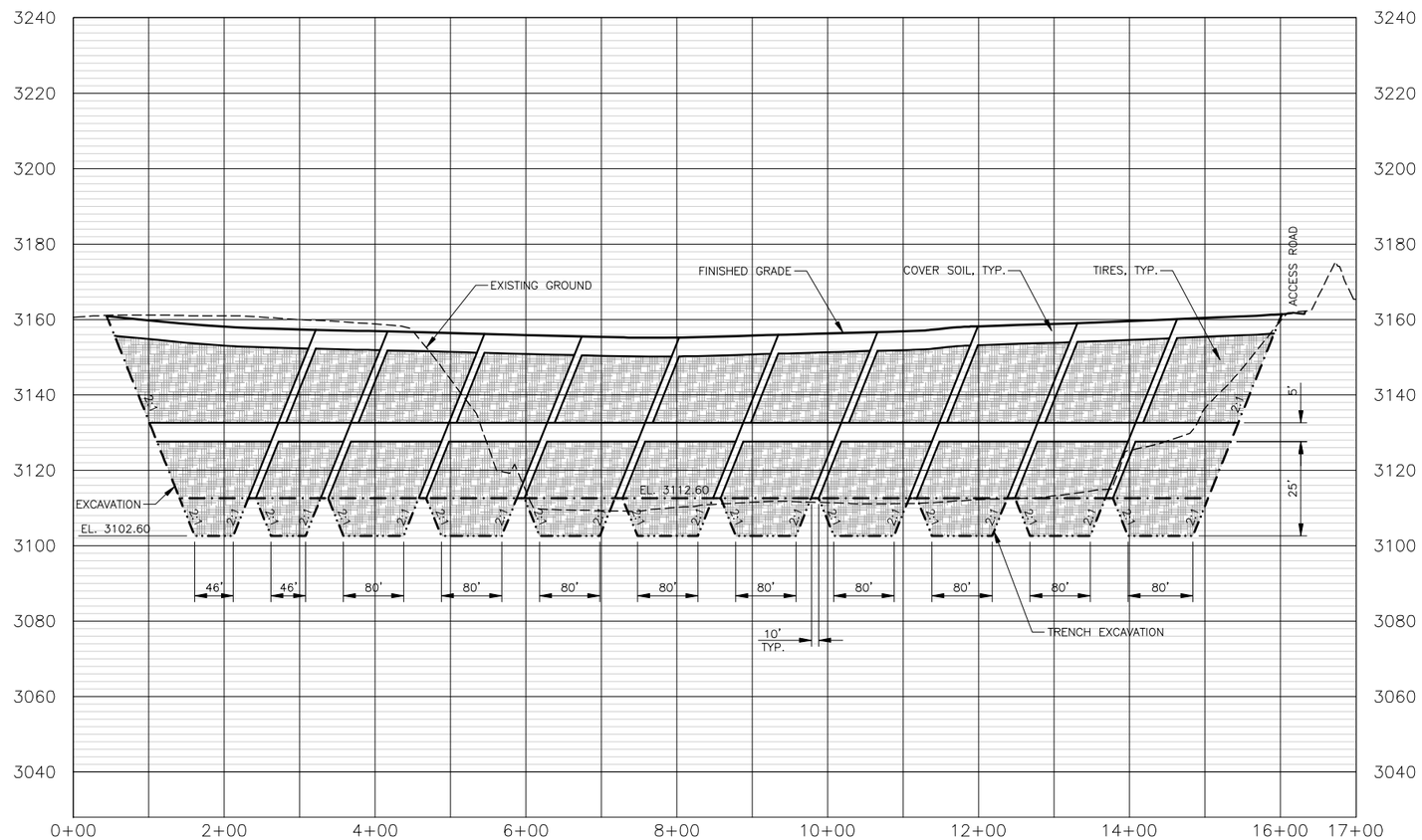

SECTION A-A'

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 40'

NO.	REVISION DESCRIPTION	BY	DATE

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11-2018

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REUM TIRE DEPOT
TIRE LANDFILL
SECTIONS

SHEET NO.
6
OF 11

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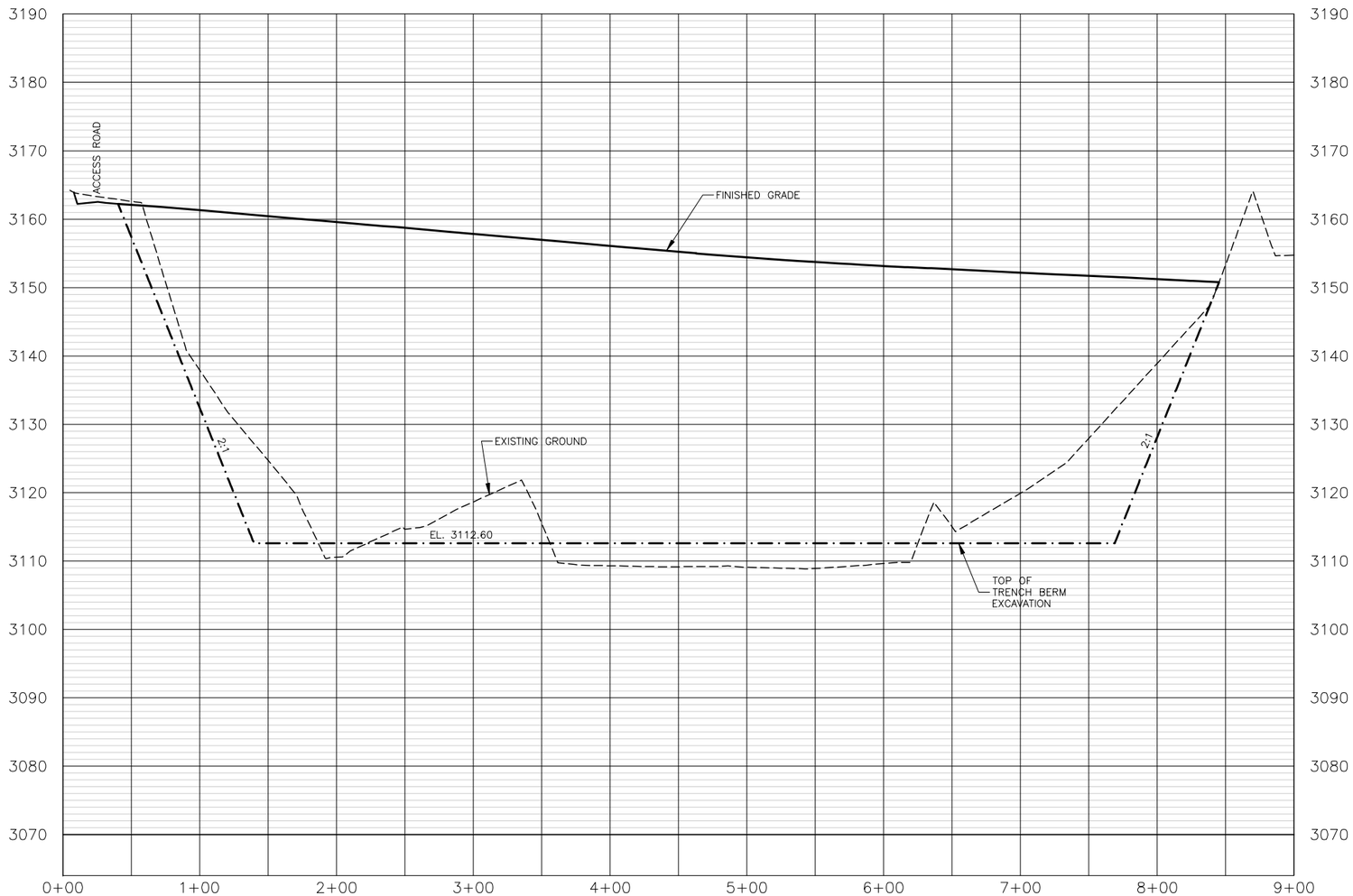

SECTION B-B'

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 20'

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

STEPHANIE MICHELLE BERGER
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11-8-18

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REUM TIRE DEPOT
TIRE LANDFILL
SECTIONS

SHEET NO.
7
OF 11

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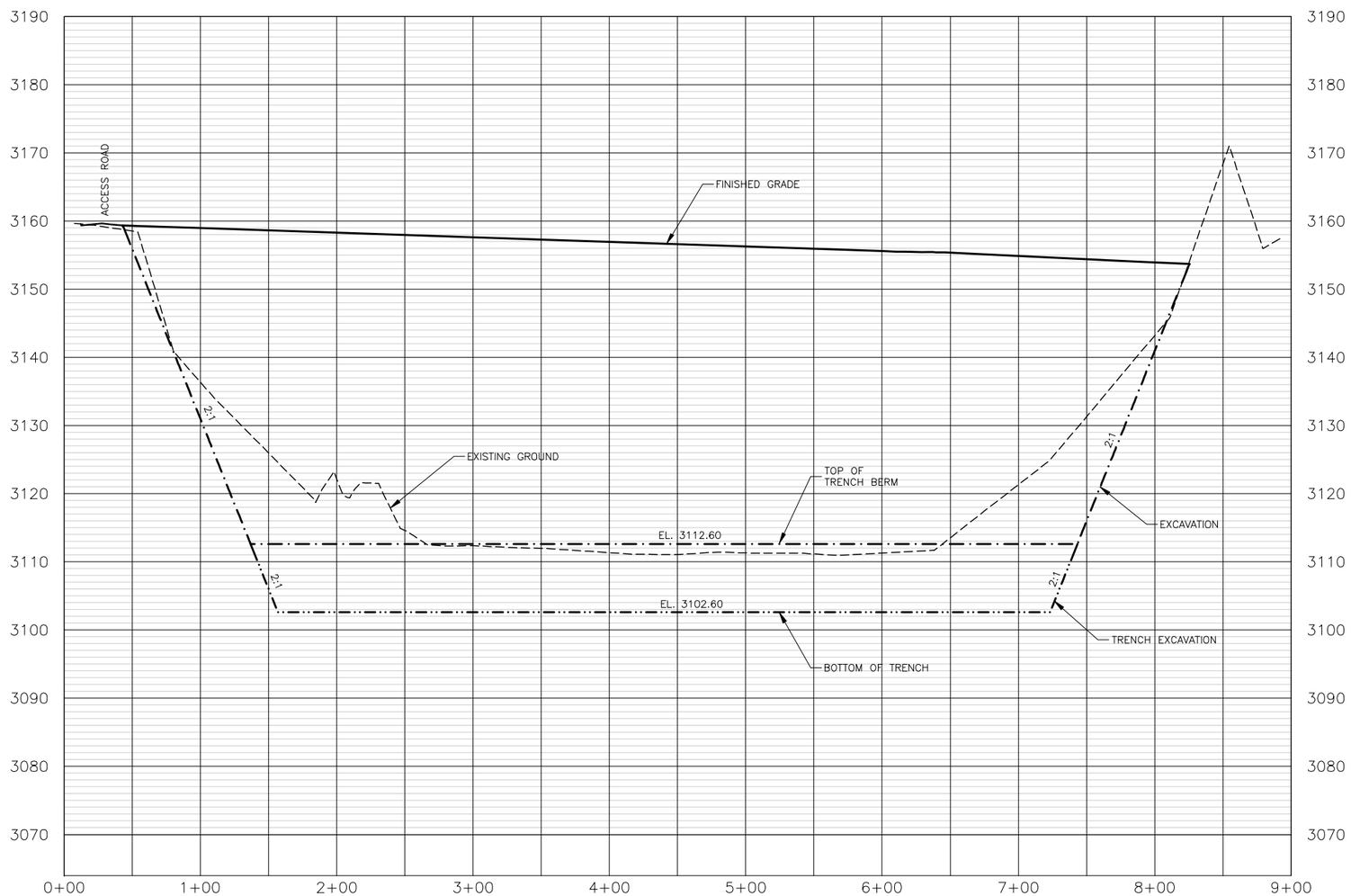

SECTION C-C'

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 20'

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

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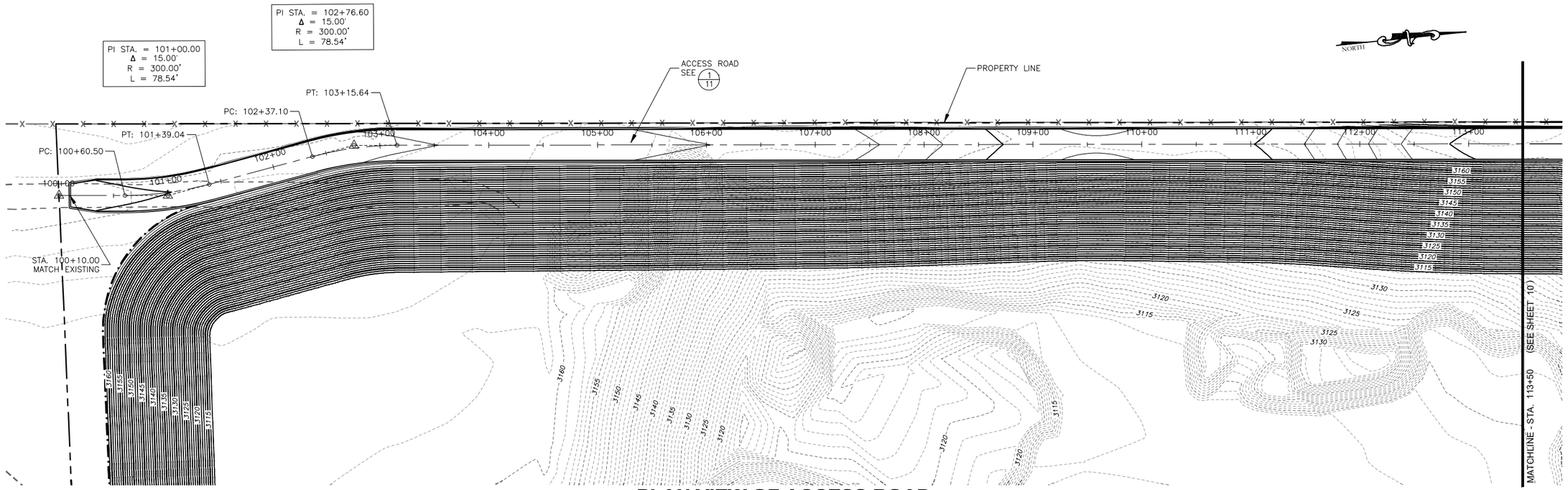
REUM TIRE DEPOT
TIRE LANDFILL
SECTIONS

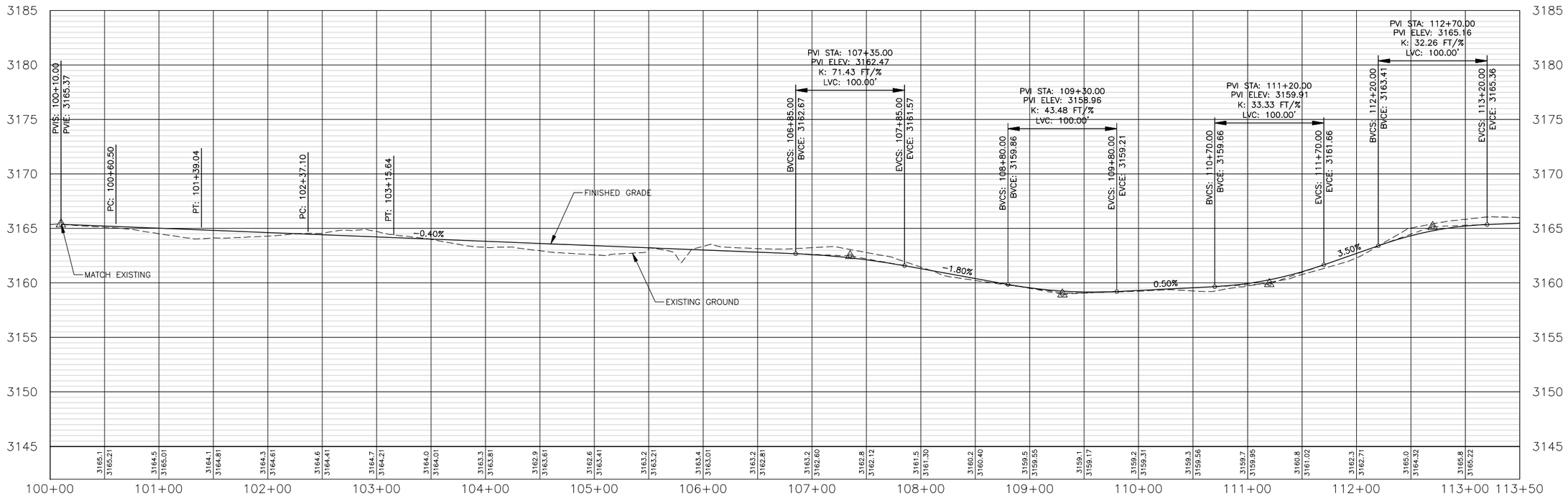
SHEET NO.
8
OF 11

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-08-Sections.dwg



PLAN VIEW OF ACCESS ROAD

0 50 100
SCALE IN FEET



PROFILE VIEW OF ACCESS ROAD - STA. 100+00 TO STA. 113+50

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

STATE OF MONTANA
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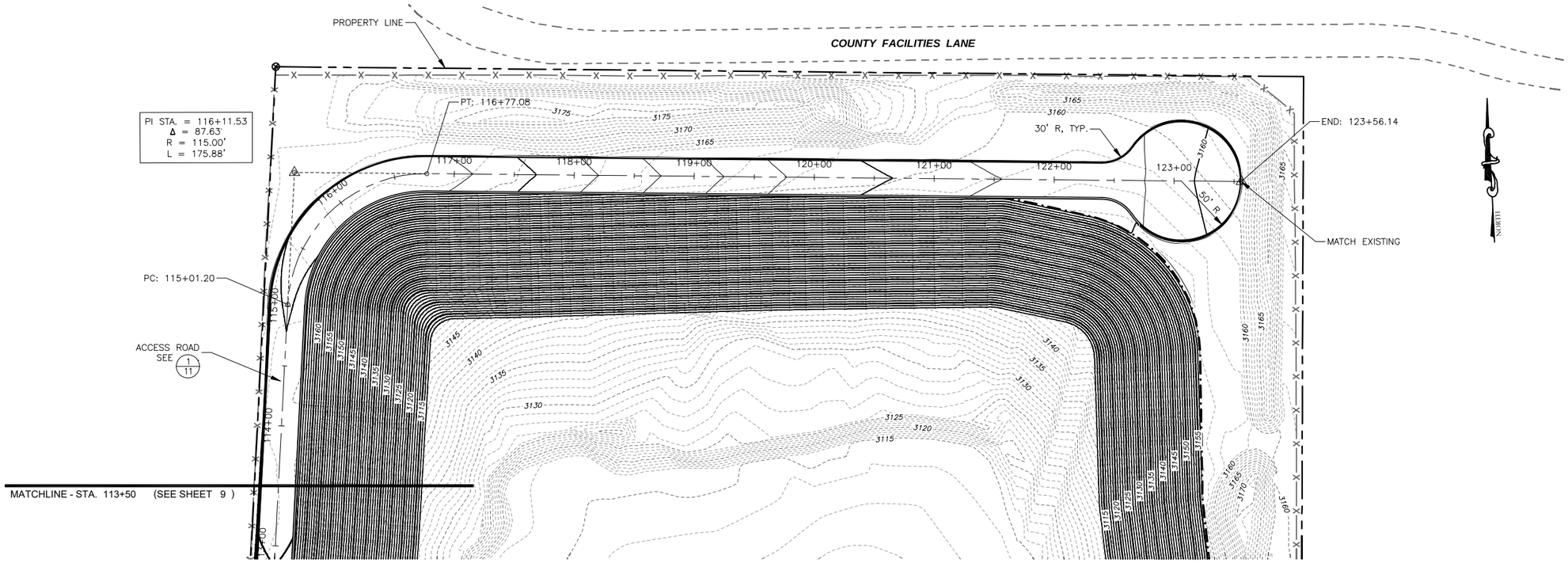
REUM TIRE DEPOT
TIRE LANDFILL

ACCESS ROAD PLAN AND PROFILE
STA. 100+00 TO STA. 113+50

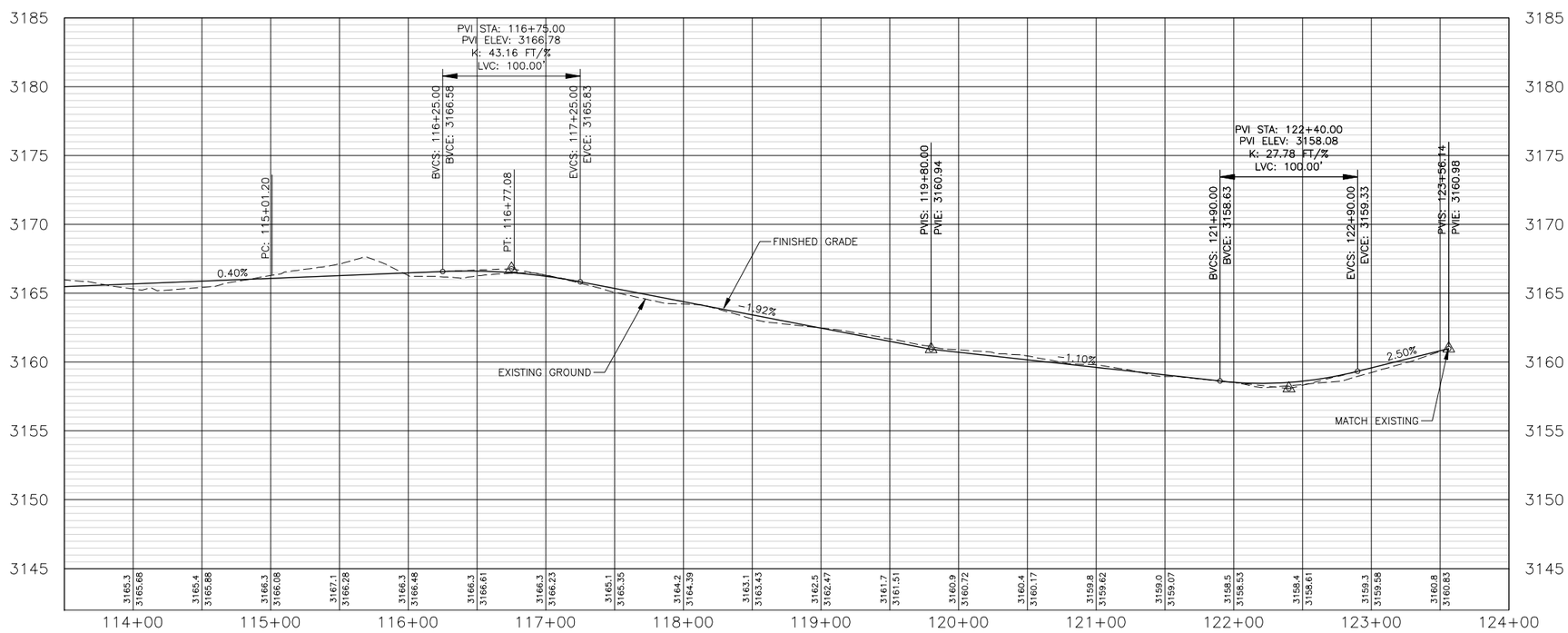
SHEET NO.
9
OF 11

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-09-PP.dwg



PLAN VIEW OF ACCESS ROAD

0 50 100
SCALE IN FEET



PROFILE VIEW OF ACCESS ROAD - STA. 113+50 TO STA. 124+00

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

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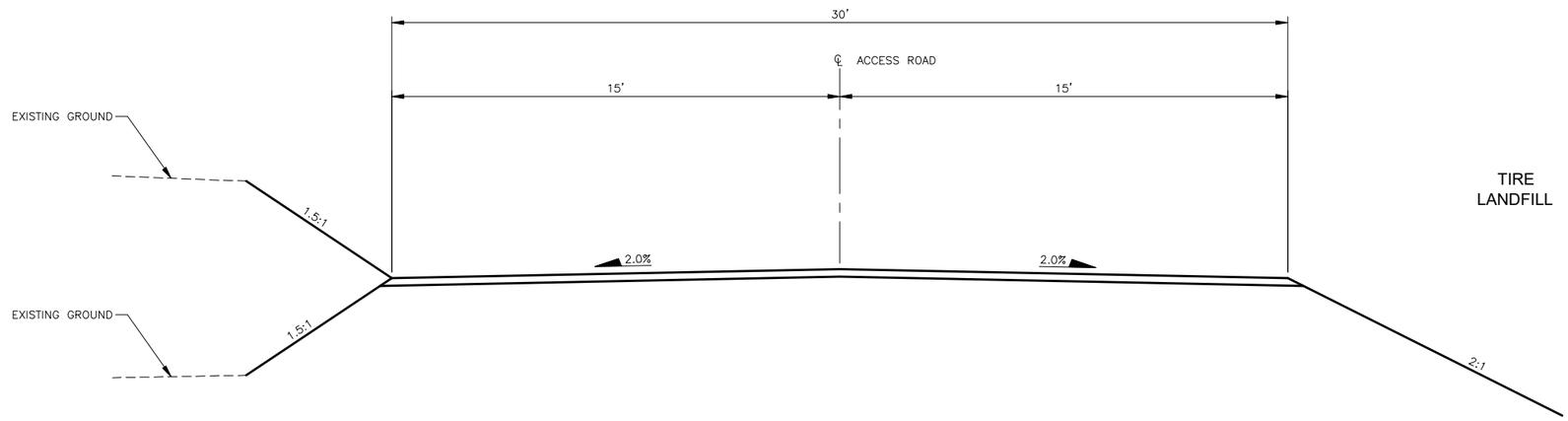
REUM TIRE DEPOT

TIRE LANDFILL

ACCESS ROAD PLAN AND PROFILE
STA. 113+50 TO STA. 124+00

SHEET NO.
10
OF 11

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-10-PP.dwg



1/11 ACCESS ROAD TYPICAL SECTION

NOT TO SCALE

SOIL BALANCE

MASS EXCAVATION (759,034 CY) [1]	189,759
TRENCH EXCAVATION (CY) [2]	229,213
FINAL + INTERMEDIATE COVER VOLUME (CY)	477,858
STOCKPILE (CY)	21,590
TOTAL SOIL AVAILABLE (CY)	440,562
TOTAL SOIL REQUIRED (CY)	477,858
SOIL DEFICIT (CY)	-37,296

1. TREASURE STATE CONCRETE WILL USE 75% OF THE MATERIAL EXCAVATED FOR THE GRAVEL PIT OPERATIONS. TIRE DEPOT RETAINS THE REMAINING 25% OF THE MATERIAL.
2. TIRE DEPOT RETAINS ALL MATERIAL FROM THE TRENCH EXCAVATIONS.

NEW LICENSE LIFE ANALYSIS

TOTAL FILL VOLUME (CY)	1,928,643
FINAL + INTERMEDIATE COVER VOLUME (CY)	477,858
WASTE VOLUME (CY)	1,450,785
INCOMING WASTE (PTE / YR)	1,000,000
PTE (LBS)	20
INCOMING WASTE (TONS / YR)	10,000
TIRE DENSITY (LBS / CY)	660
INCOMING WASTE (CY / YR)	30,303
LIFE (YEARS)	47.9

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: BAA / SMB
DRAWN: BAA
CHECKED: REC
APPROVED: SMB
DATE: MAY 17, 2018

MONTANA STEPHANIE MICHELLE BAYNHAM LICENSED PROFESSIONAL ENGINEER

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REUM TIRE DEPOT
TIRE LANDFILL
DETAILS

SHEET NO.
11
OF 11

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Sheets\1-16134-11-Details.dwg

Attachment 7

Hydrogeology Report, Soils Information, and Groundwater Information

TIRE DEPOT, INC.

Hydrogeology and Soils Summary

May 15, 2018

GreatWest engineering ®

Table of Contents

1.0 Purpose and Scope **1**
2.0 Site Description **1**
3.0 Climate **2**
4.0 Geology **2**
5.0 Groundwater **3**
5.1 Regional groundwater 3
5.2 Local groundwater 5
5.2.1 Four Local Deep Wells 5
5.2.2 Three Local Shallow Wells 6
6.0 Water Quality **7**
6.1 Surface Water 7
6.2 2001 fire with no detected groundwater contamination 7
7.0 Soils **8**
8.0 Subsurface Material **8**
8.1 Test Excavations 8
9.0 Conclusions **9**
10.0 References **10**

List of Tables

Table 1 - Climatic records from Polson Montana (Station 246635, DRI Western Regional Climate Center) 2

List of Figures

Figure 1 - Regional geologic cross section west to east (left to right) across Mission Valley and crossing the Flathead River, the Pablo Reservoir, and the location of the proposed solid waste site (Modified from Smith, 2004). 4
Figure 2 - Photo of proposed solid waste site from southeast corner of existing pit/excavation and looking west (December 11, 2017). The pit walls are composed of coarse alluvium including rounded cobbles and gravel, sand and silt 8

List of Attachments

Attachment A:

Figure A1: Site location map including local groundwater well locations

Figure A2: Regional groundwater flow map including proposed site

Table A1: Groundwater wells within one mile of proposed site

Attachment B: Well logs used in estimating groundwater location at proposed site

Attachment C: US EPA Sampling Activities Report and attachments for Pablo Tire Fire (EPA, 2002)

Attachment D: NRCS Soils Report

Attachment E: Geology Exploration Site Plan and Cross Sections

Attachment F: Test Pit Logs and Photos

1.0 Purpose and Scope

In accordance with Class III Solid Waste Management System License Application requirements, this report is an evaluation the hydrogeology and soils of an area proposed for a new Class III facility for tire disposal (referred to as the proposed solid waste site or site in this report). Tire Depot will be the owner and operator of the proposed solid waste site. This evaluation is a requirement for the Class III Solid Waste Management System License application. The proposed solid waste site is on the west side of Highway 93. The legal description is provided in Section 2.0. The site is currently an opencut excavation/pit operated by Treasure State Concrete. Figure A1 (in Attachment A) shows the location of the proposed solid waste site and the existing Tire Depot facility.

Tire Depot currently shreds and landfills tires at a Class III facility located on a 10.9-acre parcel of property east of the site and east of Highway 93. The proposed solid waste facility will be a separate facility for tire disposal.

2.0 Site Description

The proposed solid waste site is located within Township 22 N, Range 20 W, Section 26 (SW ¼); one mile east of the Pablo Reservoir and one mile north of Pablo and west of US Highway 93 within the Flathead Indian Reservation, Lake County, Montana (see Figure A1 in Attachment A).

The site is located in the Mission Valley. The Mission Valley is an intermontane valley located between the Mission Mountains and the Salish Mountains. Local elevations of the site average 3,160 feet above mean sea level (MSL). The surrounding topography is flat except where gravel and sand mining has resulted in opencut pits. The local topography slopes slightly toward the southwest and towards the reservoir.

The proposed solid waste site consists of an existing opencut mine excavation that is approximately 40 acres in size in which 28 acres is proposed for tire disposal and an additional 12 acres not proposed for tire disposal. The additional 12 acres will be used for facility operations including soil stockpiling, storage and staging of cut and fill material, and equipment storage. The native ground surface around the mine averages 3,160 feet MSL, and the existing average bottom elevation of the pit 3,111 feet MSL.

The native top soils at the site have been removed from most of the site and are stored in stockpiles along the margin of the pit as part of Treasure State's opencut operation. According to the existing DEQ opencut permit Treasure State Concrete has for the site (Permit #1748), soil has been stockpiled to reclaim the area with 12 inches of soil.

3.0 Climate

The climate near Polson, Montana falls into the Dfb category of the Koppen system of climate classification (Peel and others, 2007). That category reflects generally warm-summer humid continental climate and cold winter conditions, with the coldest month averaging below 0° C. All month temperatures average below 22° Celsius (C). The average annual precipitation is 15.3 inches with an average of 25.3 inches of snow (Table 1). The highest precipitation months are May and June, while the area receives the least precipitation in February and March. The daily mean annual high and low temperatures are 67.5 and 20.5 degrees Fahrenheit, respectively (NOAA normals 1971-2000).

Table 1 - Climatic records from Polson Montana (Station 246635, DRI Western Regional Climate Center)

Record	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	31.4	36.5	45.2	56.1	65	72.7	82.1	80.8	68.8	56.4	41.5	33.9	55.9
Average Min. Temperature (F)	19.3	21.8	27.3	34.3	40.8	47.7	53	52.1	44.3	36.1	27.8	22.5	35.6
Average Total Precipitation (in.)	1.03	0.85	0.95	1.25	1.94	2.26	1.04	1.09	1.37	1.19	1.2	1.17	15.32
Average Total SnowFall (in.)	8.6	3.8	2.6	0.4	0	0	0	0	0	0.3	3	6.6	25.3
Average Snow Depth (in.)	5	4	1	0	0	0	0	0	0	0	1	3	1

As is discussed later in this report, most of the groundwater recharge to the area originates in the Mission Mountains. According to seasonal monitoring in local groundwater wells, static water levels fluctuate seasonally with highs occurring in the fall and lows in the summer. Seasonal groundwater fluctuations are discussed in more detail in Section 5.0 of this document.

4.0 Geology

The proposed solid waste site is located in the Mission Valley. The valley floor is composed of Quaternary material including glacial lake deposits, glacial outwash, and glacial till. According to the logs of deeper wells located south of the site (in Townships 19, 20, 21 N) encountered Quaternary-aged strata are underlain by deep alluvium composed of gravel and course sand (Smith, 2004). That deep alluvium can produce large volumes of water where it is greater than 20 feet thick (Smith, 2004). Below the deep alluvium is bedrock composed of Proterozoic Belt Supergroup sedimentary rock; the Mission and Salish mountains bordering the Mission Valley are composed of the same bedrock material.

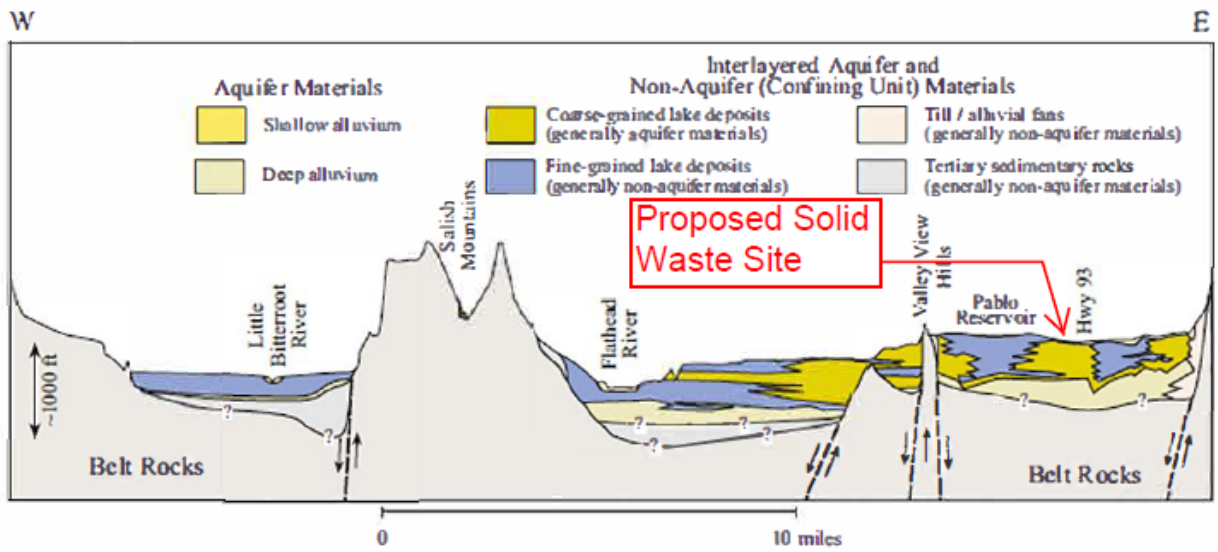
Local geologic data indicate that the site is located on Quaternary alluvium (Smith, 2004). Field observations described later in this report are consistent with that geologic classification. The Quaternary alluvium is the product of several glacial and glaciaolacustrine advance and retreat cycles. The result of those processes is a deposit of intercalated silt, sand and gravel strata that are, in many places, laterally and vertically discontinuous. That situation complicates attempts to develop stratigraphic and hydrostratigraphic correlations (Smith, 2004). Despite the apparent complexities of the stratigraphy in the Mission Valley, LaFave (2004) concludes that the valley fill material can be considered to be a single aquifer.

5.0 Groundwater

The following sections reflect regional and local groundwater conditions based on relevant publications and information derived from well logs obtained from GWIC.

5.1 Regional groundwater

The Montana Bureau of Mines and Geology (MBMG) has completed regional studies on the hydrogeologic framework of and potentiometric surface within the valley-fill aquifer in the Mission Valley (LaFave, 2004; and Smith, 2004). In the area of the proposed solid waste site, the valley-fill aquifer overlies fractured Proterozoic bedrock and is topped by Glacial Lake Missoula sediment and shallow alluvium (Figure 1). The deep alluvium is the aquifer in the Mission Valley with the greatest yield of any other units in the area, averaging 100 gallons per minute (gpm) (Smith, 2002). Glacial Lake Missoula sediments appear at ground surface in other areas in the region but are overlain by alluvium in the area of the site. Those lake sediments are composed predominately of silt, and clay, and in places form locally confining bed(s) (Smith, 2004). As discussed later in Section 8.0, test pits dug at the proposed solid waste site revealed the presence of layers of clay underlying gravels and sands. Despite the presence of confining bed(s) in the Mission Valley, Smith (2004) demonstrated that sufficient vertical hydraulic continuity occurs between the deep alluvium, the Lake sediment, and the shallow alluvium that the full sequence may be considered a single groundwater entity (Smith, 2004). The potentiometric surface of the regional aquifer is shown in Figure A2 in Attachment A. Note that in areas of the Mission Valley the shallow alluvium (depths <75 feet) and underlying Lake sediments can host shallow aquifers. Those shallow aquifers occur in areas near surface waters a few miles south of the proposed solid waste site, specifically Mud Creek south of Pablo and farther south at Post and Mission Creeks near St. Ignatius (LaFave, 2004).



Hydrogeologic unit	Stratigraphic position	Geologic map unit	Typical drillers log descriptions
shallow alluvium	at land surface	Qal Quaternary alluvium Qgo Quaternary glacial outwash	-fine tan sand; fine dry sand -sand & water; clay sand gravel & water -gravel; sand and gravel; gravel sand & cobblestone
Glacial Lake Missoula sediments	at land surface or below shallow alluvium	Qgl Quaternary glacial lake deposits (fine-grained)	-tan silty clay; orange clay; gray clay -sticky clay w/layers of sand
		Qgls Quaternary glacial lake deposits (coarse-grained)	-scattered gravel mixed in tan gray clay; clayey sand -gravel mixed in sand–some water -fine to medium sand seeps of water -gravel mixed in silty sand with clay stringers -gravel in tan silt matrix
		Qgt Quaternary till	-claybound gravel -cobblestones embedded in clay
deep alluvium	beneath Glacial Lake Missoula sediments	*--not exposed at land surface--*	-mixed gravel in sand–much water -cleaner gravel mixed in coarse sand, water
bedrock	at land surface or buried by other units	Ts Tertiary sedimentary rocks Ti Tertiary intrusive rocks	-light green and brown claystone -green and brown siltstone, clay, and coal -greenish hard conglomerate -volcanic bedrock
		Ybe Proterozoic Belt Supergroup	-broken gray rock with tan seams-water -blue-gray, tan, or green argillite -hard gray rock w/ a few fractures -fractured brown rock & some water

Figure 1 - Regional geologic cross section west to east (left to right) across Mission Valley and crossing the Flathead River, the Pablo Reservoir, and the location of the proposed solid waste site (Modified from Smith, 2004).

The major recharge for the aquifer in the region of the proposed solid waste site is the Mission Mountains. Regional groundwater flow is generally westward, from the front of the Mission Mountains to the Flathead River (LaFave, 2004). The Flathead River drains the Mission Valley (LaFave, 2004). Note that the potentiometric surface mapped in Figure A2 is based on static water levels observed in the Mission Valley in 1996. Approximately 74 percent of the productive wells in the Mission Valley have been completed at depths greater than 75 feet. LaFave (2004) weighted the deep well static water levels (SWLs) more heavily in the process of developing an average regional potentiometric surface.

Seasonal variability in the regional static water levels have been observed in the region. As part of a statewide static water level monitoring network, the Montana Bureau of Mines has seasonally monitored a well located 6,800 ft north of the site (GWIC ID 133895). This well is 500 feet deep and is screened within the deep aquifer. The average SWL is 202.86 below ground surface and monitoring data indicates that the SWL fluctuates by approximately five feet seasonally. Observed seasonal high SWL occurs in the fall and winter, in October and January, and seasonal lows occur in the summer around July and August.

5.2 Local groundwater

Records from the Montana Bureau of Mines and Geology's Ground-Water Information Center (GWIC) data base indicate that 48 wells have been drilled within one mile of the proposed solid waste site (see Figure A1 and Table A1 in Attachment A). The wells in Table A1 are listed by proximity to the site. The majority of those local wells are for domestic use.

We used data from the first eight wells listed in Table A1 (in Attachment A) to develop groundwater elevations. These wells are all located within 2,000 feet of the site. Those data include each well's ground surface elevation and static water level, which allow for that calculation. Other wells logs used for this analysis do not include ground surface elevations, so we estimated that value on the basis of GWIC-provided locations, local anecdotal information, and topographic data. We used the known or estimated ground surface elevations to calculate static water level (SWL) elevations.

Four of the eight wells proximal to the proposed solid waste site were drilled to depths greater than 100 feet. The remaining three were drilled to depths less than or equal to 100 feet. The fact that the SWLs in the deep wells are lower in elevation than those within the shallow wells, leads us to conclude that the proposed solid waste site and/or the area proximal to the site may be underlain by perched saturated zones.

According to the lithology reported in these eight local well logs, the uppermost stratigraphic unit is composed of intercalated strata of varying grain size including sand, silt, gravel, and cobbles. Clay strata occur at depths as shallow as 52 feet bgs and are intercalated with silt, sand, and gravel strata to depths of over 1,000 feet. Some of the gravel units interbedded with the clay produce water at rates ranging from 15 to 60 gpm. The most productive water-bearing zones in the deepest well, GWIC ID 212210, occur from 505 to 694 ft bgs, yielding 70 gpm in total.

5.2.1 Four Local Deep Wells

Two of the eight local wells (GWIC IDs 213544 and 205791) penetrate to the deep aquifer at screen depths greater than 400 feet bgs. The reported SWL of those deeper wells is greater than 100 feet bgs.

Another deep well of the eight local wells (GWIC ID 212210) has a total depth of 1,080 feet but is screened at 510 feet bgs. The SWL of this deep well is not reported. However,

according to the lithology data provided in the well log, the uppermost water-bearing unit encountered by the driller is 495 feet bgs.

A well located at the existing Tire Depot facility was advanced 250 feet bgs (GWIC ID 169255) but was not completed because it did not encounter a water-bearing zone. This uncompleted well, contracted by Vern Reum in 1998, is located approximately 1,800 feet east and upgradient of the proposed solid waste site. The lithology reported in the well log for this well indicates that a stratum with fine sand and clay and some water (1 gpm) occurs 87 feet bgs at the site.

The data from above-described deep wells indicate the regional aquifer is greater than 100 feet bgs in the area of the site.

5.2.2 Three Local Shallow Wells

Four of the eight local wells (GWIC IDs 200490, 130740, 152775, and 77008; see Table A1 in Attachment A) have a total depth less than or equal to 100 feet bgs. Three of those shallow wells (GWIC IDs 200490, 130740, and 77008; Table A1) are screened to water-producing layers at depths ranging from 54 to 85 feet bgs. The fourth well, GWIC ID 152775, located 1,800 feet west of the site (Figure A1 in Attachment A) was not screened and appears to have been abandoned because it did not reach a water-bearing layer.

The well logs of several of the shallow wells screened to water-productive zone(s) report units of clay. The presence of clay and silt beds proximal to the site lead us to believe that the water encountered in the shallow wells represent the presence of perched saturated zones. Given the potential for lateral and vertical discontinuity, as noted by Smith (2004), we are uncertain as to whether or not the proposed solid waste site is underlain by shallow groundwater. However, as is discussed in Section 8.1 of this report, test pit excavations at depths reaching 21 feet bgs (relative to the pit floor) at the proposed solid waste site did not encounter groundwater.

The three wells screened to the shallow aquifer(s) (GWIC IDs 200490, 130740, and 77008; see Table A1 in in Attachment A) are located west, east, southeast of the site (Figure A1 in Attachment A). The eastern and southeastern shallow wells (GWIC 130740 and 77008) have higher ground surface elevations and a higher static water levels than the western well. This coincides with the regional observation that the groundwater gradient generally follows the topographic gradient (LaFave, 2004). Interpolation of the SWL elevation between these three wells results in an estimated elevation range of the shallow aquifer of 3,088 to 3,094 feet MSL or 15 to 9 feet below the proposed depth of solid waste (3,102.6 MSL). Further exploration for the potential of shallow groundwater at the proposed solid waste site is discussed in Section 8.1 of this report.

6.0 Water Quality

6.1 Surface Water

Surface water bodies such as lakes, streams, and wetlands are not located at or adjacent to the proposed solid waste site.

6.2 2001 fire with no detected groundwater contamination

On September 25, 2001, the tires at the existing Tire Depot Class III facility, located approximately 1,500 feet east of the proposed solid waste site, began burning from an unknown cause and was extinguished September 27, 2001. The potential for air and groundwater contamination resulting from the fire prompted the US Environmental Protection Agency to deploy a Superfund Technical Assessment and Response Team 2 (START2) to conduct an investigation. Concerned about the release of heat-generated petroleum products from the burning tires, the team sampled two wells proximal to the existing facility for potential contaminants (EPA, 2002). The START2 team collected samples from two wells, one of which is screened at 80 feet (Sample PT-DW-01, GWIC # not reported[1]) and the other screened at 87 feet (Sample PT-DW-02; GWIC # 130740). They sampled the wells twice, once in October 2001, and again in February 2002. The samples collected in October 2001, were analyzed for semivolatile organic compounds (SVOC), Diesel Range Organics (DRO), and Residual Range Organics (RRO). The samples did not contain concentrations of SVOCs, RRO, or DRO above the laboratory detection limits (EPA 2002). The second samples taken in February 2002, were analyzed for SVOCs and for VOCs. The samples did not contain concentrations of VOCs above the laboratory detection limits (EPA 2002). A trace amount of a phthalate compound was reported above detection limits; however, this was assumed to be a result of field contamination from plastics in contact with the sample media (EPA 2002).

The potential for release of contaminants appeared to have been low after the fire. Surface temperature monitoring data indicated that post-incident temperatures in the burned tires would not generate sufficient heat to liberate hydrocarbons that could be transported to groundwater (EPA 2002). Therefore, no further groundwaters sampling was completed by the EPA in response to the 2001 fire.

The START2 report (with appendices) is included in Attachment C.

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[1] The START2 reports indicates this sampled well is at the Lake County Solid Waste Shop, west of Highway 93. However, according to GWIC, the well located at the Lake County Solid Waste Shop (GWIC ID 213544) is 520 feet deep.

7.0 Soils

A custom soil report from the USDA NRCS pertaining to the soils around the site is included in Attachment D. The soils in the area are generally classified as sandy to gravelly loams.

The native soils at the site have been removed from the majority of the area as part of Treasure State's opencut operation.

8.0 Subsurface Material

As is described in the Geology section earlier in Section 4.0, the site is located on Quaternary alluvium. The walls of the gravel pit comprise sub-angular, well-rounded coarse clastic material, ranging in size from coarse gravel to small cobbles (Figure 2).

Figure 2 - Photo of proposed solid waste site from southeast corner of existing pit/excavation and looking west (December 11, 2017). The pit walls are composed of coarse alluvium including rounded cobbles and gravel, sand and silt.

8.1 Test Excavations

We excavated 20 test pits from the bottom of the floor of the existing pit proposed for the solid waste site on December 11, 2017, and April 20, 2018. Cross sections of the test pits are located in Attachment E. Logs and photos of test pits are included in Attachment F. The excavations ranged from 11 to 21 feet in depth below the existing ground surface (bgs) at the pit floor. Material encountering included rounded cobbles and gravel, sand, silt, and silty

clay. We observed silty clay layers that occurred at depths greater than or equal to 9 feet bgs.

The vertical walls of most of the test excavations demonstrated minimal material cohesion with pit walls rarely remaining vertical due to the walls of the pit calving (see photos in Attachment F).

We did not observe groundwater in any of the pits leading us to conclude that groundwater does not occur at elevations proposed for solid waste, and groundwater does not occur at depths within 10 vertical feet of elevations proposed for solid waste. However, we believe that groundwater does occur at depths not far below 10 feet of the elevation of the proposed depth of solid waste. Test pit DE1 reaches the lowest elevation of all test excavations at the site because this pit is located at or near the lowest ground elevation at the pit and excavated to 20 feet. A sample of the lower-most unit was wet. The excavation was dry and did not encounter groundwater, however because the silty clays at the bottom of the pit are wet, it is likely near or at the top of a water-bearing zone.

9.0 Conclusions

The design objectives of the proposed solid waste site include maintaining a waste depth that is above groundwater. The site grading plan includes trench excavations with top elevations at 3,112.6 feet MSL and bottom elevations at 3,102.6 feet MSL; therefore, the proposed maximum depth of excavation and waste will be 3,102.6 feet MSL. Ten of the twenty test pits we excavated reached depths ten feet below elevations proposed for solid waste. These ten deep pits are evenly distributed (see Attachment E). Groundwater was not encountered in any of the test pits. The deepest test pit DE1, where a silty clay sample taken from the bottom of the pit produced water with a squeeze test, indicates the test pit had encountered a wet or water-bearing zone composed of silty clay. Our estimation of the SWL elevation between local shallow wells result in an estimated groundwater depth of 3,088 to 3,094 feet MSL in the area of the site or 15 to 9 feet below the proposed depth of solid waste (3,102.6 MSL). Well logs in the area indicate vertical and lateral heterogeneity in the alluvial stratigraphy below the site therefore these interpolations may not be representative of groundwater occurrence at the site. We consider the observations from the test pits to be the most reliable predictor of the occurrence of groundwater and our results from these pits indicate that groundwater does not occur for at least 10 feet below the proposed depth of solid waste. Additionally, the data from local deep wells indicate the regional aquifer is greater than 100 feet bgs in the area of the site (see Table A1 in Attachment A).

10.0 References

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Attachment A

Additional Figures and Tables

Table A1 - Groundwater wells within one mile of proposed project site (GWIC, 2018) (page 1 of 3)

Well ID (GWIC)	Well site name/owner	Town-ship	Range	Sec-tion	Total depth (feet bgs)	Static water level (SWL) (feet bgs)	Yield (gpm)	Well test type	Well completion date	Ground elevation (ASL)	Ground elevation source	SWL elevation (ASL)	Depth to uppermost water-bearing unit (bgs)	Top elevation of uppermost water-bearing unit (feet ASL)	Well location relative to proposed site (feet and direction)
213544	LAKE COUNTY SOLID WASTE DISTRICT	22N	20W	26	520	165	80	AIR	7/29/2004	3179	Topographic survey near well head.	3014	212	2967	200 NE
200490	CENEX HARVEST STATE POLSON ASHPALT TERMINAL	22N	20W	26	78	36	60	AIR	6/6/2002	3120	Estimated from topographic data and approximated well location.	3084	38	3082	760 W
130740	VERN REUM	22N	20W	25	87	60	40	AIR?	6/14/1983	3170	Estimated from topographic data and approximated well location.	3110	80	3090	800 E
205791	TREASURE STATE CONCRETE	22N	20W	26	474	134	180	AIR	6/17/2003	3168	Estimated from topographic data and approximated well location at Opencut Operation.	2983	173	2995	1,300 SW
212210	54945 HWY 93 SOUTH	22N	20W	26	1080	-	-	OTHER	4/5/2004	3117	Estimated from topographic data and approximated well location.	-	492	2625	1,400 NW
169255	REUM VERN	22N	20W	25	250	-	-	OTHER	8/28/1998	3175	Estimated from topographic data and approximated well location.	-	87	3088	1,800 E
152775	TREASURE STATE CONSTRUCTION INC.	22N	20W	26	100	-	-	OTHER	2/17/1995	3177	Estimated from topographic data and approximated well location.	-	-	-	1,800 W
77008	BURTCH RAY	22N	20W	25	85	60	30	AIR	5/30/1975	3160	Well log	3100	-	-	2,000' SE
77033	GRIFFIN MARY E	22N	20W	36	100	62	30	AIR	2/27/1984	3135	Well log	3073	95	3040	2,900 SE
241050	MANGELS C.W.	22N	20W	25	133	93	25	PUMP	12/20/2007	3195	Estimated from topographic data and approximated well location.	3102	132	3063	3,500 NE
77030	FULLER MABEL	22N	20W	36	98	69	25	AIR	11/29/1977	3147	Estimated from topographic data and approximated well location at Opencut Operation.	3078	-	-	3,500 SE
77031	FULLER MABEL	22N	20W	36	98	65	18	PUMP	7/16/1978	3145	Estimated from topographic data and approximated well location at Opencut Operation.	3080	72	3073	3,500 SE
77032	SAMPSON AUDRY	22N	20W	36	102	60	20	AIR	7/19/1988	3146	Estimated from topographic data and approximated well location.	3086	61	3085	3,500 SE
227254	VIOLETTE, DONALD	22N	20W	36	120	63	30	AIR	6/21/2006	3147	Estimated from topographic data and approximated well location.	3084	107	3040	3,500 SE
703327	BEUS WAYNE	22N	20W	36	74	51	6	OTHER	4/24/1970	3140	Well log	3089	-	-	3,500 SE
77011	MATSON ART	22N	20W	26	113	78	2	PUMP	3/12/1979	3195	Estimated from topographic data and approximated well location.	3117	80	3115	3,600 N
77007	FLEMING PAUL	22N	20W	25	117	117	20	OTHER	1/1/1912	3165	Well log	3083	-	-	3,700 SE
241005	REHBEIN DOUG AND ANNETTE	22N	20W	26	785	140	100	AIR	11/30/2007	3202	Estimated from topographic data and approximated well location.	3062	273	2929	4,200 W
156615	BYRNES DON & JACQUELINE	22N	20W	25	284	-	-	OTHER	2/28/1996	3210	Estimated from topographic data and approximated well location.	DRY	-	-	4,800 NE

Table A1 - continued (page 2 of 3)

Well ID (GWIC)	Well site name/owner	Town-ship	Range	Sec-tion	Total depth (feet bgs)	Static water level (SWL) (feet bgs)	Yield (gpm)	Well test type	Well completion date	Ground elevation (ASL)	Ground elevation source	SWL elevation (ASL)	Depth to uppermost water-bearing unit (bgs)	Top elevation of uppermost water-bearing unit (feet ASL)	Well location relative to proposed site (feet and direction)
146866	WOLF CHERYL	22N	20W	36	102	67	25	AIR	7/19/1994	3154	Estimated from topographic data and approximated well location.	3087	68	3086	4,800 SE
200491	HEISER NICK AND MYMA	22N	20W	36	120	84	25	AIR	8/13/2001	3154	Estimated from topographic data and approximated well location at Opencut Operation.	3070	111	3043	4,800 SE
200492	PARKER GREG AND CONNIE	22N	20W	36	472	138	25	AIR	11/1/2002	3154	Estimated from topographic data and approximated well location.	3016	431	2723	4,800 SE
227256	VIOLETTE, JAMES	22N	20W	36	480	146	30	AIR	6/9/2006	3154	Estimated from topographic data and approximated well location.	3008	468	2686	4,800 SE
217333	LARSON ED	22N	20W	25	140	-	-	OTHER	2/16/2005	3205	Estimated from topographic data and approximated well location.	DRY	-	-	4,900 NE
703324	GARCIA DONALD	22N	20W	25	300	86	0	OTHER	1/9/1983	3210	Well log	3118	-	-	4,900 NE
169596	NELSON WAYNE	22N	20W	23	76	-	-	AIR	11/12/1998	3215	Estimated from topographic data and approximated well location.	3199	8	3207	5,000 N
77006	GARCIA MRS	22N	20W	25	97	85	15	BAILER	10/21/1961	3210	Well log	3118	93	3117	5,000 NE
77034	STONEHOCKER RON	22N	20W	36	422	65	20	PUMP	6/30/1973	3149	Estimated from topographic data and approximated well location at Opencut Operation.	3084	51	3098	5,500 SE
703326	CSK TRIBES	22N	20W	35	451	87	6	OTHER	5/30/1983	3140	Well log	3053	-	-	5,800 S
77003	HERN LONNIE	22N	20W	24	330	247	12	AIR	6/2/1974	3225	Well log	2981	-	-	6,200 NE
77001	MANGELS WALTER	22N	20W	23	340	240	1	AIR	11/10/1975	3215	(Smith et al., 2004)	2942	-	-	6,300 N
77023	REINER JOHN & LOIS	22N	20W	35	158	100	1	PUMP	6/1/1961	3110	Well log	3010	-	-	6,400 S
175468	FROLANDER JEANNE	22N	20W	25	102	91	18	PUMP	7/22/1999	3213	Estimated from topographic data and approximated well location.	3122	99	3114	6,500 NE
165210	BLEAZARD JAY	22N	20W	36	399	198	70	AIR	11/4/1997	3154	Estimated from topographic data and approximated well location.	2956	389	2765	6,500 SE
187689	MILLER DON	22N	20W	36	448	138	90	AIR	1/3/2001	3154	Estimated from topographic data and approximated well location.	3016	155	2999	6,500 SE
133895	W. MANGEL	22N	20W	23	500	200	-	OTHER	10/20/1983	3215	(Smith et al., 2004)	3015	-	-	6,800 N
242672	MANGELS ARTHUR G.	22N	20W	23	1200	285	30	AIR	4/23/2008	3215	Estimated from topographic data and approximated well location at Opencut Operation.	2930	515	2700	6,800 N
77005	HERN LEONARD	22N	20W	25	800	260	10	AIR	8/25/1974	3227	Estimated from topographic data and approximated well location.	2967	-	-	7,200 NE
6207	HERN LEONARD * SOUTHEAST OF POLSON	22N	20W	25	1000	263	-	OTHER	NR	3230	Well log	2967	-	-	7,300 NE
216416	KOVARIK JADE	22N	20W	36	476	136	30	AIR	6/24/2003	3165	Estimated from topographic data and approximated well location.	3029	113	3052	7,600 SE

Table A1 - continued (page 3 of 3)

Well ID (GWIC)	Well site name/owner	Town-ship	Range	Sec-tion	Total depth (feet bgs)	Static water level (SWL) (feet bgs)	Yield (gpm)	Well test type	Well completion date	Ground elevation (ASL)	Ground elevation source	SWL elevation (ASL)	Depth to uppermost water-bearing unit (bgs)	Top elevation of uppermost water-bearing unit (feet ASL)	Well location relative to proposed site (feet and direction)
279173	AILPORT, PAUL	22N	20W	36	88	68	15	AIR	7/24/2014	3137	Estimated from topographic data and approximated well location.	3069	77	3060	7,600 SE
77009	RIEBE TED & BETTY	22N	20W	25	492	198	5	PUMP	10/30/1978	3195	Well log	2997	-	-	7,700 E
77010	BUTT ALFRED	22N	20W	25	59	8	8	OTHER	2/28/1958	3190	Estimated from topographic data and approximated well location.	3182	-	-	7,700 E
77004	HERN D.A.	22N	20W	24	498	250	17	OTHER	1/1/1942	3232	Estimated from topographic data and approximated well location.	2982	-	-	7,700 NE
222621	877 MUD LAKE TRAIL	22N	20W	25	480	167	15	AIR	11/18/2005	3186	Estimated from topographic data and approximated well location.	3019	357	2829	7,800 E
77026	GILL MICHEAL J OR RUTH M	22N	20W	36	80	14	6	OTHER	6/1/1939	3175	Estimated from topographic data and approximated well location.	3161	-	-	7,800 SE
77027	GILL MICHAEL	22N	20W	36	338	170	20	AIR	6/7/1968	3175	Estimated from topographic data and approximated well location.	3005	176	2999	7,800 SE
216678	CHOWNING, CLINT AND MELISSA	22N	20W	25	283	181	12	AIR	2/9/2005	3205	Estimated from topographic data and approximated well location.	3024	185	3020	7,900 NE

FIGURE A1 - SITE LOCATION MAP INCLUDING LOCAL GROUNDWATER WELL LOCATIONS
PROPOSED TIRE MONOFILL
CLASS III FACILITY

LAKE COUNTY
NORTH OF PABLO, MONTANA

SITE LOCATION:
SEC 26, T22N, R20W

Legend

- Groundwater Wells within One Mile of Proposed Site (Labeled with GWIC ID)

Well location precision variable and based on information provided by the Montana Bureau of Mines and Geology Montana Goundwater Information Center (GWIC) Well Data.

GreatWest engineering®

DRAFTED BY: ANDREA STANLEY
DRAFTING DATE: 5/15/2018

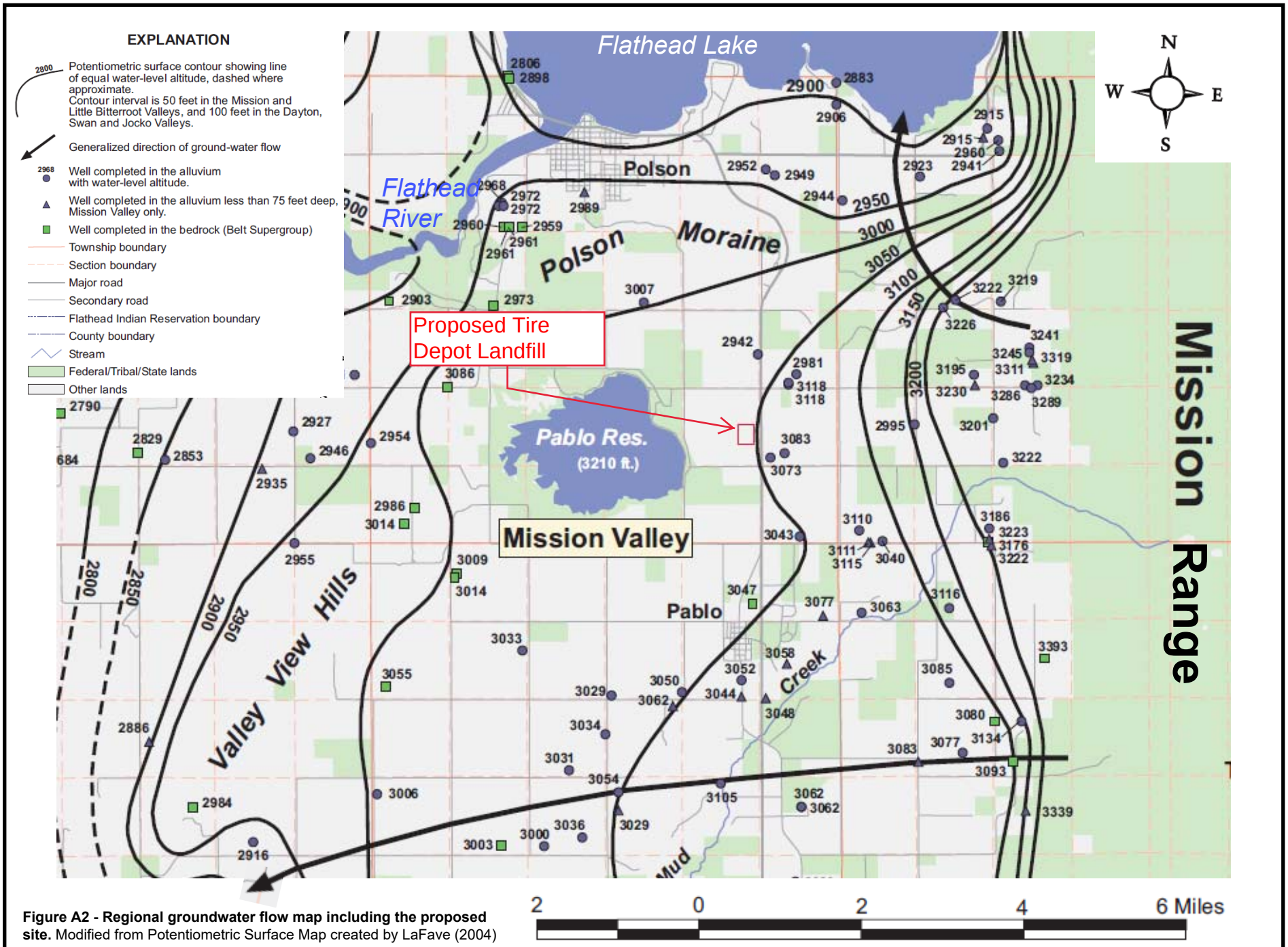

Figure A2 - Regional groundwater flow map including the proposed site. Modified from Potentiometric Surface Map created by LaFave (2004)

Attachment B

Groundwater Estimation Well Logs

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
View scanned well log (5/23/2012 10:42:11 AM)

Site Name: REUM, VERN
GWIC Id: 130740

Section 1: Well Owner(s)

1) REUM, VERN (MAIL)
HIWAY 93 S
POLSON MT 59860 [06/14/1983]

Section 2: Location

Township **Range** **Section** **Quarter Sections**

County **Geocode**

LAKE

Latitude **Longitude** **Geomethod** **Datum**

Ground Surface Altitude **Ground Surface Method** **Datum** **Date**

Addition **Block** **Lot**

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method: FORWARD ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Tuesday, June 14, 1983

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	88	6				STEEL

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	20	PUDDLED CLAY	

Section 7: Well Test Data

Total Depth: 87
Static Water Level: 60
Water Temperature:

Air Test *

_40_ gpm with drill stem set at _ feet for _1.5_ hours.
Time of recovery _ hours.
Recovery water level _ feet.
Pumping water level _75_ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

Unassigned

From	To	Description
0	50	SAND-GRAVEL AND SMALL BOULDERS
50	80	SAND AND A LITTLE GRAVEL
80	87	SAND- GRAVEL- AND WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: CASTLIO DRILLING
License No: WWC-387
Date Completed: 6/14/1983

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps

Site Name: LAKE COUNTY SOLID WASTE DISTRICT
GWIC Id: 213544

Section 1: Well Owner(s)

1) LAKE COUNTY (MAIL)
106 FOURTH AVE. E.
POLSON MT 59860 [07/29/2004]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	26	SE¼ NE¼

County LAKE **Geocode**

Latitude	Longitude	Geomethod	Datum
47.640321	-114.116109	TRS-SEC	NAD83

Ground Surface Altitude **Ground Surface Method** **Datum Date**

Addition **Block** **Lot**

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Thursday, July 29, 2004

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	510	8
510	520	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	510.6	6	0.250		WELDED	A53B STEEL

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	177	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 520
Static Water Level: 165
Water Temperature:

Air Test *

80 gpm with drill stem set at 495 feet for 17.25 hours.
Time of recovery 2 hours.
Recovery water level 165 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

112ALVM - ALLUVIUM (PLEISTOCENE)

From	To	Description
0	1	SANDY TOPSOIL
1	54	SILT SAND GRAVEL AND COBBLES
54	63	SILTY TAN CLAY WITH SAND AND GRAVEL
63	170	FINE BROWN SAND WITH THIN SEAMS OF TAN CLAY
170	212	TAN CLAY WITH SMALL GRAVELS
212	219	SILT SAND AND GRAVEL WITH VERY LITTLE WATER
219	312	TAN CLAY WITH SMALL GRAVELS
312	486	HARD SILTY TAN CLAY WITH SAND AND GRAVEL
486	494	CEMENTED SAND GRAVEL AND COBBLES WITH SEAMS OF BROWN CLAY
494	498	BLUE-GREY CLAY WITH SAND AND GRAVEL
498	507	GREEN CLAY WITH ANGULAR GRAVELS
507	520	SEMI-CEMENTED SAND AND FINE GRAVEL WITH SILTY WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: ACE DRILLING
License No: WWC-613
Date Completed: 7/29/2004

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View scanned well log (7/8/2009 1:34:50 PM)

Site Name: CENEX HARVEST STATE POLSON ASHPALT TERMINAL
GWIC Id: 200490

Section 1: Well Owner(s)

1) CENEX HARVEST STATES (MAIL)
378 GLOVER ROAD
POLSON MT 59860 [06/06/2002]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	26	NW¼ SE¼

County
LAKE

Geocode

Latitude	Longitude	Geomethod	Datum
47.636677	-114.1215	TRS-SEC	NAD83

Ground Surface Altitude	Ground Surface Method	Datum	Date

Addition	Block	Lot
PLAT #170	B	

Section 3: Proposed Use of Water

OTHER (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Thursday, June 06, 2002

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	78	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	78	6	0.250			STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
54	56	6	60	1/8X2	SLOTS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	CONT FED BENTONITE	

Section 7: Well Test Data

Total Depth: 78
Static Water Level: 36
Water Temperature:

Air Test *

60 gpm with drill stem set at 50 feet for 1 hours.
Time of recovery 0.02 hours.
Recovery water level 36 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

Unassigned

From	To	Description
0	38	SAND GRAVEL AND COBBLES
38	52	SAND AND SMALL GRAVEL WITH SOME WATER
52	57	LARGER GRAVEL AND WATER WITH SOME SAND 60 GPM
57	66	SAND AND SMALL GRAVEL WITH SILTY WATER
66	78	TAN CLAY AND GRAVEL

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: ALLWEST DRILLING INC
License No: WWC-571
Date Completed: 6/6/2002

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View scanned well log (7/8/2009 1:35:00 PM)

Site Name: TREASURE STATE CONCRETE
GWIC Id: 205791

Section 1: Well Owner(s)

1) TREASURE STATE CONCRETE (MAIL)
374 GLOVER ROAD
POLSON MT 59860 [06/17/2003]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	26	SW¼ SE¼

County
LAKE

Geocode

Latitude	Longitude	Geomethod	Datum
47.633033	-114.1215	TRS-SEC	NAD83

Ground Surface Altitude **Ground Surface Method** **Datum Date**

Addition **Block** **Lot**

Section 3: Proposed Use of Water

OTHER (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Tuesday, June 17, 2003

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	398	7
398	474	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	398	6	0.250		WELDED	STEEL
390	474	5	0.258		WELDED	STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
468	473	5	3	.5 X 2 IN	TORCH CUTS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 474
Static Water Level: 134
Water Temperature:

Air Test *

180 gpm with drill stem set at 390 feet for 2 hours.
Time of recovery 2 hours.
Recovery water level 134 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source
Unassigned

From	To	Description
0	52	SILT SAND GRAVEL COBBLES AND SMALL BOULDERS
52	71	TAN CLAY WITH SMALL GRAVELS
71	81	BROWN SAND WITH VERY LITTLE GRAVEL
81	173	TAN CLAY WITH SAND AND GRAVEL
173	188	FINE BROWN SAND AND WATER
188	322	TAN CLAY WITH GRAVEL AND THIN LAYERS OF BROWN SAND
322	431	TAN CLAY WITH SAND AND GRAVEL
431	467	CEMENTED SAND GRAVEL COBBLES WITH SOME TAN CLAY
467	474	COURSE SAND AND GRAVEL WITH WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: ACE DRILLING
License No: WWC-613
Date Completed: 6/17/2003

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps

Site Name: 54945 HWY 93 SOUTH
GWIC Id: 212210

Section 1: Well Owner(s)

1) LAKE COUNTY (MAIL)
106 4TH AVE. EAST
POLSON MT 59860 [04/05/2004]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	26	SW¼ SW¼ NE¼

County LAKE

Geocode

Latitude	Longitude	Geomethod	Datum
47.63941	-114.122847	TRS-SEC	NAD83

Ground Surface Altitude **Ground Surface Method** **Datum Date**

Addition **Block** **Lot**

Section 3: Proposed Use of Water

COMMERCIAL (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Monday, April 05, 2004

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	35	12
35	727	8
727	940	6
940	1080	5

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	35	12	0.365		WELDED	A53B STEEL
2	535	8	0.250		WELDED	A53B STEEL
20	727	6	0.250		WELDED	A53B STEEL
646	940	5	0.250		WELDED	A53B STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
510	525	8	600	1/4-1	HOLTE PERFORATOR SLOTS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	35	BENTONITE	

Section 7: Well Test Data

Total Depth: 1080
Static Water Level:
Water Temperature:

Unknown Test Method *

Yield _ gpm.
Pumping water level _ feet.
Time of recovery _ hours.
Recovery water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

Unassigned

From	To	Description
0	1	BLACK SANDY TOPSOIL
1	60	TAN SILT, SAND, GRAVEL, SOME SMALL COBBLES
60	70	TAN SILTY CLAY, SOME GRAVEL
70	77	TAN FINE CLAY
77	141	TAN CLAYEY SILT
141	159	TAN SILTY FINE SAND
159	182	TAN CLAY
182	388	TAN CLAY, SOME SMALL GRAVEL
388	492	TAN SILT, SOME SCATTERED SMALL SHARP ANGULAR GRAVEL, SOME LAYERS AND SEAMS SOFTER WITH VERY COARSE SAND, AND SOME SMALL ROUNDED GRAVEL
492	505	GRAY SILTY SAND, MOSTLY SMALL SHARP AND ANGULAR GRAVEL, SOME SMALL ROUNDED GRAVEL WITH WATER ESTIMATED 55-30 GPM
505	528	TAN SILT, SAND, SMALL SHARP AND ANGULAR GRAVEL, CEMENTED LAYERS AND LAYERS LOOSE AND CAVING IN WITH WATER ESTIMATED 50-70 GPM, 20-25 GPM AFTER 5-10 MINUTES
528	533	GRAYISH TAN CLAY, SOME GRAVEL
533	569	YELLOW CLAY
569	682	GRAY FINE SAND, WATER 15-20 GPM
682	694	GRAY FINE SILTY SAND, WATER 50-70 GPM

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:	
Company:	WESTERN WATER WORKS INC
License No:	WWC-521
Date Completed:	4/5/2004

Site Name: 54945 HWY 93 SOUTH

From	To	Description
694	704	MOSTLY BLUE GRAY CLAY SOME LAYERS GREENISH GRAY CLAY, SOME LAYERS DARK BROWN CLAY
704	719	TAN SILT, GRAY SAND, WATER 50-60 GPM
722	727	TAN SILT, GRAY SAND, SOME SMALL ROUNDED GRAVEL
727	865	GRAY FINE TO MEDIUM SAND BOUND IN SILTY CLAY, SOME WATER
865	872	GRAY SAND, WATER, ESTIMATED 20-30 GPM
872	935	GRAY FINE SAND BOUND IN TAN SILTY CLAY
935	1011	TAN CLAY, SMALL RED BROKEN ROCK PIECES
1011	1080	TAN CLAY

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
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Site Name: REUM VERN
GWIC Id: 169255

Section 1: Well Owner(s)

1) REUM, VERN (MAIL)
203 COURVILLE TR.
POLSON MT 59860 [08/28/1998]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	25	NW¼ SW¼

County
LAKE

Geocode

Latitude	Longitude	Geomethod	Datum
47.636698	-114.111208	TRS-SEC	NAD83

Ground Surface Altitude **Ground Surface Method** **Datum** **Date**

Addition **Block** **Lot**

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, August 28, 1998

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	250	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	250	6				STEEL

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	BENTONITE	

Section 7: Well Test Data

Total Depth: 250
Static Water Level:
Water Temperature:

Unknown Test Method *

Yield _ gpm.
Pumping water level _ feet.
Time of recovery _0_ hours.
Recovery water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

112LKML - GLACIAL LAKE MISSOULA BEDS

From	To	Description
0	59	GRAVEL SAND AND SILT
59	64	SAND AND SILT
64	87	SAND AND SILT WITH SOME GRAVEL
87	88	FINE GRAVEL SAND AND CLAY WITH WATER 1GPM
88	95	SAND AND CLAY
95	108	SAND
108	112	SAND WITH SEEPS OF WATER
112	122	CLAY
122	123	CLAY WITH GRAVEL EMBEDDED
123	139	SAND AND CLAY WITH SEEPS OF WATER
139	197	CLAY WITH SAND
197	219	CLAY WITH GRAVEL EMBEDDED
219	250	CLAY WITH SAND AND SOME WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: A & M
License No: WWC-558
Date Completed: 8/28/1998

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

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Plot this site in State Library Digital Atlas
Plot this site in Google Maps
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Site Name: TREASURE STATE CONSTRUCTION INC.
GWIC Id: 152775

Section 1: Well Owner(s)

1) TREASURE STATE CONSTRUCTION INCORPORATED (MAIL)
BOX 1131
POLSON MT 59860 [02/17/1995]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	26	

County	Geocode
LAKE	

Latitude	Longitude	Geomethod	Datum
47.638499	-114.124195	TRS-SEC	NAD83

Ground Surface Altitude	Ground Surface Method	Datum	Date

Addition	Block	Lot

Section 3: Proposed Use of Water

OTHER (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, February 17, 1995

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-4	96	8				STEEL

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	20	BENTONITE	

Section 7: Well Test Data

Total Depth: 100
Static Water Level:
Water Temperature:

Unknown Test Method *

Yield _ gpm.
Pumping water level _ feet.
Time of recovery _ hours.
Recovery water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

DRY WELL

Section 9: Well Log

Geologic Source

112DRFT - GLACIAL DRIFT

From	To	Description
0	41	SMALL GRAVEL & SAND
41	46	SAND
46	67	GRAVEL SAND & BROWN SILT
67	81	BROWN SILTY SAND & GRAVEL
81	100	CLAY & GRAVEL

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: BILLMAYER DRILLING
License No: WWC-47
Date Completed: 2/17/1995

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View scanned well log (7/8/2009 1:34:20 PM)

Site Name: BURTCH RAY
GWIC Id: 77008
DNRC Water Right: 6171

Section 1: Well Owner(s)

1) BURTCH, RAY (MAIL)
ROUTE 1 BOX 45 AB
RONAN MT 59864 [05/30/1975]

Section 2: Location

Township	Range	Section	Quarter Sections
22N	20W	25	SW¼ SW¼

County
LAKE

Geocode

Latitude	Longitude	Geomethod	Datum
47.633084	-114.111208	TRS-SEC	NAD83

Ground Surface Altitude	Ground Surface Method	Datum Date
3160		

Addition **Block** **Lot**

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method: AIR COMPRESSOR
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, May 30, 1975

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-1	85	6				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
85	85	6			OPEN BOTTOM *

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 85
Static Water Level: 60
Water Temperature:

Air Test *

_30_ gpm with drill stem set at _ feet for _1_ hours.
Time of recovery _ hours.
Recovery water level _ feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

112DRFT - GLACIAL DRIFT

From	To	Description
0	85	GRAVEL & SAND

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company: JEROME AND OKEEFE DRILLING CO
License No: WWC-249
Date Completed: 5/30/1975

Attachment C

US EPA Sampling Activities Report for Pablo Tire Fire

START2

Superfund Technical Assessment and Response Team 2 - Region VIII

United States
Environmental Protection Agency

Contract No. 68-W-00-118

SAMPLING ACTIVITIES REPORT

PABLO TIRE FIRE
Pablo, Lake County, Montana

TDD No. 0109-0013

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COMMUNITY SERVICES BUREAU

August 26, 2002

START2 REGION VIII
URS
OPERATING SERVICES, INC.

In association with: Tetra Tech EM, Inc.
URS Corporation
LT Environmental, Inc.
TN & Associates, Inc.
TechLaw, Inc.

TRIP REPORT
for
PABLO TIRE FIRE
Pablo, Lake County, Montana

EPA Contract No. 68-W-00-118
TDD No. 0109-0013

Prepared By:
John Noto and Crystal Roberts
Environmental Scientists

URS Operating Services, Inc.
1099 18th Street, Suite 710
Denver, CO 80202-1908

Approved: _____ Date: _____
Paul Peronard, On-Scene Coordinator, EPA, Region VIII

Approved: _____ Date: _____
T. F. Staible, START2 Program Manager, UOS

Approved: _____ Date: _____
Randy Perlis, Project Manager, UOS

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SAMPLING ACTIVITIES REPORT

PABLO TIRE FIRE
Pablo, Lake County, Montana

TABLE OF CONTENTS

		PAGE #
SIGNATURE PAGE		i
DISTRIBUTION LIST		ii
TABLE OF CONTENTS		iii
1.0	**INTRODUCTION**	1
2.0	**BACKGROUND**	1
3.0	**SITE ACTIVITIES**	1
3.1	Emergency Response - September 25 Through September 27, 2001	
3.2	Air Sample Results	
3.3	Post-fire Investigation - Groundwater Well Sampling	
3.3.1	Site Geology and Groundwater Flow Direction	
3.3.2	Initial Groundwater Sampling - October 11, 2001	
3.3.3	Follow-up Groundwater Sampling - February 6, 2002	
3.3.4	Groundwater Sample Results	
3.4	Post-fire Subsurface Temperature Investigation	
4.0	**SUMMARY**	10
5.0	**LIST OF REFERENCES**	11

FIGURES

Figure 1	Site Location and Sample Map
Figure 2	Site Map

TABLES

Table 1	Air Sample Locations
Table 2	Groundwater Sample Locations
Table 3	Air Sample Results
Table 4	Air Organic Sample Results

APPENDICES

Appendix A	Photolog
Appendix B	Air Sample Laboratory Data Sheets
Appendix C	Well Log Reports
Appendix D	Water Sample Data Validation Reports

1.0 INTRODUCTION

On September 25, 2001, at 3:45 p.m., U.S. Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Paul Peronard notified the Superfund Technical Assessment and Response Team 2 (START2) of the need to respond to a tire fire in Pablo, Montana. START2 mobilized to the site and provided site documentation and sampling. START2 then returned twice after the initial response to conduct follow-up sampling and investigation. Site activities on September 25 through September 27, 2001; October 11, 2001; November 11, 2001; and February 6, 2002 are described in this report.

2.0 BACKGROUND

Tire Depot, Inc. is located at 54830 Hwy 93 South, Pablo, Montana and is owned by Vern Reum. The fire began burning sometime during the morning of September 25, 2001, from an unknown cause. The cause of the fire was speculated to have been electrical, since electrical work had recently been done on site. A neighbor notified the Fire Department of the fire the morning of September 25, 2001.

3.0 SITE ACTIVITIES

3.1 EMERGENCY RESPONSE - SEPTEMBER 25 THROUGH SEPTEMBER 27, 2001

Two START2 members mobilized to the site on the night of September 25, 2001, and met with EPA OSC Paul Peronard and EPA Toxicologist Chris Weiss. Tom Bartle of the Polson Fire Department was present as the Incident Commander. The fire was located in a large pit that contained hundreds of thousands of tires and was southeast of the shop. A dirt road surrounds the pit that contained the fire. Heavy equipment and operators were contracted by EPA to bring in hundreds of tons of sand to smother the fire. The main concern was the health and safety of the equipment operators working with minimal personal protective equipment (PPE) and for the surrounding residential areas. OSC Peronard requested that START2 conduct air monitoring of the thick black smoke that was coming off the fire.

Two samples that were collected by EPA on September 25, prior to START2's arrival were transferred to START2 for analysis. The samples, P25C and R25A, were collected from the smoke

plume using filter cassettes attached to air pumps (Table 1). The samples were submitted for metals analysis; sample results are attached in Appendix B.

Chris Weiss accompanied START2 as they began the air monitoring using a Minimax monitor, a Passport Multi-gas Analyzer, a MultiRae PID/TOX Analyzer, and a Radiation Alert monitor. The winds were blowing out of the southeast as START2 progressed into the plume. A summary of the readings and locations is shown in the following table.

Air Monitoring Readings Taken of Tire Fire Plume on 9/25/02

Location	Total Volatile Organic Compounds (VOCs) ppm	Carbon Monoxide (CO) ppm	Sulfur Dioxide (SO_2) ppm	Cyanide ppm
Edge of plume	0.3	1.0	NR	NR
10 feet into plume, 50 feet from fire	1.4	NR	NR	NR
20 feet into plume, 40 feet from fire	10	NR	NR	NR
30 feet into plume, 30 feet from fire, thickest area of smoke	5.0	40	1.0	3.0
Leaving area, other edge of plume	30	23	NR	NR

NR - reading was not registered

The Radiation Alert monitor did not detect any radiation. START2 also collected Draeger samples in the thickest part of the plume. The Draeger results showed 1 part per million (ppm) for petroleum hydrocarbons, and a positive color change for benzene. The results for chlorinated hydrocarbons, mercury vapor, organic based nitrogen, and mercaptan were non-detect. After leaving the area, the highest level of carbon monoxide (CO) was recorded at 72 ppm and the highest total volatile organic compounds (VOCs) level was recorded at 31.4 ppm. START2 then left the site for the evening and returned the following morning.

Upon arrival on the morning of September 26, 2001, START2 continued to conduct air monitoring around the perimeter of the remaining fire and plume. The CO levels ranged from non-detect to 75 ppm. The VOC levels ranged from non-detect to 1.1 ppm. Throughout the day the wind continued to change direction. START2 began monitoring the areas where the equipment operators were working. A DataRAM dust monitor was also used. The particulate levels ranged from 0.03 micrograms per cubic meter ($\mu g/m^3$) to 0.15 $\mu g/m^3$.

EPA then requested that START2 collect air samples from three locations around the town of Pablo and also from the personnel who were operating the heavy equipment used to extinguish the fire. START2 worked with Greg Parana of PES and Doug Updike and Tom Vanderweel of CDM to accomplish these tasks. The pumps were calibrated before using and then were placed at three locations around the town of Polson and on the personnel (Figure 1) (Table 1). Each of three locations around Polson was sampled on two separate occasions. The start date and total time for each sample are shown in Table 1.

All of the samples were then collected from the surrounding areas and the personnel, the paperwork was completed, and the samples were dropped off at Federal Express. After returning from Federal Express, OSC Peronard requested that START2 observe a neighboring potato farm and the roads surrounding the site and take air monitoring readings. The owner of the farm had expressed concern for his crop to state officials. START2 arrived at the farm located approximately 0.5 mile southwest of the fire and conducted photo documentation and air monitoring. The crop appeared to have been harvested and the DataRAM registered 0.07 $\mu g/m^3$. START2 then monitored several points on the roads surrounding the fire. The particulate levels ranged from 0.006 $\mu g/m^3$ to 0.5 $\mu g/m^3$. START2 then returned to the site, relayed the information to EPA, and departed for the day.

START2 returned the following morning (September 27, 2001) and discovered that the fire had been extinguished during the night. Operators continued to move soil around in the pit area to cover any hot spots and a truck began spraying water on the roads surrounding the pit. START2 completed a final round of air monitoring in and around the pit. These readings are shown in the following table.

Air Monitoring Readings Taken of the Tire Fire Plume on 9/27/02

Location	Total Volatile Organic Compounds (VOCs) ppm	Carbon Monoxide (CO) ppm	Particulates $\mu g/m^3$
Northwest corner of pit	1.0	4.0	0.04
Bottom of pit - northwest side	0.7	11	0.17
Bottom of pit - near junk pile	16.2	16	0.021
Bottom of pit - north edge	16.7	21	0.05
Top of pile in middle of pit	13	48	0.09
North-northwestern edge of pit	19.7	70	0.95
Top edge of northwestern side of pit	10.6	26	0.47
Middle of pit	8.1	60	0.022
Middle of pit	2.4	12	0.028
Driveway to pit	1.0	3.0	0.017
Middle of pit at bottom of driveway	0.7	3	0.015
Top of driveway	0.5	1	0.022

START2 then returned to command, relayed the information to the OSC, and demobilized.

3.2 AIR SAMPLE RESULTS

The air samples were collected using SKC® sampling pumps. Carbon filters were used to collect the samples for VOCs analysis and glass fiber filters were used to collect the samples for metals analysis. EPA Method TO-15 was used to analyze for VOCs and National Institute for Occupational Safety and Health (NIOSH) Method 7300 was used to analyze for metals. The air samples were shipped to Galson Labs, East Syracuse, New York. The air sample results are listed in Tables 3 and 4. Air samples A-2AF and P-7F contained benzene and toluene above the laboratory detection limit; however, they did not exceed the EPA Region 3 Risk Based Concentration (RBC) value. Aluminum, barium, calcium, copper, iron, magnesium, manganese, and zinc were detected in the air samples above the laboratory detection limit; however, they also did not exceed the EPA Region 3 RBC

value. The laboratory data were validated by TechLaw, Inc. The laboratory data sheets are attached as Appendix B.

3.3 POST-FIRE INVESTIGATION - GROUNDWATER WELL SAMPLING

Oil releases may have occurred due to the intense heat that tires were subjected to during the fire. To evaluate this potential threat, groundwater samples were collected from two nearby wells that are screened in the shallow alluvial aquifer. START2 collected domestic well samples from businesses near the tire fire site on October 11, 2001, and on February 6, 2002. The sample locations were selected based on their proximity to the fire and their location relative to the groundwater flow direction.

3.3.1 Site Geology and Groundwater Flow Direction

The Lake County Landfill is located approximately three miles west of Polson, Montana, in Section 18, T. 22 N., R. 20 W. An investigation of the Lake County landfill in 1993 is a source of information about the shallow aquifer and local geology. Numerous test borings and monitoring wells were completed at the landfill during the investigation by Damschen and Associates Consulting Engineers (DA) 1993). The landfill investigation and previous studies revealed that glacial alluvial deposits overlie glacial Lake Missoula silt beds in the Flathead River valley. The alluvial deposits are comprised of beds of sand, sandy silt, and gravel. The thickness of the alluvial deposits in borings at the landfill ranged from 35 to 75 feet. The silt beds are comprised of clayey, sandy silt present to almost 300 feet below ground surface (bgs) (DA 1993). Groundwater flow in the shallow unconfined aquifer is generally toward the Flathead River.

Logs of well installations in the vicinity of the Pablo Tire Fire site indicate that the shallow aquifer is not heterogeneous and water-productive zones are intermittent. In wells at or near the Tire Depot where the productive zone was encountered, the static water levels were measured at about 60 feet bgs.

An attempted domestic-use well installation at the Tire Depot was conducted in August 1998 by a contractor hired by Vern Reum. The well was permitted under Montana Bureau

of Mines and Geology Ground Water Information Center (GWIC) ID #169255. The borehole was completed to 250 feet bgs. The borehole was abandoned and the well was not completed because a water-productive zone was not intersected. The lithology was reported to be gravel, sand, and silt to 87 feet bgs, and inter-bedded layers of sand and clay from 87 feet bgs to 250 feet bgs. The well log report is attached as Appendix C.

The domestic well installed at the southwest corner of the Tire Depot pit, GWIC ID #130740, was bored to a depth of 87 feet bgs.. The lithology was described as primarily sand and gravel with a water-bearing zone from 80 feet to 87 feet bgs. The record for the well specified a completion date of June 1983. The well's static water level was 60 feet bgs, and the well yield was 40 gallons per minute (gpm). The well log report is attached in Appendix C.

3.3.2 Initial Groundwater Sampling - October 11, 2001

During the October 2001 sampling event, two START2 members met with Seth Makepeace of the Flathead Reservation, and with Tim Stepp of the Montana Department of Environmental Quality (MDEQ) to discuss the locations of wells in the area. Information provided by the reservation indicates that the groundwater at the tire fire site flows to the west.

A water sample, PT-DW-01, was collected at the Lake County Solid Waste Shop. The county shop is west of Highway 93 and due west of the Tire Depot facility. Based on the regional groundwater flow, the well at the county shop is downgradient of the fire location and will likely intercept any contamination that may have resulted from the fire. The well is located east of shop building #3 (southernmost) and has a reported depth of 80 feet bgs. The well and system were purged for 20 minutes at an estimated 2 gpm using the outside spigot. The spigot is connected directly to the well prior to entering the plumbing in the building. The measured parameters prior to sample collection were; pH 7.41, temperature 11.8°C., conductivity 0.35 milli Siemens (mS), total dissolved solids 0.16 parts per thousand (ppt).

Water sample PT-DW-02 was collected at Smith Paving and Construction, located adjacent to and south of the Tire Depot. Smith Paving is located at 54668 U.S. Highway 93, Polson, Montana. The well, GWIC ID #130740, is located near the southwest corner of the Tire Depot's tire pit. The depth of the well was reported to be approximately 87 feet bgs by Vern Reum.

Sample PT-DW-02 was collected from the outside spigot after approximately 160 gallons (8 gpm x 20 minutes) were purged from the well and the delivery system. Prior to sample collection, the parameters were measured at: pH 7.46, temperature 12.1°C., conductivity 0.27 mS, and total dissolved solids 0.13 ppt.

The samples were submitted to Analytica Environmental Laboratory in Thornton, Colorado. The samples were submitted for semivolatile organic compounds (SVOC) analysis via method SW8270C and for Diesel Range Organics (DRO) and Residual Range Organics (RRO) via EPA Method 8015B.

3.3.3 Follow-up Groundwater Sampling - February 6, 2002

Crystal Roberts, START2, mobilized to Polson on February 6, 2002, to collect follow-up groundwater samples from the two locations sampled in October, 2001 (Table 2). Before proceeding with sampling, START2 met with Renee Kenmeal of the Confederated Salish and Kootenai Tribes of the Flathead Reservation, Natural Resources Department, who accompanied START2 during sampling. The samples were assigned the same sample ID as the previous sampling event (Table 2). The samples were collected from the same spigots as in October 2001. Water was purged from the system prior to sample collection. The respective samples were collected after three consecutive pH, temperature, and conductivity readings were recorded. The samples were collected directly from the spigot into the sample bottle.

The samples were submitted to Northern Analytical Laboratory in Billings, Montana, for SVOCs analysis via EPA Method 8270 and for VOCs analysis via EPA Method 8260.

3.3.4 Groundwater Sample Results

Samples PT-DW-01 and PT-DW-02, collected in October 2001, did not contain concentrations of SVOCs, RRO, or DRO above the laboratory detection limits.

Samples PT-DW-01 and PT-DW-02, collected in February 2002, did not contain concentrations of VOCs above the laboratory detection limits. The only SVOC reported above detection limits was bis(2-ethylhexyl)phthalate in sample PT-DW-02 at 65 μg/L. Phthalates are a common laboratory contaminant and field contaminant when plastics come in contact with the sample media.

The water sample laboratory data were validated by TechLaw, Inc. The validation reports are attached as Appendix D.

3.4 POST-FIRE SUBSURFACE TEMPERATURE INVESTIGATION

START2 mobilized to the Tire Fire site on November 11, 2001, to investigate the subsurface conditions. The investigation was conducted to measure subsurface temperatures to evaluate the threat to groundwater. If the buried tires were still smoldering, the heat could pose a threat to groundwater by causing hydrocarbons to be released from the buried tires.

A Geoprobe® was used to conduct the subsurface investigation. Two START2 members met with the property owner, Vern Reum, who assisted by providing information about the layout of the facility (Figure 2) and the nature of the fire. Mr. Reum identified four locations at the site where the fire occurred in a thick accumulations of tires.

The Geoprobe® was used to drive hollow rods into the identified locations. The subsurface temperature was measured using a thermometer that was lowered through the Geoprobe® rods and pulled out for readings. The Geoprobe® was used to penetrate from 9 feet to 17 feet bgs at the locations. Probe refusal was reached at each location due to the resistant tires.

The subsurface temperature in the shredded tire area was measured at 12° C. at 12 feet bgs.

The split truck tire area had subsurface temperatures of 55° C. at 11 feet bgs and 60° C. at 8 feet bgs. The highest temperature, 65 °C., was measured just north of the shredder in the split truck tire area at 9 feet bgs.

The whole tire area, north of the burned building, had a temperature of 30° C. at 17 feet bgs. Steam was emanating from this area, which had been heavily sprayed with water by the fire department during the fire.

There was no indication that the fire was still smoldering during the subsurface investigation by START2. No additional threats to groundwater under the site were observed. The maximum measured temperature of 65° C. (149° F.) is not intense enough to cause oil to be released from the tires. The slightly elevated subsurface temperatures are most likely due to residual heat trapped under the insulating soil cover.

4.0 SUMMARY

UOS START2 mobilized to the Pablo Tire Fire site on September 25, 2001. During the initial phase of the response, the START2 members were tasked to document the fire, conduct real-time air monitoring of the plume and around the perimeter of the site, collect ambient air samples, and collect breathing zone samples via sampling equipment attached to fire-fighting personnel.

To investigate the impact that the tire fire had on nearby wells, START2 collected samples from two domestic wells that are screened in the shallow aquifer. The samples were collected in October 2001, and February 2002. The samples were analyzed to determine if hydrocarbon contamination was present. Except for a trace amount of a phthalate compound in one sample, the samples did not have contaminant concentrations above the respective detection limits.

A subsurface temperature investigation was conducted by START2 at the tire fire site on November 11, 2001. The purpose of the investigation was to determine if the buried tires were still smoldering and generating heat that could liberate hydrocarbons from the tires. The Geoprobe® was used to probe into the locations where the fire had burned and a thermometer was used to take subsurface readings. There was no indication that the buried tires were still smoldering. The maximum subsurface temperature of 65°C appeared to be due to residual heat that was trapped by the soil.

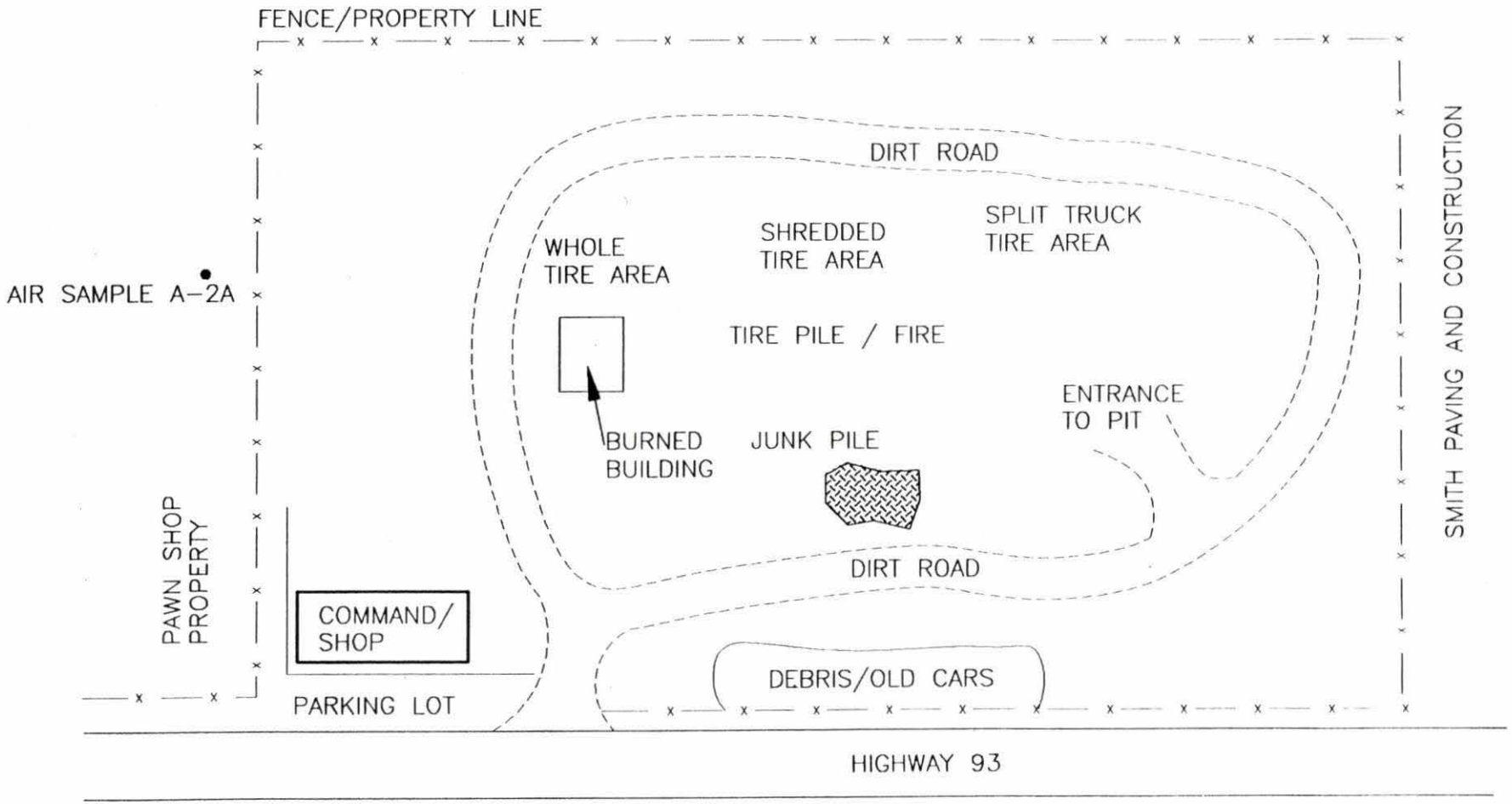
5.0 LIST OF REFERENCES

Damschen and Associates, Inc., (DA). 1993. Final Hydrogeological and Soils Study, Ground-Water Monitoring Plan and Sampling Analysis Plan for the Lake County Landfill, Polson, Montana. January 1993.

DATE: 01/28/03 KEN (TtEMI) FILENAME: F:/DRAWINGS/PABLO TIRE FIRE/SITEMAP.DWG

URS Operating Services, Inc.
START2, EPA Region VIII
Contract No. 68-W-00-118

Pablo Fire - SAR
Revision: 0
Date: 08/2002



NOT TO SCALE

Sampling Analysis Report
TDD No. 0109-0013

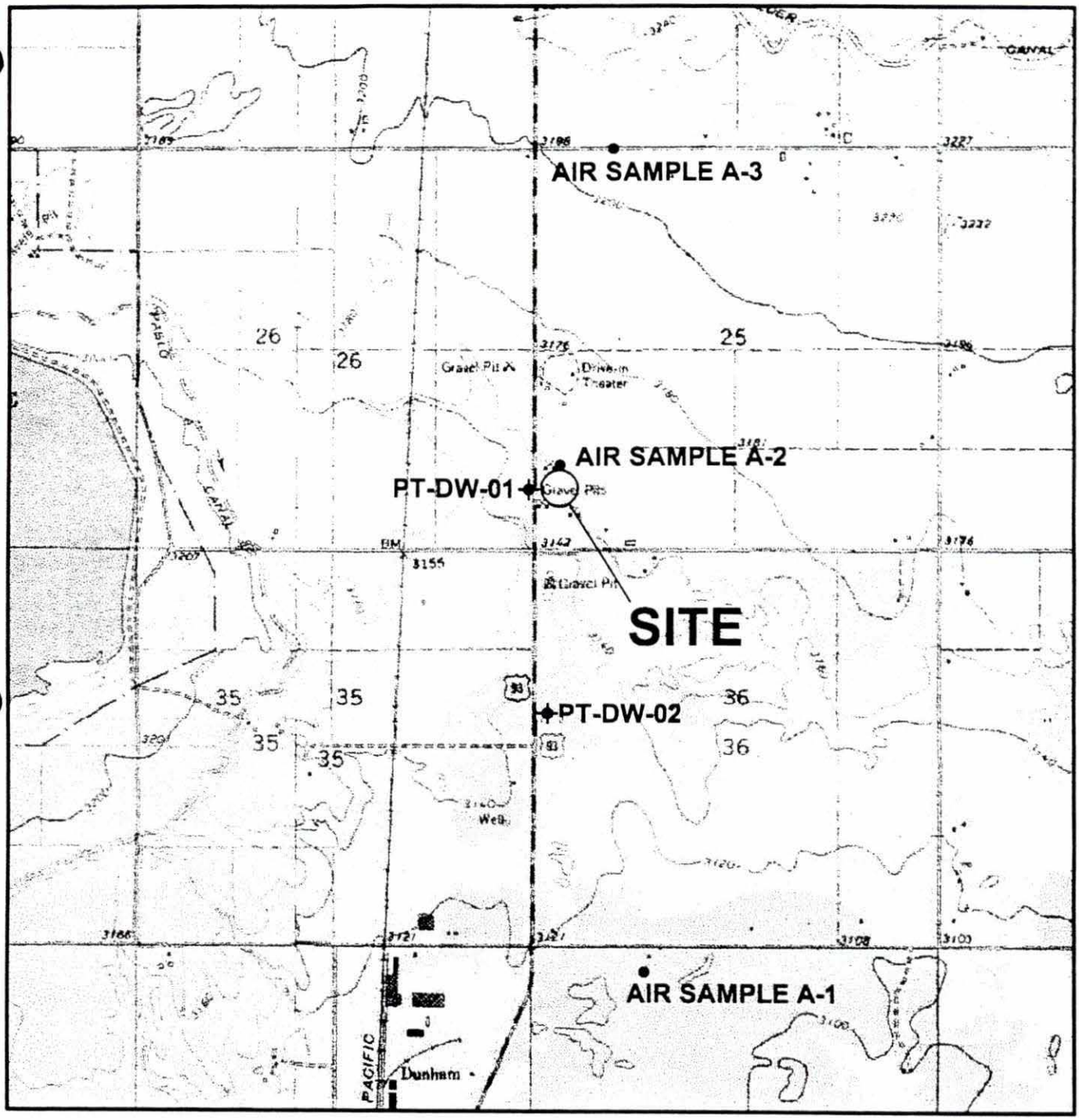
Pablo Tire Fire
Pablo, Montana

Site Map
Figure 2

August 2002

URS OPERATING SERVICES

0109-0013
P:\START2\Pablo Tire Fire\Trip Report.wpd:bas



SOURCE: USGS QUADRANGLE
via TOPOI Mapping Software

2000 0 2000
SCALE: 1" = 2000'

Sampling Analysis Report
TDD No. 0109-0013

Pablo Tire Fire
Pablo, Montana

Site Location and Sample Map

Figure 1

August 2002

URS OPERATING SERVICES

0109-0013
P:\START2\Pablo Tire Fire\Trip Report.wpd:bas

DATE: 11/3 KEN (TIEMI) FILENAME: H:\DRAWINGS\PABLO TIRE FIRE\SITELOCMAP.DWG

TABLE 1
Air Sample Locations

Sample	Media	Start Date	Total Time	Location
P-001	Air	9/25/02	4 hours 45 min.	Heavy equipment operator
P-002	Air	9/25/02	3 hours 37 min.	Worker on ground doing spotting for equipment operators
P-003	Air	9/25/02	3 hours 29 min.	Heavy equipment operator
P-004	Air	9/25/02	4 hours 12 min.	Heavy equipment operator
P-005	Air	9/25/02	3 hours 21 min.	Heavy equipment operator
P-006	Air	9/26/02	12 min.	Worker on ground doing spotting for equipment operators
P-007	Air	9/26/02	12 min.	Heavy equipment operator
A-1	Air	9/25/02	4 hours 12 min.	5309 Whispering Pine Drive, Polson, top of garage
A-2	Air	9/25/02	5 hours 02 min.	54900 Hwy 93, Polson, 150 feet NW of fire
A-3	Air	9/26/02	4 hours 02 min.	290 Minesinger Trail, Polson, on tractor
A-1A	Air	9/25/02	15 min.	5309 Whispering Pine Drive, Polson, top of garage
A-2A	Air	9/25/02	16 min.	54900 Hwy 93, Polson, 150 feet NW of fire
A-3A	Air	9/26/02	15 min.	290 Minesinger Trail, Polson, on tractor
P-25C	Air	9/25/01	24 cubic meters (volume)	Plume monitoring sample
R25A	Air	9/25/01	24 cubic meters (volume)	Plume monitoring sample

NA - Not Applicable

TABLE 2
Groundwater Sample Locations

Sample	Media	Date	Location
PT-DW-01	Groundwater	10/11/02 and 2/6/02	Lake County Solid Waste Shop, west of Highway 93, due west of the Tire Depot facility.
PT-DW-02	Groundwater	10/11/02 and 2/6/02	Smith Paving and Construction, located adjacent to and south of the Tire Depot at 54668 U.S. Highway 93.

TABLE 3
Air Sample Results
Concentrations in mg/m³ (ppm)

D: (Abbrev)	P-1 L75083-1	P-2 L75083-2	P-3 17083-3	P-4 L75083-4	P-5 L75083-5	A-1 L75083-6	A-2 L75083-7	A-3 L75083-8	B-1 L75083-9 (μg)	B-2 L75083-10 (Blank) (μg)	P25C L75293-1
(Ag)	0.8 U	1 U	1 U	0.9 U	1 U	0.4 U	0.4 U	0.4 U	0.45 U	0.45 U	0.1 U
(Al)	17	14	11	17	8 U	2 U	2 U	2 U	3 U	3 .U	0.1 U
(As)	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.006 U
(Sb)	2 U	2 U	2 U	2 U	2 U	0.7 U	0.7 U	0.7 U	0.9 U	0.9 U	0.1 U
(Ba)	0.3	0.3 U	0.4 U	0.4	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.1 U
(Be)	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.1 U
(Ca)	35	35	40 U	59	40 U	10 U	10 U	10 U	15 U	15 U	0.6 U
(Cd)	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.006 U
(Co)	0.8 U	1 U	1 U	0.9 U	1 U	0.4 U	0.4 U	0.4 U	0.45 U	0.45 U	0.1 U
(Cr)	3 U	3 U	4 U	3 U	4 U	1 U	1 U	1 U	1.5 .U	1.5 .U	0.1 U
(Cu)	0.5 U	0.7 U	0.7 U	0.6	0.8 U	0.2 U	0.2 U	0.2 U	0.3 U	0.3 U	0.1 U
(Fe)	21	20 U	20 U	22	20 U	6 U	6 U	6 U	7.5 .U	7.5 .U	0.3 U
(K)	30 U	30 U	40 U	30 U	40 U	10 U	10 U	10 U	15 U	15 U	0.6 U
(Pb)	0.7 U	0.9 U	0.9 U	0.8 U	1 U	0.3 U	0.3 U	0.3 U	0.38 U	0.38 U	0.02 U
(Mg)	15	15	13	15	8	2.4	3	2 U	3 .U	3 .U	0.1 U
(Mn)	0.7	0.5	0.4	0.8	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.1 U
(Na)	50 U	70 U	70 U	60 U	80 U	20 U	20 U	20 U	30 U	30 U	1 U
(Ni)	0.5 U	0.7 U	0.7 U	0.6 U	0.8 U	0.2 U	0.2 U	0.2 U	0.3 U	0.3 U	0.1 U

TABLE 3
Air Sample Results
Concentrations in mg/m^3 (ppm)
(continued)

D: (Abbrev)	P-1 L75083-1	P-2 L75083-2	P-3 l7083-3	P-4 L75083-4	P-5 L75083-5	A-1 L75083-6	A-2 L75083-7	A-3 L75083-8	B-1 L75083-9 (µg)	B-2 L75083-10 (Blank) (µg)	P25C L75293-1
(Se)	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.1 U
(Tl)	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.1 U
(V)	0.8 U	1 U	1 U	0.9 U	1 U	0.4 U	0.4 U	0.4 U	0.45 U	0.45 U	0.1 U
(Zn)	15	7.5	4 U	63	4 U	1 U	2	1 U	1.5 U	1.5 U	0.1 U

alyte was not detected at or above the Contract Required Detection Limit(CRDL).
rams per cubic meter
per million
grams per cubic meter
per billion

TABLE 4
Air Organic Sample Results
Concentrations in total milligrams (ppm)

ID:	A-1AF L75083-11	A-1AB L75083-12	A-2AF L75083-13	A-2AB L75083-14	A-3A L75083-15	P-7F L75083-16	P-7B L75083-17	B-1 B L7508
	0.002 U	0.002 U	0.005	0.002 U	0.002 U	0.003	0.002 U	0.00
	0.002 U	0.002 U	0.004	0.002 U	0.002 U	0.005	0.002 U	0.00

nalyte was not detected at or above the Contract Required Detection Limit (CRDL).

APPENDIX B

Air Sample Laboratory Data Sheets

URS Operating Services, Inc.
..eet, Suite 710,
) 80202

SHIP TO: GALSON LABORATORIES
6601 Kirkville Road
E. Syracuse, NY 13057

CHAIN OF CUSTODY R.

NO./NAME:
3.00
RE FIRE

SITE MANAGER:
Randy Perlis
(303) 291-8319

ER'S SIGNATURE: Randy Perlis

N	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number Containers	ICP Metals					REMARK
	09/25/01		X		30-047-0028	1	X					Sample Volume 23.99
	09/25/01		X		30-047-0013	1	X					Sample Volume 24.00

	DATE	TIME			DATE	TIME	
SHED BY: (Signature) Randy Perlis	10/02/01	1530	RECEIVED BY: (Signature) FEDEX	RELINQUISHED BY: (Signature)			RECEIV (Signatur
QUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIV (Signatur
HED BY: (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE / TIME	REMARKS: AIRBILL NUMBER 27[illegible]		

White - Original to Accompany Sample Yellow - UOS Main Office Pink - UOS Field Office DN [illegible]

Final results will be available* on 10/10/2001.

The report will be sent to:

Mr. Randy Perlis
URS Operating Services, Inc.
1099 18th Street
Suite 710
Denver, CO 80202
Fax to 303-291-8296

Additional copies to:

Sample ID	Media	Volume/Time/Area	Available*	Analysis
B25C	Filter	23999.5	10/10/01	TAL Metals
B25A	Filter	24001.1	10/10/01	TAL Metals

t, Suite 710, | E. Syracuse, NY 13057 | **CHAIN OF CUSTODY RE**

NO./NAME:
.00
E FIRE

SITE MANAGER:
Randy Perlis
(303) 291-8319

R'S SIGNATURE: Randy Perlis

N	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number Containers	ICP Metals – TAL metals per Randy to Mike Krause 10/3					REMARK
	09/25/01		X		30-047-0028	1	X					Sample Volume 23.99
	09/25/01		X		30-047-0013	1	X					Sample Volume 24.00

PO# 0501P765 (same as Rec per Mike

HED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIV (Signatu
Perlis	10/02/01	1530	FEDEX				
HED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIV (Signatu
HED BY: (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature) M. Krause	DATE 10/3/01	TIME 10:15	REMARKS: AIRBILL NUMBER: 2733280056	

White - Original to Accompany Samples Yellow - UOS Main Office Pink - UOS Field Office

DN 0109 0013

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

October 10, 2001

DOH ELAP# 11626

Mr. Randy Perlis
URS Operating Services, Inc.
1099 18th Street
Suite 710
Denver, CO 80202

Client Account# 10234 Login# L75293

Dear Mr. Perlis:

Enclosed are the analytical results of the samples received by our laboratory October 03, 2001.

Results in this report are based on the sampling data provided by the client. Unless otherwise requested, all samples will be discarded sixty days from the date of this report.

We strive to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.

Galson Laboratories is uniquely qualified to meet your needs for accurate and timely industrial hygiene analyses. Accredited by the American Industrial Hygiene Association since 1976, we perform all analyses according to NIOSH or OSHA-approved analytical methods. Galson Laboratories is committed to providing quality analyses and exceptional customer service.

Please contact your client service representative, Pam Weaver at (888) 577-5227, extension 116, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

F. Joseph Unangst
Laboratory Director

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

Date : Public File File
Project No. : 75-F0810913.00

Date Sampled : 25-SEP-01
Date Received : 03-OCT-01
Date Analyzed : 09-OCT-01

Account No.: 10234
Login No. : L75293

Client ID : P25C **Lab ID : L75293-1** **Air Volume : 23999.5 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0001	MG/M3
Aluminum	3	<3.0	<0.0001	MG/M3
Arsenic	0.15	<0.15	<0.006	UG/M3
Antimony	0.9	<0.90	<0.0001	MG/M3
Barium	0.15	<0.15	<0.0001	MG/M3
Beryllium	0.15	<0.15	<0.0001	MG/M3
Calcium	15	<15	<0.0006	MG/M3
Cadmium	0.15	<0.15	<0.006	UG/M3
Cobalt	0.45	<0.45	<0.0001	MG/M3
Chromium	1.5	<1.5	<0.0001	MG/M3
Copper	0.3	<0.30	<0.0001	MG/M3
Iron	7.5	<7.5	<0.0003	MG/M3
Potassium	15	<15	<0.0006	MG/M3
Lead	0.38	<0.38	<0.02	UG/M3
Magnesium	3	<3.0	<0.0001	MG/M3
Manganese	0.15	<0.15	<0.0001	MG/M3
odium	30	<30	<0.001	MG/M3
Nickel	0.3	<0.30	<0.0001	MG/M3
Selenium	0.15	<0.15	<0.0001	MG/M3
Thallium	0.15	<0.15	<0.0001	MG/M3
Vanadium	0.45	<0.45	<0.0001	MG/M3
Zinc	1.5	<1.5	<0.0001	MG/M3

OMMENTS: Unknown filter type - Desorption efficiency is not available
Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: LK
Approved by : AMW
Date : 10-OCT-01
QC by:
NYS DOH # : 11626

-Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
-Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
-Not Applicable	ND -Not Detected	ppm -Parts per Million	LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data ov' 'ed by clients.

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

Project No. : 75-F0810913.00

Date Sampled : 25-SEP-01
Date Received : 03-OCT-01
Date Analyzed : 09-OCT-01

Account No.: 10234
Login No. : L75293

Client ID : R25A **Lab ID : L75293-2** **Air Volume : 24001.1 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0001	MG/M3
Aluminum	3	<3.0	<0.0001	MG/M3
Arsenic	0.15	<0.15	<0.006	UG/M3
Antimony	0.9	<0.90	<0.0001	MG/M3
Barium	0.15	<0.15	<0.0001	MG/M3
Beryllium	0.15	<0.15	<0.0001	MG/M3
Calcium	15	<15	<0.0006	MG/M3
Cadmium	0.15	<0.15	<0.006	UG/M3
Cobalt	0.45	<0.45	<0.0001	MG/M3
Chromium	1.5	<1.5	<0.0001	MG/M3
Copper	0.3	<0.30	<0.0001	MG/M3
Iron	7.5	<7.5	<0.0003	MG/M3
Potassium	15	<15	<0.0006	MG/M3
Lead	0.38	<0.38	<0.02	UG/M3
Magnesium	3	<3.0	<0.0001	MG/M3
Manganese	0.15	<0.15	<0.0001	MG/M3
odium	30	<30	<0.001	MG/M3
ickel	0.3	<0.30	<0.0001	MG/M3
Selenium	0.15	<0.15	<0.0001	MG/M3
Thallium	0.15	<0.15	<0.0001	MG/M3
Vanadium	0.45	<0.45	<0.0001	MG/M3
Zinc	1.5	<1.5	<0.0001	MG/M3

MMENTS: Unknown filter type - Desorption efficiency is not available
Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: LK
Approved by : AMW
Date : 10-OCT-01
QC by:
NYS DOH # : 11626

-Less Than
-Greater Than
-Not Applicable

mg -Milligrams
ug -Micrograms
ND -Not Detected

m3 -Cubic Meters
l -Liters
ppm -Parts per Million

kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data ovided by clients.

Revis
Date:

Confederated Salish and Kootenai Tribes
Filter Custody Record

Record Number:
Site Operator: A. Bunce

Shipment Number:
Initials of Shipper:

Shipment Date:
Shipped Via

PM_{10} or $PM_{2.5}$	Cassette Number	Filter Number	Site	Sampler ID	Sample Received Date	Sample installed Date	Sample Run Date	Sample Removed Date	Date Received by Lab	Date Returned to Tribe
PM2.5	~~25~~ 23	T1168089	30-047-0028	R25~~8~~A	9/04/01	9/20/01	9/25/01	9/26/01	EPA	
PM2.5	615	T1168092	30-047-0013	R25~~8~~C	9/04/01	9/20/01	9/25/01	9/26/01	EPA	

Comments:

Max Temperature:
Min Temperature:
Shipment Condition:
Cold Pack Condition:

OS URS Operating Services, Inc.
h Street, Suite 710, Denver, CO 80202

SHIP TO: Mike Palmer / Galson
6601 Kirkville Rd.
E. Syracuse, NY 13057

CHAIN OF CUSTODY

CT NO./NAME: NAN Tire Fire

SITE MANAGER: Randy Perlis

LER'S SIGNATURE:

ION	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	VOA					REN
F	9/26/01	1252		X	5309 Whispering Pin	1	X					01790
AB	9/26/01	1252		X	↓	1	X					01790
AF	9/26/01	1218		X	54900 Hwy 93	1	X					01790
AB	9/26/01	1218		X	↓	1	X					01790
A	9/26/01	1224		X	290 Minesing Tr.	1	X					01790
F	9/26/01	1418		X	onsite - dozens	1	X					01790
B	9/26/01	1418		X	↓	1	X					01790
	9/26/01	1500		X	Blank	1	X					01790

UISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	REC (Sign
	9/26/01	1700					
UISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	REC (Sign
UISHED BY: (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE / TIME	REMARKS: AIRBILL NUMBER:		

White - Original to Accompany Samples Yellow - UOS Main Office Pink - UOS Field Office

DN 5117

O\Forms\Custody.Frm:bas

of Custody Record

..ironmental Protection Agency, Region VIII
th Street, Suite 300
, CO 80202-2413

~~Libby Ast~~ ~~os Investigation~~ 9/26/01

Send to: Mike Palm
6601 Ki
E. Syracu
via: ☐ hand deliv

Project (circle 1): Phase I Phase II Removal Action

le Placed ooler/Bag	Index ID	Sample Date	Sample Time	Sample Matrix (S=Soil, W=Waste; O=Dust; A=Air; B=Bulk Insulation)	Sample Type (G=Grab; C=Composite)	Volume (L)	Analysis Request*	Comments
☑	P-1	9/25/01	284 min	A	N/A	562	ICP-Vols-Semivols 9/26/01	
☑	P-2	9/25/01	217 min	A	N/A	430		
☑	P-3	9/25/01	211 min	A	N/A	414		
☑	P-4	9/25/01	252 min	A	N/A	499		
☑	P-5	9/25/01	201 min	A	N/A	398		
☑	A-1	9/25/01	252 min	A	N/A	1265		
☑	A-2	9/25/01	242 min	A	N/A	1215		
☑	A-3	9/25/01	242 min	A	N/A	1215		
☑	B-1	9/25/01	Ø	A	N/A	Ø		
☑	B-2	9/25/01	Ø	A	N/A	Ø		

Air: preparation method EPA/540/2-90/005a, analytical method ISO 10312. Dust: preparation method ASTM D5755-95, analytical method ISO 10312. Solid PLM: prepara
Y-01/NIOSH 9002. Soil IR: preparation and analysis method ISSI-LIBBY-02. Soil TEM: preparation method EPA/540/R-97/028, analytical method ISSI-LIBBY-01/ISO 103
Personal Air, Stationary Air, and Dust Samples: PCM (by NIOSH 7400), TEM (by Modified ISO 10312 – Phase 2 QAPP, approved 2/01), or TEM (AHERA) method. Bulk Ins

umber of Samples 10

END OF SUBMITTAL

al Comments:

PES	@1334 9/26/01		1335 9/26/01	great
shed by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition
	1700 9/26/01			
shed by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition
shed by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition

er 25, 2001

Copies: Pink - Retained by sampler; Yellow - Retained by laboratory; White - Included in analytical report

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-3A **Lab ID : L75083-15** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
thyl Benzene	2	<2	<2	< 2
sobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

OMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

-Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
-Greater Than ug -Micrograms l -Liters NS -Not Specified
-Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data
ovi d by clients

Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75Q83
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-3A **Lab ID : L75083-15** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitatio

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : P-7F **Lab ID : L75083-16** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	3	<2	3
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
Ethyl Benzene	2	<2	<2	< 2
Isobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

OMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

-Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
-Greater Than ug -Micrograms l -Liters NS -Not Specified
-Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data
oy d by clients

Project No. : 75-77777.06

Date Sampled : 26-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 28-SEP-01 - 29-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-7F **Lab ID : L75083-16** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	5	<2	5
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitatior

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : P-7B Lab ID : L75083-17 **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
thyl Benzene	2	<2	<2	< 2
sobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

OMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH #: 11626

-Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
-Greater Than ug -Micrograms l -Liters NS -Not Specified
\ -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 28-SEP-01 - 29-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-7B **Lab ID : L75083-17** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	LOQ-Limit of Quantitatio-

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : B-1 BLANK **Lab ID : L75083-18** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
thyl Benzene	2	<2	<2	< 2
sobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

OMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH #: 11626

-Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
-Greater Than ug -Micrograms l -Liters NS -Not Specified
-Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

eld sampling was not performed by Galson. Galson presents results based on sampling data
ov d by clients

Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : B-1 BLANK **Lab ID : L75083-18** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH #: 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitatio

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

APPENDIX C

Well Log Reports

Montana Bureau of Mines and Geology -- Ground Water Information Center
Wells Report

The following data were returned from the GWIC databases for the area you requested. If you notice any data entry errors or have questions please let us know by clicking **here**. If you wish to view a one page report for a particular site, click the **GWIC Id** for that well. This page is NOT designed for printing but rather to be downloaded to your computer (using File...Save As) and used in a spreadsheet. Scroll to the right of your screen to view all the data.

Gwic Id	DNRC WR	Site Name	Location	Type	Td	Pwl	Swl	Yield	Date	Use
175468		FROLANDER JEANNE	22N20W25AB	WELL	102.00	94.0	91.00	18.0	7/22/1999	DOMESTIC
77005		HERN LEONARD	22N20W25ABA	WELL	800.00	580.0	260.00	10.0	8/25/1974	DOMESTIC
6207		HERN LEONARD * SOUTHEAST OF POLSON	22N20W25ABA	WELL	1000.00		262.80			DOMESTIC
156615		BYRNES DON & JACQUELINE	22N20W25BAB	WELL	284.00			0.0	2/28/1996	DOMESTIC STOCKWATER
703324		GARCIA DONALD	22N20W25BABD	WELL	300.00	89.2	86.40	6.7	1/9/1983	DOMESTIC
77006		GARCIA MRS	22N20W25BABD	WELL	97.00	90.0	85.00	15.0	10/21/1961	DOMESTIC UNUSED
77008	6171	BURTCH RAY	22N20W25CC	WELL	85.00		60.00	30.0	5/30/1975	DOMESTIC
77007		FLEMING PAUL	22N20W25CDCC	WELL	117.00		117.00	20.0	1/1/1912	DOMESTIC STOCKWATER
77009		RIEBE TED & BETTY	22N20W25DA	WELL	492.00	340.0	198.00	5.0	10/30/1978	DOMESTIC
77010		BUTT ALFRED	22N20W25DD	WELL	59.00		8.00	8.0	2/28/1958	DOMESTIC

End of Report. **10** record(s) listed.

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-1 **Lab ID : L75083-1** **Air Volume : 562 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0008	MG/M3
Aluminum	3	9.63	0.017	MG/M3
Arsenic	0.15	<0.15	<0.3	UG/M3
Antimony	0.9	<0.90	<0.002	MG/M3
Barium	0.15	0.176	0.0003	MG/M3
Beryllium	0.15	<0.15	<0.0003	MG/M3
Calcium	15	19.6	0.035	MG/M3
Cadmium	0.15	<0.15	<0.3	UG/M3
Cobalt	0.45	<0.45	<0.0008	MG/M3
Chromium	1.5	<1.5	<0.003	MG/M3
Copper	0.3	<0.30	<0.0005	MG/M3
Iron	7.5	12.0	0.021	MG/M3
Potassium	15	<15	<0.03	MG/M3
Lead	0.38	<0.38	<0.7	UG/M3
Magnesium	3	8.44	0.015	MG/M3
Manganese	0.15	0.381	0.0007	MG/M3
Sodium	30	<30	<0.05	MG/M3
Nickel	0.3	<0.30	<0.0005	MG/M3
Selenium	0.15	<0.15	<0.0003	MG/M3
Thallium	0.15	<0.15	<0.0003	MG/M3
Vanadium	0.45	<0.45	<0.0008	MG/M3
Zinc	1.5	8.21	0.015	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

5631 Kirkville Road
E. Syracuse, NY 13057-0365
Phone: (315) 432-5227
Fax: (315) 437-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-2 **Lab ID : L75083-2** **Air Volume : 430 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.001	MG/M3
Aluminum	3	6.24	0.014	MG/M3
Arsenic	0.15	<0.15	<0.3	UG/M3
Antimony	0.9	<0.90	<0.002	MG/M3
Barium	0.15	<0.15	<0.0003	MG/M3
Beryllium	0.15	<0.15	<0.0003	MG/M3
Calcium	15	15.0	0.035	MG/M3
Cadmium	0.15	<0.15	<0.3	UG/M3
Cobalt	0.45	<0.45	<0.001	MG/M3
Chromium	1.5	<1.5	<0.003	MG/M3
Copper	0.3	<0.30	<0.0007	MG/M3
Iron	7.5	<7.5	<0.02	MG/M3
Potassium	15	<15	<0.03	MG/M3
Lead	0.38	<0.38	<0.9	UG/M3
Magnesium	3	6.59	0.015	MG/M3
Manganese	0.15	0.221	0.0005	MG/M3
Sodium	30	<30	<0.07	MG/M3
Nickel	0.3	<0.30	<0.0007	MG/M3
Selenium	0.15	<0.15	<0.0003	MG/M3
Thallium	0.15	<0.15	<0.0003	MG/M3
Vanadium	0.45	<0.45	<0.001	MG/M3
Zinc	1.5	3.21	0.0075	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-0365
Phone: (315) 432-8227
Fax: (315) 437-0571
www.galsonlabs.com

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-3 **Lab ID : L75083-3** **Air Volume : 414 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.001	MG/M3
Aluminum	3	4.70	0.011	MG/M3
Arsenic	0.15	<0.15	<0.4	UG/M3
Antimony	0.9	<0.90	<0.002	MG/M3
Barium	0.15	<0.15	<0.0004	MG/M3
Beryllium	0.15	<0.15	<0.0004	MG/M3
Calcium	15	<15	<0.04	MG/M3
Cadmium	0.15	<0.15	<0.4	UG/M3
Cobalt	0.45	<0.45	<0.001	MG/M3
Chromium	1.5	<1.5	<0.004	MG/M3
Copper	0.3	<0.30	<0.0007	MG/M3
Iron	7.5	<7.5	<0.02	MG/M3
Potassium	15	<15	<0.04	MG/M3
Lead	0.38	<0.38	<0.9	UG/M3
Magnesium	3	5.24	0.013	MG/M3
Manganese	0.15	0.179	0.0004	MG/M3
Sodium	30	<30	<0.07	MG/M3
Nickel	0.3	<0.30	<0.0007	MG/M3
Selenium	0.15	<0.15	<0.0004	MG/M3
Thallium	0.15	<0.15	<0.0004	MG/M3
Vanadium	0.45	<0.45	<0.001	MG/M3
Zinc	1.5	<1.5	<0.004	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

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Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-4 **Lab ID : L75083-4** **Air Volume : 499 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0009	MG/M3
Aluminum	3	8.59	0.017	MG/M3
Arsenic	0.15	<0.15	<0.3	UG/M3
Antimony	0.9	<0.90	<0.002	MG/M3
Barium	0.15	0.186	0.0004	MG/M3
Beryllium	0.15	<0.15	<0.0003	MG/M3
Calcium	15	29.6	0.059	MG/M3
Cadmium	0.15	<0.15	<0.3	UG/M3
Cobalt	0.45	<0.45	<0.0009	MG/M3
Chromium	1.5	<1.5	<0.003	MG/M3
Copper	0.3	0.320	0.0006	MG/M3
Iron	7.5	11.2	0.022	MG/M3
Potassium	15	<15	<0.03	MG/M3
Lead	0.38	<0.38	<0.8	UG/M3
Magnesium	3	7.67	0.015	MG/M3
Manganese	0.15	0.383	0.0008	MG/M3
Sodium	30	<30	<0.06	MG/M3
Nickel	0.3	<0.30	<0.0006	MG/M3
Selenium	0.15	<0.15	<0.0003	MG/M3
Thallium	0.15	<0.15	<0.0003	MG/M3
Vanadium	0.45	<0.45	<0.0009	MG/M3
Zinc	1.5	31.5	0.063	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH #: 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

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Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : P-5 **Lab ID : L75083-5** **Air Volume : 398 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.001	MG/M3
Aluminum	3	<3.0	<0.008	MG/M3
Arsenic	0.15	<0.15	<0.4	UG/M3
Antimony	0.9	<0.90	<0.002	MG/M3
Barium	0.15	<0.15	<0.0004	MG/M3
Beryllium	0.15	<0.15	<0.0004	MG/M3
Calcium	15	<15	<0.04	MG/M3
Cadmium	0.15	<0.15	<0.4	UG/M3
Cobalt	0.45	<0.45	<0.001	MG/M3
Chromium	1.5	<1.5	<0.004	MG/M3
Copper	0.3	<0.30	<0.0008	MG/M3
Iron	7.5	<7.5	<0.02	MG/M3
Potassium	15	<15	<0.04	MG/M3
Lead	0.38	<0.38	<1	UG/M3
Magnesium	3	3.20	0.0080	MG/M3
Manganese	0.15	<0.15	<0.0004	MG/M3
Sodium	30	<30	<0.08	MG/M3
Nickel	0.3	<0.30	<0.0008	MG/M3
Selenium	0.15	<0.15	<0.0004	MG/M3
Thallium	0.15	<0.15	<0.0004	MG/M3
Vanadium	0.45	<0.45	<0.001	MG/M3
Zinc	1.5	<1.5	<0.004	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH #: 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

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Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-1 **Lab ID : L75083-6** **Air Volume : 1265 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0004	MG/M3
Aluminum	3	<3.0	<0.002	MG/M3
Arsenic	0.15	<0.15	<0.1	UG/M3
Antimony	0.9	<0.90	<0.0007	MG/M3
Barium	0.15	<0.15	<0.0001	MG/M3
Beryllium	0.15	<0.15	<0.0001	MG/M3
Calcium	15	<15	<0.01	MG/M3
Cadmium	0.15	<0.15	<0.1	UG/M3
Cobalt	0.45	<0.45	<0.0004	MG/M3
Chromium	1.5	<1.5	<0.001	MG/M3
Copper	0.3	<0.30	<0.0002	MG/M3
Iron	7.5	<7.5	<0.006	MG/M3
Potassium	15	<15	<0.01	MG/M3
Lead	0.38	<0.38	<0.3	UG/M3
Magnesium	3	3.09	0.0024	MG/M3
Manganese	0.15	<0.15	<0.0001	MG/M3
Sodium	30	<30	<0.02	MG/M3
Nickel	0.3	<0.30	<0.0002	MG/M3
Selenium	0.15	<0.15	<0.0001	MG/M3
Thallium	0.15	<0.15	<0.0001	MG/M3
Vanadium	0.45	<0.45	<0.0004	MG/M3
Zinc	1.5	<1.5	<0.001	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitatior

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

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Phone: (315) 432-5227
Fax: (315) 437-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-2 **Lab ID : L75083-7** **Air Volume : 1215 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0004	MG/M3
Aluminum	3	<3.0	<0.002	MG/M3
Arsenic	0.15	<0.15	<0.1	UG/M3
Antimony	0.9	<0.90	<0.0007	MG/M3
Barium	0.15	<0.15	<0.0001	MG/M3
Beryllium	0.15	<0.15	<0.0001	MG/M3
Calcium	15	<15	<0.01	MG/M3
Cadmium	0.15	<0.15	<0.1	UG/M3
Cobalt	0.45	<0.45	<0.0004	MG/M3
Chromium	1.5	<1.5	<0.001	MG/M3
Copper	0.3	<0.30	<0.0002	MG/M3
Iron	7.5	<7.5	<0.006	MG/M3
Potassium	15	<15	<0.01	MG/M3
Lead	0.38	<0.38	<0.3	UG/M3
Magnesium	3	3.68	0.0030	MG/M3
Manganese	0.15	<0.15	<0.0001	MG/M3
Sodium	30	<30	<0.02	MG/M3
Nickel	0.3	<0.30	<0.0002	MG/M3
Selenium	0.15	<0.15	<0.0001	MG/M3
Thallium	0.15	<0.15	<0.0001	MG/M3
Vanadium	0.45	<0.45	<0.0004	MG/M3
Zinc	1.5	2.45	0.0020	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-9360
Phone: (315) 432-5227
Fax: (315) 437-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-3 **Lab ID : L75083-8** **Air Volume : 1215 Liter**

Parameter	LOQ ug	Total ug	Conc	Units
Silver	0.45	<0.45	<0.0004	MG/M3
Aluminum	3	<3.0	<0.002	MG/M3
Arsenic	0.15	<0.15	<0.1	UG/M3
Antimony	0.9	<0.90	<0.0007	MG/M3
Barium	0.15	<0.15	<0.0001	MG/M3
Beryllium	0.15	<0.15	<0.0001	MG/M3
Calcium	15	<15	<0.01	MG/M3
Cadmium	0.15	<0.15	<0.1	UG/M3
Cobalt	0.45	<0.45	<0.0004	MG/M3
Chromium	1.5	<1.5	<0.001	MG/M3
Copper	0.3	<0.30	<0.0002	MG/M3
Iron	7.5	<7.5	<0.006	MG/M3
Potassium	15	<15	<0.01	MG/M3
Lead	0.38	<0.38	<0.3	UG/M3
Magnesium	3	<3.0	<0.002	MG/M3
Manganese	0.15	<0.15	<0.0001	MG/M3
Sodium	30	<30	<0.02	MG/M3
Nickel	0.3	<0.30	<0.0002	MG/M3
Selenium	0.15	<0.15	<0.0001	MG/M3
Thallium	0.15	<0.15	<0.0001	MG/M3
Vanadium	0.45	<0.45	<0.0004	MG/M3
Zinc	1.5	<1.5	<0.001	MG/M3

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH #: 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

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LABORATORY ANALYSIS REPORT

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Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : B-1 BLANK **Lab ID : L75083-9** **Air Volume : NA**

Parameter	LOQ ug	Total ug
Silver	0.45	<0.45
Aluminum	3	<3.0
Arsenic	0.15	<0.15
Antimony	0.9	<0.90
Barium	0.15	<0.15
Beryllium	0.15	<0.15
Calcium	15	<15
Cadmium	0.15	<0.15
Cobalt	0.45	<0.45
Chromium	1.5	<1.5
Copper	0.3	<0.30
Iron	7.5	<7.5
Potassium	15	<15
Lead	0.38	<0.38
Magnesium	3	<3.0
Manganese	0.15	<0.15
Sodium	30	<30
Nickel	0.3	<0.30
Selenium	0.15	<0.15
Thallium	0.15	<0.15
Vanadium	0.45	<0.45
Zinc	1.5	<1.5

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	LOQ-Limit of Quantitation

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Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 25-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 27-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : B-2 BLANK **Lab ID : L75083-10** **Air Volume : NA**

Parameter	LOQ ug	Total ug
Silver	0.45	<0.45
Aluminum	3	<3.0
Arsenic	0.15	<0.15
Antimony	0.9	<0.90
Barium	0.15	<0.15
Beryllium	0.15	<0.15
Calcium	15	<15
Cadmium	0.15	<0.15
Cobalt	0.45	<0.45
Chromium	1.5	<1.5
Copper	0.3	<0.30
Iron	7.5	<7.5
Potassium	15	<15
Lead	0.38	<0.38
Magnesium	3	<3.0
Manganese	0.15	<0.15
Sodium	30	<30
Nickel	0.3	<0.30
Selenium	0.15	<0.15
Thallium	0.15	<0.15
Vanadium	0.45	<0.45
Zinc	1.5	<1.5

COMMENTS: Method: modified NIOSH 7300; ICP

Collection Media : Filter

Submitted by: JK
Approved by : AMW
Date : 28-SEP-01
QC by:
NYS DOH # : 11626

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	LOQ-Limit of Quantitatior

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LABORATORY ANALYSIS REPORT

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-1AF **Lab ID : L75083-11** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
Ethyl Benzene	2	<2	<2	< 2
Isobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

Fax: (315) 437-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-1AF **Lab ID : L75083-11** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	LOQ-Limit of Quantitatio

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

Fax (315) 487-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 28-SEP-01 - 29-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-1AB **Lab ID : L75083-12** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
Ethyl Benzene	2	<2	<2	< 2
Isobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-1AB **Lab ID : L75083-12** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories
5563 Kinderhook Road
Fax: (315) 437-0571

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 28-SEP-01 - 29-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-2AF **Lab ID : L75083-13** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	5	<2	5
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
Ethyl Benzene	2	<2	<2	< 2
Isobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-2AF **Lab ID : L75083-13** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	4	<2	4
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01 Account No.: 10234
Date Received : 27-SEP-01 Login No. : L75083
Date Analyzed : 28-SEP-01 - 29-SEP-01

Client ID : A-2AB **Lab ID : L75083-14** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
1,1,2-Trichloroethane	5	<5	<5	< 5
1,1,1-Trichloroethane	5	<5	<5	< 5
1,1-Dichloroethane	5	<5	<5	< 5
1,2-Dichloroethane	3	<3	<3	< 3
Acetone	3	<3	<3	< 3
Alpha-Methylstyrene	2	<2	<2	< 2
Benzene	2	<2	<2	< 2
Carbon Tetrachloride	20	<20	<20	< 20
Cellosolve Acetate	9	<5	<5	< 9
Chlorobenzene	2	<2	<2	< 2
Chloroform	10	<10	<10	< 10
Cyclohexane	2	<2	<2	< 2
Cyclohexanone	5	<3	<3	< 5
Cyclohexene	2	<2	<2	< 2
Ethyl Alcohol	8	<3	<3	< 8
Ethyl Benzene	2	<2	<2	< 2
Isobutyl Alcohol	5	<3	<3	< 5
Isopropyl Alcohol	4	<3	<3	< 4
m-Dichlorobenzene	3	<3	<3	< 3
Methyl Ethyl Ketone	3	<2	<2	< 3
Methyl Isobutyl Ketone	2	<2	<2	< 2
Methyl n-Propyl Ketone	4	<3	<3	< 4
n-Butyl Acetate	3	<3	<3	< 3
n-Butyl Alcohol	6	<3	<3	< 6
n-Hexane	2	<2	<2	< 2

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH # : 11626

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

LABORATORY ANALYSIS REPORT

Galson Laboratories

Client : URS Greiner Woodward Clyde
Site : Ronan Tire Fire
Project No. : 75-77777.06

Date Sampled : 26-SEP-01
Date Received : 27-SEP-01
Date Analyzed : 28-SEP-01 - 29-SEP-01

Account No.: 10234
Login No. : L75083

Client ID : A-2AB **Lab ID : L75083-14** **Air Volume : NA**

Parameter	LOQ ug	Front ug	Back ug	Total ug
n-Propyl Acetate	3	<3	<3	< 3
o-Dichlorobenzene	3	<3	<3	< 3
Octane	2	<2	<2	< 2
p-Dichlorobenzene	3	<3	<3	< 3
p-tert-Butyl toluene	2	<2	<2	< 2
Tetrachloroethylene	5	<5	<5	< 5
Tetrahydrofuran	3	<3	<3	< 3
Toluene	2	<2	<2	< 2
Trichloroethylene	5	<5	<5	< 5
Vinyl toluene	5	<5	<5	< 5
Xylene	4	<4	<4	< 4

COMMENTS: Results corrected for compound dependent desorption efficiency.

Collection Media : Charcoal

Submitted by: LEO LUCISANO
Approved by : jal
Date : 01-OCT-01
QC by:
NYS DOH #: 11626

< -Less Than
> -Greater Than
NA -Not Applicable
mg -Milligrams
ug -Micrograms
ND -Not Detected
m3 -Cubic Meters
l -Liters
ppm -Parts per Million
kg -Kilograms
NS -Not Specified
LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.

Montana Bureau of Mines and Geology
Ground-water Information Center Site Report
TREASURE STATE CONSTRUCTION INC.

Plot this site on a topographic map

Location Information

GWIC Id:	152775	Source of Data:	LOG
Location (TRS):	22N 20W 26	Latitude (dd):	47.6385
County (MT):	LAKE	Longitude (dd):	-114.1228
DNRC Water Right:	Not Reported	Geomethod:	TRS-SEC
PWS Id:	Not Reported	Datum:	1927
Block:	Not Reported	Addition:	Not Reported
Lot:	Not Reported	Type of Site:	WELL
Certificate of Survey:	Not Reported		

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft):	100.00	How Drilled:	ROTARY
Static Water Level (ft):		Driller's Name:	BILLMAYER
Pumping Water Level (ft):		Driller License:	WWC047
Yield (gpm):		Completion Date:	Feb 17, 1995
Test Type:	Not Reported	Special Conditions:	None Reported
Test Duration:		Is Well Flowing?:	No
Drill Stem Setting (ft):		Shut-In Pressure:	
Recovery Water Level (ft):		Geology/Aquifer:	112DRFT
Recovery Time (hrs):		Well/Water Use:	OTHER

Hole Diameter Information

No hole diameter records were found.

Casing Information

From (ft)	To (ft)	Dia (in)	Description
-4.0	96.0	8.0	STEEL

Annular Seal Information

From (ft)	To (ft)	Description
0.0	20.0	BENTONITE

Completion Information

No completion records were found.

Lithology Information

From (ft)	To (ft)	Description
0.0	41.0	SMALL GRAVEL & SAND
41.0	46.0	SAND
46.0	67.0	GRAVEL SAND & BROWN SILT
67.0	81.0	BROWN SILTY SAND & GRAVEL
81.0	100.0	CLAY & GRAVEL

Well Notes

DRY WELL

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Montana Bureau of Mines and Geology
Ground-water Information Center Site Report
FLEMING PAUL

Plot this site on a topographic map
View Hydrograph for this Site

Location Information

GWIC Id: 77007
Location (TRS): 22N 20W 25 CDCC
County (MT): LAKE
DNRC Water Right: Not Reported
PWS Id: Not Reported
Block: Not Reported
Lot: Not Reported
Certificate of Survey: Not Reported

Source of Data: GW4
Latitude (dd): 47.6316
Longitude (dd): -114.1063
Geomethod: MAP
Datum: 1927
Addition: Not Reported
Type of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 117.00
Static Water Level (ft): 117.00
Pumping Water Level (ft):
Yield (gpm): 20.00
Test Type: Not Reported
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled: Not Reported
Driller's Name: Not Reported
Driller License: Not Reported
Completion Date: Jan 01, 1912
Special Conditions: None Reported
Is Well Flowing?: No
Shut-In Pressure:
Geology/Aquifer: 112DRFT
Well/Water Use: DOMESTIC STOCKWATER

Hole Diameter Information

No hole diameter records were found.

Casing Information

From (ft)	To (ft)	Dia (in)	Description
0.0	0.0	6.0	

Annular Seal Information

No annular seal records were found.

Completion Information

No completion records were found.

Lithology Information

No lithology records were found.

Site Notes

FLEMINGS HOUSE IS ABOUT 1/4 MILE FROM HWY 93. NAME IS ON A WOODEN BOARD. PAUL FLEMING MARRIED JIM VIOLETTE'S MOM. HE LIVES ACROSS THE STREET. THEY ARE BOTH EXTREMELY NICE

Well Notes

WELL SOURCES ABOUT 4 HOMES. WE SHUT ELECTRICITY OFF TO PUMP TO ALLOW SWL TO FULLY RECOVER. COMPARE NITRATE READING WITH M:77033 SAMPLING PT -SPIGOT BEFORE PRESSURE TANK

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Montana Bureau of Mines and Geology
Ground-water Information Center Site Report
REUM VERN

Location Information

GWIC Id: 130740
Location (TRS):
County (MT): LAKE
DNRC Water Right: Not Reported
PWS Id: Not Reported
Block: Not Reported
Lot: Not Reported
Certificate of Survey: Not Reported

Source of Data: LOG
Latitude (dd):
Longitude (dd):
Geomethod: Not Reported
Datum: Not Reported
Addition: Not Reported
Type of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 87.00
Static Water Level (ft): 60.00
Pumping Water Level (ft): 75.00
Yield (gpm): 40.00
Test Type: AIR
Test Duration: 1.50
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled: FORWARD ROTARY
Driller's Name: CASTLIO
Driller License: WWC387
Completion Date: Jun 14, 1983
Special Conditions: None Reported
Is Well Flowing?: No
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: DOMESTIC

Hole Diameter Information

No hole diameter records were found.

Casing Information

From (ft)	To (ft)	Dia (in)	Description
0.0	88.0	6.0	STEEL

Annular Seal Information

From (ft)	To (ft)	Description
0.0	20.0	PUDDLED CLAY

Completion Information

No completion records were found.

Lithology Information

From (ft)	To (ft)	Description
0.0	50.0	SAND-GRAVEL AND SMALL BOULDERS
50.0	80.0	SAND AND A LITTLE GRAVEL
80.0	87.0	SAND- GRAVEL- AND WATER

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Montana Bureau of Mines and Geology
Ground-water Information Center Site Report
REUM VERN

Plot this site on a topographic map

Location Information

GWIC Id: 169255
Location (TRS): 22N 20W 25 CB
County (MT): LAKE
DNRC Water Right: Not Reported
PWS Id: Not Reported
Block: Not Reported
Lot: Not Reported
Certificate of Survey: Not Reported

Source of Data: Not Reported
Latitude (dd): 47.6363
Longitude (dd): -114.1101
Geomethod: TRS-SEC
Datum: 1927
Addition: Not Reported
Type of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 250.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm):
Test Type: Not Reported
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs): .00

How Drilled: ROTARY
Driller's Name: A & M
Driller License: WWC558
Completion Date: Aug 28, 1998
Special Conditions: None Reported
Is Well Flowing?: No
Shut-In Pressure:
Geology/Aquifer: 112LKML
Well/Water Use: DOMESTIC

Hole Diameter Information

From (ft)	To (ft)	Dia (in)
0.0	250.0	6.0

Casing Information

From (ft)	To (ft)	Dia (in)	Description
-2.0	250.0	6.0	STEEL

Annular Seal Information

From (ft)	To (ft)	Description
0.0	0.0	BENTONITE

Completion Information

No completion records were found.

Lithology Information

From (ft)	To (ft)	Description
0.0	59.0	GRAVEL SAND AND SILT
59.0	64.0	SAND AND SILT
64.0	87.0	SAND AND SILT WITH SOME GRAVEL
87.0	88.0	FINE GRAVEL SAND AND CLAY WITH WATER 1GPM
88.0	95.0	SAND AND CLAY
95.0	108.0	SAND
108.0	112.0	SAND WITH SEEPS OF WATER
112.0	122.0	CLAY
122.0	123.0	CLAY WITH GRAVEL EMBEDDED
123.0	139.0	SAND AND CLAY WITH SEEPS OF WATER
139.0	197.0	CLAY WITH SAND
197.0	219.0	CLAY WITH GRAVEL EMBEDDED
219.0	250.0	CLAY WITH SAND AND SOME WATER

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate

Montana Bureau of Mines and Geology
Ground-water Information Center Site Report
BURTCH RAY

Plot this site on a topographic map

Location Information

GWIC Id: 77008
Location (TRS): 22N 20W 25 CC
County (MT): LAKE
DNRC Water Right: 6171
PWS Id: Not Reported
Block: Not Reported
Lot: Not Reported
Certificate of Survey: Not Reported

Source of Data: LOG
Latitude (dd): 47.6326
Longitude (dd): -114.1101
Geomethod: TRS-SEC
Datum: 1927
Addition: Not Reported
Type of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 85.00
Static Water Level (ft): 60.00
Pumping Water Level (ft):
Yield (gpm): 30.00
Test Type: AIR COMP
Test Duration: 1.00
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled: AIR COMPRESSOR
Driller's Name: JEROME & OKEEFE
Driller License: WWC249
Completion Date: May 30, 1975
Special Conditions: None Reported
Is Well Flowing?: No
Shut-In Pressure:
Geology/Aquifer: 112DRFT
Well/Water Use: DOMESTIC

Hole Diameter Information

No hole diameter records were found.

Annular Seal Information

No annular seal records were found.

Casing Information

From (ft)	To (ft)	Dia (in)	Description
-1.0	85.0	6.0	STEEL

Completion Information

From (ft)	To (ft)	Dia (in)	Description
85.0	85.0	6.0	OPEN BOTTOM *

Lithology Information

From (ft)	To (ft)	Description
0.0	85.0	GRAVEL & SAND

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Data Review Report

Site:	Pablo Tire Fire
TDD No. / Report No.:	75-10913 / 96-904-20
Laboratory:	Northern Analytical Laboratories, Inc.
Samples/Matrix:	2/Water
Analyses:	Volatile Organic Analysis by SW-846 Method 8260B
Reviewer:	Amy Ballow
Review Date:	03/18/02

This work was conducted for URS Operating Services under Task Order Number 0060A.

Volatile Organic Analysis by SW-846 Method 8260B

- All requisite documentation were present.

- The following problems were encountered:

1. The percent relative standard deviations (%RSDs) for 1,1-dichloroethane (18.0%), benzene (16.2%), 1,3-dichloropropane (16.5%), 1,1,2,2-tetrachloroethane (15.3%), bromobenzene (15.8%), 1,2,3-trichlorobenzene (16.1%), and 2-chlorotoluene (16.6%) exceeded the 15% criteria in the initial calibration.

2. The relative percent difference (RPD) for 1,1-dichloroethene in the matrix spike/matrix spike duplicate analyses was above criteria at 68%.

3. According to the case narrative, the LCS required reanalysis because the initial LCS analysis exhibited a low recovery for 1,1-dichloroethene. The reanalyzed LCS met all criteria and was reported by the laboratory.

- No other exceptions to the checklist were found.

Method: VOA - 8260B | Site: Fabio Tire Fire | Laboratory: [illegible]

Case No.: 009-0013 / 75-10913 | SDG No.: 96-904-20 | Lab Batch No.: _____

Samples Matrix: 2 / Water | Reviewer: Amy Ballow | Date: 03-18-02

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
1. Data Package					
1a. Was a case narrative included in the data package?	✓				
1b. Was a copy of the chain of custody included in the data package?	✓				
Comments:					
2. Holding Times					
2a. Were holding times met?	✓				
2b. Were samples preserved correctly?	✓				
Comments: Collected = 02-06-02 / Analyzed 02-08-02 = 2 day ✓ ≤ 7 day; 2.5°C ✓ preserved = ≤ 14 day ✓					
3. Instrument Tune					
3a. Was the instrument tune frequency criteria met?	✓				
3b. Were all tune raw data provided?	✓				
3c. Were all tune summary forms provided (Form 5A or equivalent)?	✓				
3d. Were all tune ion abundance criteria met?	✓				
Comments:					
4. Initial Calibration (ICal)					
4a. Was a 5-point ICal of correct level/matrix performed per instrument?	✓				
4b. Were all ICal raw data provided (RIC and quantitation report)?	✓				
4c. Were all ICal summary forms provided (Form 6A or equivalent)?	✓				
4d. Were all required RRFs within criteria? SPCC ✓ / Others = 0.01 ✓	✓				
4e. Were all required %RSDs within criteria? CCC ≤ 30% ✓ / Other ≤ 15%		✓			Yes
Comments: Note: $MeCl_2$: linear 0.997 ✓ 1,1-Dichloroethane = 17.97% ↑ / Benzene = 16.17% ↑ / 1,3-Dichloropropane = 16.50% ↑ CCC's: Okay 1,1,2,2-Tetrachloroethane / bromobenzene = 15.79% ↑ / 2-Chlorotoluene = 16.63% ↑ / 1,2,3-Trichlorobenzene = 16.07					
5. Continuing Calibration (CCal)					
5a. Were CCals performed at the required frequency and compared to the correct ICal?	✓				
5b. Were all CCal raw data provided (RIC and quantitation report)?	✓				
5c. Were all CCal summary forms provided (Form 7A or equivalent)?	✓				
5d. Were all required RRFs within criteria? SPCC ✓ / ≥ 0.01 ✓	✓				
5e. Were all required %Ds within criteria? - CCC's only = 20%	✓				
Comments: CCC's only for %D's					
6. Surrogates (System Monitoring Compounds)					
6a. Were all surrogate recoveries within QC limits?	✓				
6b. Were the proper reanalyses conducted?			✓		
6c. Were surrogate summary forms provided (Forms 2A/2B, or equivalent)?	✓				
Comments: N/A ✓					

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
7. Matrix Spike/Matrix Spike Duplicates (MS/MSD)					
7a. Were MS/MSDs performed at the proper frequency?	✓				
7b. Were MS/MSDs percent recoveries and RPDs within advisory limits?		✓			No
7c. Were all MS/MSD raw data provided (RIC and quantitation reports)?	✓				
7d. Were MS/MSD summary forms provided Forms 1A, 3A or 3B, or equivalent)?	✓				

Comments: 1,1-Dichloroethene % RPD=68% (20-QC limit) Lim

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
8. Blanks					
8a. Were blanks analyzed at the proper frequency?	✓				
8b. Were blanks free of contamination?	✓				
8c. Were all blank raw data provided (RIC, TCL, TIC mass spectra, and quantitation reports)?	✓				
8d. Were blank summary forms provided (Forms 4A, 1A, and 1E or equivalent)?	✓				

Comments:

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
9. Internal Standards					
9a. Were internal standard area and retention times within advisory limits?	✓				
9b. Were internal standard summary forms provided (Forms 8A or equivalent)?	✓				

Comments:

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
10. Laboratory Control Samples (LCS)					
10a. Were LCSs analyzed?	✓				
10b. Were LCS results within criteria?	✓				

Comments: According to EPA meth. LCS was recovered Re ok and was reported by lab.

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
11. Sample Results					
11a. Were all sample results reported (Form 1A or equivalent)?	✓				
11b. Were percent solids data included in the data package?			✓		
11c. Were all sample raw data provided (RIC and quantitation reports)?	✓				
11d. Were all TICs reported (Form 1E or equivalent)?			✓		

Comments: No TICs

Only summary forms are reviewed for outliers and only the presence of raw data are verified. These checklists are to be used as a data completeness review rather than a technical review with data qualifiers assigned to results.

For CLP methods, use the National Functional Guidelines for Organic Data Review (NFG-ODR) to evaluate criteria. For non-CLP, use reasonable laboratory QC limits and/or method criteria to evaluate criteria. Also refer to TechLaw's Quality Control Data Review and Data Validation for the EPA START Program (10/99).

4e	1,1-Dichloroethane = 17.97% RSD Benzene = 16.17% 1,3-Dichloropropane = 16.56% 1,1,2,2-Tetrachloroethane = 15.30% Bromobenzene = 15.79% 2-Chlorotoluene = 16.63%	Initial Calibration %RSD's > 15%	All samples
7b	1,1-Dichloroethane = RPD: 68%	MS/MSD %RPD > 20%	All samples (No Action based on MS/MSD data)
4e KSA	1,2,3-Trichlorobenzene = 16.07% KSA	Initial Calibration %RSD's > 15% KSA	All Samples KSA

Comments: No TIC's

	Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
7. Matrix Spike/Matrix Spike Duplicates (MS/MSD)					
7a. Were MS/MSDs performed at the proper frequency?	✓				
7b. Were MS/MSDs percent recoveries and RPDs within advisory limits?	✓				
7c. Were all MS/MSD raw data provided (RIC and quantitation reports)?	✓				
7d. Were MS/MSD summary forms provided (Forms 1A, 3A or 3B, or equivalent)?	✓				
Comments:					
8. Blanks					
8a. Were blanks analyzed at the proper frequency?	✓				
8b. Were blanks free of contamination?	✓				
8c. Were all blank raw data provided (RIC, TCL, TIC mass spectra, and quantitation reports)?	✓				
8d. Were blank summary forms provided (Forms 4A, 1A, and 1E or equivalent)?	✓				
Comments:					
9. Internal Standards					
9a. Were internal standard area and retention times within advisory limits?	✓				
9b. Were internal standard summary forms provided (Forms 8A or equivalent)?	✓				
Comments:					
10. Laboratory Control Samples (LCS)					
10a. Were LCSs analyzed?	✓				
10b. Were LCS results within criteria?	✓				
Comments:					
11. Sample Results					
11a. Were all sample results reported (Form 1A or equivalent)?	✓				
11b. Were percent solids data included in the data package? AB 3/8/02	✗		✓		
11c. Were all sample raw data provided (RIC and quantitation reports)?	✓				
11d. Were all TICs reported (Form 1E or equivalent)?			✓		
Comments: No TIC					

Only summary forms are reviewed for outliers and only the presence of raw data are verified. These checklists are to be used as a data completeness review rather than a technical review with data qualifiers assigned to results.

For CLP methods, use the National Functional Guidelines for Organic Data Review (NFG-ODR) to evaluate criteria. For non-CLP, use reasonable laboratory QC limits and or method criteria to evaluate criteria. Also refer to TechLaw's Quality Control Data Review and Data Validation for the EPA START Program (10/99).

Method: SVOA - 8270C
Case No.: 0109-0013 / 75-10913
Samples/Matrix: 2/Water

Site: [illegible]
SDG No.: 96-904-20
Reviewer: Amy Ballow

Lab Batch No.: [illegible]
Date: 03-18-02

		Yes	No	N/A	Not Evaluated	Data Affected (Y/N)
1.	**Data Package**					
1a.	Was a case narrative included in the data package?	✓				
1b.	Was a copy of the chain of custody included in the data package?	✓				
	Comments:					
2.	**Holding Times**					
2a.	Were holding times met?	✓				
2b.	Were samples preserved correctly?	✓				
	Comments: Collected - 02-06-02 / Extracted = 02-11-02 / Analyzed 02-13-02 2.3°C ✓ 5day = ≤ 14day ✓ AB 7day ≤ 40 day ✓					
3.	**Instrument Tune**					
3a.	Was the instrument tune frequency criteria met?	✓				
3b.	Were all tune raw data provided?	✓				
3c.	Were all tune summary forms provided (Form 5A or equivalent)?	✓				
3d.	Were all tune ion abundance criteria met?	✓				
	Comments:					
4.	**Initial Calibration (ICal)**					
4a.	Was a 5-point ICal of correct level/matrix performed per instrument?	✓				
4b.	Were all ICal raw data provided (RIC and quantitation report)?	✓				
4c.	Were all ICal summary forms provided (Form 6A or equivalent)?	✓				
4d.	Were all required RRFs within criteria? SPCC ✓ / other = 0.01 ✓	✓				
4e.	Were all required %RSDs within criteria? CCCs ≤ 30% ✓ / Others ≤ 50%			✓		Yes
	Comments: Hexachlorocyclopent = 21.35↑ / 2,4-DNT = 27.69↑ / 4-NØ = 21.5↑ / 4,6-DN-2-MØ = 18.29↑ / bis(2-EH)ph = 21.82 4-Chloroaniline = 15.10↑,					
5.	**Continuing Calibration (CCal)**					
5a.	Were CCals performed at the required frequency and compared to the correct ICal?	✓				
5b.	Were all CCal raw data provided (RIC and quantitation report)?	✓				
5c.	Were all CCal summary forms provided (Form 7A or equivalent)?	✓				
5d.	Were all required RRFs within criteria? SPCC ✓ / Others = 0.01 ✓	✓				
5e.	Were all required %Ds within criteria? CCC's only ≤ 20%	✓				
	Comments: CCC only for %D's					
6.	**Surrogates (System Monitoring Compounds)**					
6a.	Were all surrogate recoveries within QC limits?	✓				
6b.	Were the proper reanalyses conducted?		✓			
6c.	Were surrogate summary forms provided (Forms 2A/2B, or equivalent)?	✓				
	Comments: Note: Page 21 = Surrogate 2-Fluorophenol for Method Blk = 41% but limits listed as (47-127). Incorrect - All other Forms in					

Semivolatile Organic Analysis by SW-846 Method 8270C

- All requisite documentation were present.

- The following problems were encountered:

1. The percent relative standard deviations (%RSDs) for 4-chloroaniline (15.1%), hexachlorocyclopentadiene (21.4%), 2,4-dinitrophenol (27.7%), 4-nitrophenol (21.5%), 4,6-dinitro-2-methylphenol (18.3%), and bis(2-ethylhexyl)phthalate (21.8%) exceeded the 15% criteria in the initial calibration.

- No other exceptions to the checklist were found.

Data Review Report

Site:	Pablo Tire Fire
TDD No. / Report No.:	75-10913 / 96-904-20
Laboratory:	Northern Analytical Laboratories, Inc.
Samples/Matrix:	2 Water
Analyses:	SemivolatileOrganic Analysis by SW-846 Method 8270C
Reviewer:	Amy Ballow
Review Date:	03/18/02

This work was conducted for URS Operating Services under Task Order Number 0060A.

Item #	(and compound if applicable)	Criteria	
4e	4-Chloroaniline = 15.10% Hexachlorocyclopentadiene = 21.4% 2,4-Dinitrophenol = 27.7% 4-Nitrophenol = 21.5% 4,6-Dinitro-2-methylphenol = 18.3% bis(2-ethylhexyl)phthalate 21.8%	Initial Calibration %RSD > 15%	All Samples

Comments: No TIC's

, roject Name: PABLO TIRE FIRE

Sample No.: 2002020043-2 **Description:** PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Fluorene (SV)	<10	ug/l	8270C	02/13/2002
Hexachlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
Hexachlorobutadiene (SV)	<10	ug/l	8270C	02/13/2002
Hexachlorocyclopentadiene (SV)	<10	ug/l	8270C	02/13/2002
Hexachloroethane (SV)	<10	ug/l	8270C	02/13/2002
Indeno(1,2,3-c,d)pyrene (SV)	<10	ug/l	8270C	02/13/2002
Isophorone (SV)	<10	ug/l	8270C	02/13/2002
2-Methylnaphthalene (SV)	<10	ug/l	8270C	02/13/2002
2-Methylphenol o-cresol (SV)	<10	ug/l	8270C	02/13/2002
4-Methylphenol p-cresol (SV)	<10	ug/l	8270C	02/13/2002
Naphthalene (SV)	<10	ug/l	8270C	02/13/2002
2 ' itroaniline (SV)	<10	ug/l	8270C	02/13/2002
roaniline (SV)	<10	ug/l	8270C	02/13/2002
4-Nitroaniline (SV)	<10	ug/l	8270C	02/13/2002
Nitrobenzene (SV)	<10	ug/l	8270C	02/13/2002
2-Nitrophenol (SV)	<10	ug/l	8270C	02/13/2002
4-Nitrophenol (SV)	<10	ug/l	8270C	02/13/2002
N-Nitrosodimethylamine (SV)	<10	ug/l	8270C	02/13/2002
N-Nitrosodiphenylamine (SV)	<10	ug/l	8270C	02/13/2002
N-Nitrosodi-n-propyl amine (SV)	<10	ug/l	8270C	02/13/2002
Pentachlorophenol (SV)	<10	ug/l	8270C	02/13/2002
Phenanthrene (SV)	<10	ug/l	8270C	02/13/2002
Phenol (SV)	<10	ug/l	8270C	02/13/2002
Pyrene (SV)	<10	ug/l	8270C	02/13/2002
Pyridine (SV)	<10	ug/l	8270C	02/13/2002
1,2,4-Trichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
2,4,5-Trichlorophenol (SV)	<21	ug/l	8270C	02/13/2002
2,4,6-Trichlorophenol (SV)	<10	ug/l	8270C	02/13/2002
2-Fluorophenol (Surrogate)	28	% [10-110]	8270C	02/13/2002
Phenol-d6 (Surrogate)	18	% [10-119]	8270C	02/13/2002
Nitrobenzene-d5 (Surrogate)	50	% [27-121]	8270C	02/13/2002
2-Fluorobiphenyl (Surrogate)	64	% [47-127]	8270C	02/13/2002
[illegible] (Surrogate)	58	% [36-124]	8270C	02/13/2002

Project Name: PABCO TRACTOR

Sample No.: 2002020043-2 Description: PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 Collected by: CRYSTAL ROBERTS Matrix: WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Benzo[k]fluoranthene (SV)	<10	ug/l	8270C	02/13/2002
Benzoic acid (SV)	<52	ug/l	8270C	02/13/2002
Benzo[g,h,i]perylene (SV)	<10	ug/l	8270C	02/13/2002
Benzyl alcohol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroethoxy)methane (SV)	<10	ug/l	8270C	02/13/2002
Bis(2-chloroethyl)ether (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroisopropyl)ether (SV)	<10	ug/l	8270C	02/13/2002
4-bromophenyl phenyl ether (SV)	<10	ug/l	8270C	02/13/2002
Butylbenzylphthalate (SV)	<10	ug/l	8270C	02/13/2002
Carbazole (SV)	<31	ug/l	8270C	02/13/2002
4-Chloroaniline (SV)	<21	ug/l	8270C	02/13/2002
4-Chloro-3-methylphenol (SV)	<10	ug/l	8270C	02/13/2002
2-Chloronaphthalene (SV)	<10	ug/l	8270C	02/13/2002
2-Chlorophenol (SV)	<10	ug/l	8270C	02/13/2002
4-Chlorophenyl phenyl ether (SV)	<10	ug/l	8270C	02/13/2002
Chrysene (SV)	<10	ug/l	8270C	02/13/2002
Dibenzo[a,h]anthracene (SV)	<21	ug/l	8270C	02/13/2002
Dibenzofuran (SV)	<10	ug/l	8270C	02/13/2002
Diethylphthalate (SV)	<31	ug/l	8270C	02/13/2002
1,2-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
1,3-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
1,4-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
3,3'-Dichlorobenzidine (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dichlorophenol (SV)	<10	ug/l	8270C	02/13/2002
2,4-Dimethylphenol (SV)	<10	ug/l	8270C	02/13/2002
Dimethylphthalate (SV)	<10	ug/l	8270C	02/13/2002
Benzo[a]pyrene (SV)	<21	ug/l	8270C	02/13/2002
4,6-Dinitro-2-methylphenol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-ethylhexyl)phthalate (SV)	65	ug/l	8270C	02/13/2002
2,4-Dinitrophenol (SV)	<10	ug/l	8270C	02/13/2002
Di-n-Butylphthalate (SV)	<10	ug/l	8270C	02/13/2002
2,4-Dinitrotoluene (SV)	<10	ug/l	8270C	02/13/2002
2,6-Dinitrotoluene (SV)	<10	ug/l	8270C	02/13/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-2 **Description:** PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Ethylbenzene	<1	ug/l	8260B	02/08/2002
Hexachlorobutadiene	<1	ug/l	8260B	02/08/2002
Cumene (Isopropylbenzene)	<1	ug/l	8260B	02/08/2002
Isopropyltoluene	<1	ug/l	8260B	02/08/2002
Methylene chloride	<5	ug/l	8260B	02/08/2002
Methyl-tert-butyl ether	<1	ug/l	8260B	02/08/2002
n-Propylbenzene	<1	ug/l	8260B	02/08/2002
Naphthalene	<5	ug/l	8260B	02/08/2002
Styrene	<1	ug/l	8260B	02/08/2002
1,1,1,2-Tetrachloroethane	<1	ug/l	8260B	02/08/2002
1,1,2,2-Tetrachloroethane	<1	ug/l	8260B	02/08/2002
Tetrachloroethene	<1	ug/l	8260B	02/08/2002
lene	<1	ug/l	8260B	02/08/2002
1,2,3-Trichlorobenzene	<1	ug/l	8260B	02/08/2002
1,2,4-Trichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1,1-Trichloroethane	<1	ug/l	8260B	02/08/2002
1,1,2-Trichloroethane	<1	ug/l	8260B	02/08/2002
Trichloroethene	<1	ug/l	8260B	02/08/2002
Trichlorofluoromethane	<1	ug/l	8260B	02/08/2002
1,2,3-Trichloropropane	<1	ug/l	8260B	02/08/2002
1,2,4-Trimethylbenzene	<1	ug/l	8260B	02/08/2002
1,3,5-Trimethylbenzene	<1	ug/l	8260B	02/08/2002
Vinyl chloride	<1	ug/l	8260B	02/08/2002
Total Xylenes	<2	ug/l	8260B	02/08/2002
1,2-Dichloroethane-d4 (Surrogate)	99	% [73-121]	8260B	02/08/2002
Toluene-d8 (Surrogate)	103	% [91-109]	8260B	02/08/2002
4-Bromofluorobenzene (Surrogate)	103	% [85-115]	8260B	02/08/2002
EPA METHOD 8270				
Data File Number-Semivolatiles	0213021014	—		
Batch #/Extract Date - EPA 8270	4159	—	3510C	02/11/2002
Acenaphthene (SV)	<10	ug/l	8270C	02/13/2002
Acenaphthylene (SV)	<10	ug/l	8270C	02/13/2002
racene (SV)	<10	ug/l	8270C	02/13/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-2 Description: PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 Collected by: CRYSTAL ROBERTS Matrix: WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
EPA METHOD 8260				
Data File Number-Volatiles	0208021008	—		
Benzene	<1	ug/l	8260B	02/08/2002
Bromobenzene	<1	ug/l	8260B	02/08/2002
Bromochloromethane	<1	ug/l	8260B	02/08/2002
Bromodichloromethane	<1	ug/l	8260B	02/08/2002
Bromoform	<1	ug/l	8260B	02/08/2002
Bromomethane	<1	ug/l	8260B	02/08/2002
n-Butylbenzene	<1	ug/l	8260B	02/08/2002
sec-Butylbenzene	<1	ug/l	8260B	02/08/2002
t-Butylbenzene	<1	ug/l	8260B	02/08/2002
Carbon tetrachloride	<1	ug/l	8260B	02/08/2002
Chlorobenzene	<1	ug/l	8260B	02/08/2002
Chloroethane	<1	ug/l	8260B	02/08/2002
Chloroform	<1	ug/l	8260B	02/08/2002
Chloromethane (Methyl chloride)	<1	ug/l	8260B	02/08/2002
4-Chlorotoluene	<1	ug/l	8260B	02/08/2002
2-Chlorotoluene	<1	ug/l	8260B	02/08/2002
Dibromochloromethane	<1	ug/l	8260B	02/08/2002
1,2-Dibromo-3-chloropropane	<5	ug/l	8260B	02/08/2002
1,2-Dibromoethane	<1	ug/l	8260B	02/08/2002
Dichlorodifluoromethane	<1	ug/l	8260B	02/08/2002
Dibromomethane	<1	ug/l	8260B	02/08/2002
1,2-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,3-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,4-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,2-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethene	<1	ug/l	8260B	02/08/2002
c-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
t-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
1,2-Dichloropropane	<1	ug/l	8260B	02/08/2002
1,3-Dichloropropane	<1	ug/l	8260B	02/08/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-1 Description: PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 Collected by: CRYSTAL ROBERTS Matrix: WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Fluorene (SV)	<11	ug/l	8270C	02/13/2002
Hexachlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
Hexachlorobutadiene (SV)	<11	ug/l	8270C	02/13/2002
Hexachlorocyclopentadiene (SV)	<11	ug/l	8270C	02/13/2002
Hexachloroethane (SV)	<11	ug/l	8270C	02/13/2002
Indeno(1,2,3-c,d)pyrene (SV)	<11	ug/l	8270C	02/13/2002
Isophorone (SV)	<11	ug/l	8270C	02/13/2002
2-Methylnaphthalene (SV)	<11	ug/l	8270C	02/13/2002
2-Methylphenol o-cresol (SV)	<11	ug/l	8270C	02/13/2002
4-Methylphenol p-cresol (SV)	<11	ug/l	8270C	02/13/2002
Naphthalene (SV)	<11	ug/l	8270C	02/13/2002
2-Nitroaniline (SV)	<11	ug/l	8270C	02/13/2002
3-Nitroaniline (SV)	<11	ug/l	8270C	02/13/2002
4-Nitroaniline (SV)	<11	ug/l	8270C	02/13/2002
Nitrobenzene (SV)	<11	ug/l	8270C	02/13/2002
2-Nitrophenol (SV)	<11	ug/l	8270C	02/13/2002
4-Nitrophenol (SV)	<11	ug/l	8270C	02/13/2002
N-Nitrosodimethylamine (SV)	<11	ug/l	8270C	02/13/2002
N-Nitrosodiphenylamine (SV)	<11	ug/l	8270C	02/13/2002
N-Nitrosodi-n-propyl amine (SV)	<11	ug/l	8270C	02/13/2002
Pentachlorophenol (SV)	<11	ug/l	8270C	02/13/2002
Phenanthrene (SV)	<11	ug/l	8270C	02/13/2002
Phenol (SV)	<11	ug/l	8270C	02/13/2002
Pyrene (SV)	<11	ug/l	8270C	02/13/2002
Pyridine (SV)	<11	ug/l	8270C	02/13/2002
1,2,4-Trichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
2,4,5-Trichlorophenol (SV)	<21	ug/l	8270C	02/13/2002
2,4,6-Trichlorophenol (SV)	<11	ug/l	8270C	02/13/2002
2-Fluorophenol (Surrogate)	37	% [10-110]	8270C	02/13/2002
Phenol-d6 (Surrogate)	25	% [10-119]	8270C	02/13/2002
Nitrobenzene-d5 (Surrogate)	65	% [27-121]	8270C	02/13/2002
2-Fluorobiphenyl (Surrogate)	73	% [47-127]	8270C	02/13/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-1 **Description:** PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Benzo[k]fluoranthene (SV)	<11	ug/l	8270C	02/13/2002
Benzoic acid (SV)	<53	ug/l	8270C	02/13/2002
Benzo[g,h,i]perylene (SV)	<11	ug/l	8270C	02/13/2002
Benzyl alcohol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroethoxy)methane (SV)	<11	ug/l	8270C	02/13/2002
Bis(2-chloroethyl)ether (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroisopropyl)ether (SV)	<11	ug/l	8270C	02/13/2002
4-bromophenyl phenyl ether (SV)	<11	ug/l	8270C	02/13/2002
Butylbenzylphthalate (SV)	<11	ug/l	8270C	02/13/2002
Carbazole (SV)	<32	ug/l	8270C	02/13/2002
4-Chloroaniline (SV)	<21	ug/l	8270C	02/13/2002
4-Chloro-3-methylphenol (SV)	<11	ug/l	8270C	02/13/2002
2-Chloronaphthalene (SV)	<11	ug/l	8270C	02/13/2002
2-Chlorophenol (SV)	<11	ug/l	8270C	02/13/2002
4-Chlorophenyl phenyl ether (SV)	<11	ug/l	8270C	02/13/2002
Chrysene (SV)	<11	ug/l	8270C	02/13/2002
Dibenzo[a,h]anthracene (SV)	<21	ug/l	8270C	02/13/2002
Dibenzofuran (SV)	<11	ug/l	8270C	02/13/2002
Diethylphthalate (SV)	<32	ug/l	8270C	02/13/2002
1,2-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
1,3-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
1,4-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
3,3'-Dichlorobenzidine (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dichlorophenol (SV)	<11	ug/l	8270C	02/13/2002
2,4-Dimethylphenol (SV)	<11	ug/l	8270C	02/13/2002
Dimethylphthalate (SV)	<11	ug/l	8270C	02/13/2002
Benzo[a]pyrene (SV)	<21	ug/l	8270C	02/13/2002
4,6-Dinitro-2-methylphenol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-ethylhexyl)phthalate (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dinitrophenol (SV)	<11	ug/l	8270C	02/13/2002
Di-n-Butylphthalate (SV)	<11	ug/l	8270C	02/13/2002
2,4-Dinitrotoluene (SV)	<11	ug/l	8270C	02/13/2002
2,6-Dinitrotoluene (SV)	<11	ug/l	8270C	02/13/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-1 **Description:** PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Ethylbenzene	<1	ug/l	8260B	02/08/2002
Hexachlorobutadiene	<1	ug/l	8260B	02/08/2002
Cumene (Isopropylbenzene)	<1	ug/l	8260B	02/08/2002
Isopropyltoluene	<1	ug/l	8260B	02/08/2002
Methylene chloride	<5	ug/l	8260B	02/08/2002
Methyl-tert-butyl ether	<1	ug/l	8260B	02/08/2002
n-Propylbenzene	<1	ug/l	8260B	02/08/2002
Naphthalene	<5	ug/l	8260B	02/08/2002
Styrene	<1	ug/l	8260B	02/08/2002
1,1,1,2-Tetrachloroethane	<1	ug/l	8260B	02/08/2002
1,1,2,2-Tetrachloroethane	<1	ug/l	8260B	02/08/2002
Tetrachloroethene	<1	ug/l	8260B	02/08/2002
Toluene	<1	ug/l	8260B	02/08/2002
1,2,3-Trichlorobenzene	<1	ug/l	8260B	02/08/2002
1,2,4-Trichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1,1-Trichloroethane	<1	ug/l	8260B	02/08/2002
1,1,2-Trichloroethane	<1	ug/l	8260B	02/08/2002
Trichloroethene	<1	ug/l	8260B	02/08/2002
Trichlorofluoromethane	<1	ug/l	8260B	02/08/2002
1,2,3-Trichloropropane	<1	ug/l	8260B	02/08/2002
1,2,4-Trimethylbenzene	<1	ug/l	8260B	02/08/2002
1,3,5-Trimethylbenzene	<1	ug/l	8260B	02/08/2002
Vinyl chloride	<1	ug/l	8260B	02/08/2002
Total Xylenes	<2	ug/l	8260B	02/08/2002
1,2-Dichloroethane-d4 (Surrogate)	97	% [73-121]	8260B	02/08/2002
Toluene-d8 (Surrogate)	103	% [91-109]	8260B	02/08/2002
4-Bromofluorobenzene (Surrogate)	103	% [85-115]	8260B	02/08/2002
EPA METHOD 8270				
Data File Number-Semivolatiles	0213021013	—		
Batch #/Extract Date - EPA 8270	4159	—	3510C	02/11/2002
Acenaphthene (SV)	<11	ug/l	8270C	02/13/2002
Acenaphthylene (SV)	<11	ug/l	8270C	02/13/2002

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-1 **Description:** PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
EPA METHOD 8260				
Data File Number-Volatiles	0208021007	—		
Benzene	<1	ug/l	8260B	02/08/2002
Bromobenzene	<1	ug/l	8260B	02/08/2002
Bromochloromethane	<1	ug/l	8260B	02/08/2002
Bromodichloromethane	<1	ug/l	8260B	02/08/2002
Bromoform	<1	ug/l	8260B	02/08/2002
Bromomethane	<1	ug/l	8260B	02/08/2002
n-Butylbenzene	<1	ug/l	8260B	02/08/2002
sec-Butylbenzene	<1	ug/l	8260B	02/08/2002
t-Butylbenzene	<1	ug/l	8260B	02/08/2002
Carbon tetrachloride	<1	ug/l	8260B	02/08/2002
Chlorobenzene	<1	ug/l	8260B	02/08/2002
Chloroethane	<1	ug/l	8260B	02/08/2002
Chloroform	<1	ug/l	8260B	02/08/2002
Chloromethane (Methyl chloride)	<1	ug/l	8260B	02/08/2002
4-Chlorotoluene	<1	ug/l	8260B	02/08/2002
2-Chlorotoluene	<1	ug/l	8260B	02/08/2002
Dibromochloromethane	<1	ug/l	8260B	02/08/2002
1,2-Dibromo-3-chloropropane	<5	ug/l	8260B	02/08/2002
1,2-Dibromoethane	<1	ug/l	8260B	02/08/2002
Dichlorodifluoromethane	<1	ug/l	8260B	02/08/2002
Dibromomethane	<1	ug/l	8260B	02/08/2002
1,2-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,3-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,4-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,2-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethene	<1	ug/l	8260B	02/08/2002
c-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
t-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
1,2-Dichloropropane	<1	ug/l	8260B	02/08/2002

URS Operating Services, Inc.
et, Suite 710, Denver, CO 80202

SHIP TO: Northern Analytical 406-254-1226
602 S. 25th St. Billings, MT 59101
Attn: Cathy Smit

CHAIN OF CUSTODY REC

/NAME: 75-
Tire Fire 10913

SITE MANAGER: Crystal Pokorny

S SIGNATURE:

DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	VOC	Semi-vol-BNA				Tag Numb REMARK
2/6/02	1600		X	County Shop	2	X					024531, 0
2/6/02	1600		X	County Shop	2		X				024535, 0
2/6/02	1515		X	Smith Const.	2	X					024532, 0
2/6/02	1515		X	Smith Const.	2		X				024536, 0

	DATE	TIME			DATE	TIME		DATE	TIME	
D BY: (Signature)	2/6/02	1815	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)			RECEIVED (Signature)			
D BY: (Signature)			RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)			RECEIVED (Signature)			
D BY: (Signature)			RECEIVED FOR LABORATORY BY: (Signature)	DATE	TIME	REMARKS: AIRBILL NUMBER:				

White - Original to Accompany Samples Yellow - UOS Main Office Pink - UOS Field Office

Custody.Frm.bas

DN 5974

Client Name: UOS-URS

Project: Pabco Tire Site

Laboratory Number(s): 020043

Checklist Completed by: NEW 2/7/02 (Initials / Date)

Date/Time Received: 6/7/02 1000 (Date / Time)

Received by: NEW

Carrier Name: Fed Ex

Sample Type:

	YES	NO
1. Shipping container in good condition?	✓	
2. Custody seals present on shipping container? Condition: Intact ✓ Broken ____	✓	
3. Chain of custody present?	✓	
4. Chain of custody signed when relinquished and received?	✓	
5. Chain of custody agrees with sample labels?	✓	
6. Custody seals on sample bottles? Condition: Intact ____ Broken ____		✓
7. Samples in proper container/bottle?*	✓	
8. Sample containers intact?*	✓	
9. Sufficient sample volume for indicated test?*	✓	
10. Ice/Frozen Blue Ice present in shipping container? (circle one)	✓	
container temperature 1. 2.3°C 2. ____ 3. ____ * (if <0 or>10)		
11. All samples rec'd within holding time?*	✓	
12. VOA vials have zero headspace? * (if contains >5mm headspace)	✓	
13. Trip Blank received?		✓

	YES	NO
14. pH check performed by: ____		
15. Metals bottle(s) pH <2?	NA	
16. Nutrient bottle(s) pH <2?		
17. Cyanide bottle(s) pH >12?		
18. Sulfide bottle(s) pH >9?		
19. TOC bottle(s) pH <2?		
20. Phenolics bottle(s) pH <2?		
21. Oil & grease bottle(s) pH <2? (checked by analyst)	✓	
22. DRO/418.1 bottle(s) pH <2? (checked by analyst)		
23. Volatiles (VOA) pH <2? (VOA pH checked by analyst)		
24. Herbicides (515) pH <2? (checked by analyst)	NA	
25. Semivolatiles (525) pH <2? (checked by analyst)		
26. Client contacted?		
27. Person contacted		
28. Date contacted		

NOTES: **Samples may be affected when not transported at the temperature recommended by the EPA for the test you've selected. Please contact the lab if you have concerns about the temperature of your samples.**

*** Critical item - if marked "NO" contact lab manager.**

S URS Operating Services, Inc.
Street, Suite 710, Denver, CO 80202

SHIP TO: Northern Analytical 406-254-7226
602 S. 25th St. Billings, MT 59101
Attn: Cathy Smit

CHAIN OF CUSTODY RE

NO./NAME: 75-10913 Tire Fire

SITE MANAGER: Crystal Roberts

ER'S SIGNATURE:

N	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	VOC 8260	Semi-vol - 8270 BNA		2002 020043		Tag Num REMA
-01	2/6/02	1600		X	county shop	2	X				1	024531,
01	2/6/02	1600		X	county shop	2		X				024535,
02	2/6/02	1515		X	Smith const.	2	X				2	024532,
02	2/6/02	1515		X	Smith const.	2		X				024536,

CK 2/6/02

SHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIV (Signatur
	2/6/02	1815	Fedex				
SHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIV (Signatur
	2/7/02	1000					
SHED BY: (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE	TIME	REMARKS: AIRBILL NUMBER:	

White - Original to Accompany Samples Yellow - UOS M Office Pink - UOS Field Office

DN 5974

orms\Custody Frm bas

Project Name: PABLO TIRE FIRE

Sample No.: 2002020043-1 **Description:** PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
EPA METHOD 8260				
Data File Number-Volatiles	0208021007	—		
Benzene	<1	ug/l	8260B	02/08/2002
Bromobenzene	<1	ug/l	8260B	02/08/2002
Bromochloromethane	<1	ug/l	8260B	02/08/2002
Bromodichloromethane	<1	ug/l	8260B	02/08/2002
Bromoform	<1	ug/l	8260B	02/08/2002
Bromomethane	<1	ug/l	8260B	02/08/2002
n-Butylbenzene	<1	ug/l	8260B	02/08/2002
sec-Butylbenzene	<1	ug/l	8260B	02/08/2002
t-Butylbenzene	<1	ug/l	8260B	02/08/2002
Carbon tetrachloride	<1	ug/l	8260B	02/08/2002
Chlorobenzene	<1	ug/l	8260B	02/08/2002
Chloroethane	<1	ug/l	8260B	02/08/2002
Chloroform	<1	ug/l	8260B	02/08/2002
Chloromethane (Methyl chloride)	<1	ug/l	8260B	02/08/2002
4-Chlorotoluene	<1	ug/l	8260B	02/08/2002
2-Chlorotoluene	<1	ug/l	8260B	02/08/2002
Dibromochloromethane	<1	ug/l	8260B	02/08/2002
1,2-Dibromo-3-chloropropane	<5	ug/l	8260B	02/08/2002
1,2-Dibromoethane	<1	ug/l	8260B	02/08/2002
Dichlorodifluoromethane	<1	ug/l	8260B	02/08/2002
Dibromomethane	<1	ug/l	8260B	02/08/2002
1,2-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,3-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,4-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,2-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethene	<1	ug/l	8260B	02/08/2002
c-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
t-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
1,2-Dichloropropane	<1	ug/l	8260B	02/08/2002

Sample No.: 2002020043-1 **Description:** PT-DW-01 COUNTY SHOP
Date Received: 02/07/2002
Date Collected: 02/06/2002 **Collected by:** CRYSTAL ROBERTS **Matrix:** WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Benzo[k]fluoranthene (SV)	<11	ug/l	8270C	02/13/2002
Benzoic acid (SV)	<53	ug/l	8270C	02/13/2002
Benzo[g,h,i]perylene (SV)	<11	ug/l	8270C	02/13/2002
Benzyl alcohol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroethoxy)methane (SV)	<11	ug/l	8270C	02/13/2002
Bis(2-chloroethyl)ether (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroisopropyl)ether (SV)	<11	ug/l	8270C	02/13/2002
4-bromophenyl phenyl ether (SV)	<11	ug/l	8270C	02/13/2002
Butylbenzylphthalate (SV)	<11	ug/l	8270C	02/13/2002
Carbazole (SV)	<32	ug/l	8270C	02/13/2002
4-Chloroaniline (SV)	<21	ug/l	8270C	02/13/2002
4-Chloro-3-methylphenol (SV)	<11	ug/l	8270C	02/13/2002
2-Chloronaphthalene (SV)	<11	ug/l	8270C	02/13/2
2-Chlorophenol (SV)	<11	ug/l	8270C	02/13/2002
4-Chlorophenyl phenyl ether (SV)	<11	ug/l	8270C	02/13/2002
Chrysene (SV)	<11	ug/l	8270C	02/13/2002
Dibenzo[a,h]anthracene (SV)	<21	ug/l	8270C	02/13/2002
Dibenzofuran (SV)	<11	ug/l	8270C	02/13/2002
Diethylphthalate (SV)	<32	ug/l	8270C	02/13/2002
1,2-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
1,3-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
1,4-Dichlorobenzene (SV)	<11	ug/l	8270C	02/13/2002
3,3'-Dichlorobenzidine (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dichlorophenol (SV)	<11	ug/l	8270C	02/13/2002
2,4-Dimethylphenol (SV)	<11	ug/l	8270C	02/13/2002
Dimethylphthalate (SV)	<11	ug/l	8270C	02/13/2002
Benzo[a]pyrene (SV)	<21	ug/l	8270C	02/13/2002
4,6-Dinitro-2-methylphenol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-ethylhexyl)phthalate (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dinitrophenol (SV)	<11	ug/l	8270C	02/13/2002
Di-n-Butylphthalate (SV)	<11	ug/l	8270C	02/13/2002
2,4-Dinitrotoluene (SV)	<11	ug/l	8270C	02/13/2002
2,6-Dinitrotoluene (SV)	<11	ug/l	8270C	02/13/2

ct Name: PABLO TIRE FIRE

Sample No.: 2002020043-2 Description: PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 Collected by: CRYSTAL ROBERTS Matrix: WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
EPA METHOD 8260				
Data File Number-Volatiles	0208021008	—		
Benzene	<1	ug/l	8260B	02/08/2002
Bromobenzene	<1	ug/l	8260B	02/08/2002
Bromochloromethane	<1	ug/l	8260B	02/08/2002
Bromodichloromethane	<1	ug/l	8260B	02/08/2002
Bromoform	<1	ug/l	8260B	02/08/2002
Bromomethane	<1	ug/l	8260B	02/08/2002
n-Butylbenzene	<1	ug/l	8260B	02/08/2002
sec-Butylbenzene	<1	ug/l	8260B	02/08/2002
t-Butylbenzene	<1	ug/l	8260B	02/08/2002
Carbon tetrachloride	<1	ug/l	8260B	02/08/2002
Ch enzene	<1	ug/l	8260B	02/08/2002
Chloroethane	<1	ug/l	8260B	02/08/2002
Chloroform	<1	ug/l	8260B	02/08/2002
Chloromethane (Methyl chloride)	<1	ug/l	8260B	02/08/2002
4-Chlorotoluene	<1	ug/l	8260B	02/08/2002
2-Chlorotoluene	<1	ug/l	8260B	02/08/2002
Dibromochloromethane	<1	ug/l	8260B	02/08/2002
1,2-Dibromo-3-chloropropane	<5	ug/l	8260B	02/08/2002
1,2-Dibromoethane	<1	ug/l	8260B	02/08/2002
Dichlorodifluoromethane	<1	ug/l	8260B	02/08/2002
Dibromomethane	<1	ug/l	8260B	02/08/2002
1,2-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,3-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,4-Dichlorobenzene	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,2-Dichloroethane	<1	ug/l	8260B	02/08/2002
1,1-Dichloroethene	<1	ug/l	8260B	02/08/2002
c-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
t-1,2-Dichloroethene	<1	ug/l	8260B	02/08/2002
1,2-Dichloropropane	<1	ug/l	8260B	02/08/2002
1,3 chloropropane	<1	ug/l	8260B	02/08/2002

Sample No.: 2002020043-2 Description: PT-DW-02 SMITH CONSTRUCTION
Date Received: 02/07/2002
Date Collected: 02/06/2002 Collected by: CRYSTAL ROBERTS Matrix: WATER

Laboratory Test	Measured Value	Test Units	Test Method	Date of Analysis
Benzo[k]fluoranthene (SV)	<10	ug/l	8270C	02/13/2002
Benzoic acid (SV)	<52	ug/l	8270C	02/13/2002
Benzo[g,h,i]perylene (SV)	<10	ug/l	8270C	02/13/2002
Benzyl alcohol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroethoxy)methane (SV)	<10	ug/l	8270C	02/13/2002
Bis(2-chloroethyl)ether (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-chloroisopropyl)ether (SV)	<10	ug/l	8270C	02/13/2002
4-bromophenyl phenyl ether (SV)	<10	ug/l	8270C	02/13/2002
Butylbenzylphthalate (SV)	<10	ug/l	8270C	02/13/2002
Carbazole (SV)	<31	ug/l	8270C	02/13/2002
4-Chloroaniline (SV)	<21	ug/l	8270C	02/13/2002
4-Chloro-3-methylphenol (SV)	<10	ug/l	8270C	02/13/2002
2-Chloronaphthalene (SV)	<10	ug/l	8270C	02/13/2
2-Chlorophenol (SV)	<10	ug/l	8270C	02/13/2002
4-Chlorophenyl phenyl ether (SV)	<10	ug/l	8270C	02/13/2002
Chrysene (SV)	<10	ug/l	8270C	02/13/2002
Dibenzo[a,h]anthracene (SV)	<21	ug/l	8270C	02/13/2002
Dibenzofuran (SV)	<10	ug/l	8270C	02/13/2002
Diethylphthalate (SV)	<31	ug/l	8270C	02/13/2002
1,2-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
1,3-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
1,4-Dichlorobenzene (SV)	<10	ug/l	8270C	02/13/2002
3,3'-Dichlorobenzidine (SV)	<21	ug/l	8270C	02/13/2002
2,4-Dichlorophenol (SV)	<10	ug/l	8270C	02/13/2002
2,4-Dimethylphenol (SV)	<10	ug/l	8270C	02/13/2002
Dimethylphthalate (SV)	<10	ug/l	8270C	02/13/2002
Benzo[a]pyrene (SV)	<21	ug/l	8270C	02/13/2002
4,6-Dinitro-2-methylphenol (SV)	<21	ug/l	8270C	02/13/2002
Bis(2-ethylhexyl)phthalate (SV)	65	ug/l	8270C	02/13/2002
2,4-Dinitrophenol (SV)	<10	ug/l	8270C	02/13/2002
Di-n-Butylphthalate (SV)	<10	ug/l	8270C	02/13/2002
2,4-Dinitrotoluene (SV)	<10	ug/l	8270C	02/13/2002
2,6-Dinitrotoluene (SV)	<10	ug/l	8270C	02/13/2

305 UNION BOULEVARD, SUITE 600, LAKEWOOD, CO 8[illegible]
PHONE: 303 [illegible]
FAX: 303 [illegible]

TECHLAW INC.

December 5, 2001

Mr. Kent Alexander
URS Operating Services
1099 18th Street, Suite 710
Denver, CO 80202

RE: Transmittal of Data Validation Report
Pablo Tire Fire
TDD No. 75-10913
Report No. B0110172

Dear Mr. Alexander:

Please find enclosed one validation report for TDD Nos. 75-10913 for the Pablo Tire Fire project. This report is for the validation of DRO, RRO, semivolatile analyses.

If you have any questions regarding the enclosed report, please contact me at (303) 763-7188.

Yours sincerely,
TECHLAW, INC.

Lisa Tyson
Staff Consultant

enclosure
IF: 01027-060

ient: URS Operating Services, Inc.

Client Project Number: none

The following test was conducted by: Analytica - Thornton

Report Section: Client Sample Report

Client Sample Name: PT-DW-01

Matrix: Aqueous

Collection Date: 10/11/01 4:00:00PM

Lab Sample Number: B0110172-01C

Prep Date: 10/16/01

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std

Prep Method ID: LLE

Prep Batch Number: B011017006

Report Basis: As Received

Analysis Date: 10/24/01 11:10:00AM

Instrument: MS1BNA

File Name: 10240104.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
1,2,4-Trichlorobenzene	120-82-1	ND		ug/L	5.3	0.38	1
1,2-Dichlorobenzene	95-50-1	ND		ug/L	5.3	0.41	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	5.3	0.45	
2,4,5-Trichlorophenol	95-95-4	ND		ug/L	5.3	0.39	
2,4,6-Trichlorophenol	88-06-2	ND		ug/L	5.3	0.39	
2,4-Dichlorophenol	120-83-2	ND		ug/L	5.3	0.53	
2,4-Dimethylphenol	105-67-9	ND		ug/L	27	1.0	
2,4-Dinitrophenol	51-28-5	ND		ug/L	110	24	
2,4-Dinitrotoluene	121-14-2	ND		ug/L	5.3	0.29	
2,6-Dinitrotoluene	606-20-2	ND		ug/L	5.3	0.38	
2-Chloronaphthalene	91-58-7	ND		ug/L	11	0.41	
2-Chlorophenol	95-57-8	ND		ug/L	5.3	0.61	
2-Methylnaphthalene	91-57-6	ND		ug/L	5.3	0.39	
2-Methylphenol	95-48-7	ND		ug/L	5.3	0.61	
2-Nitroaniline	88-74-4	ND		ug/L	53	0.32	
2-Nitrophenol	88-75-5	ND		ug/L	5.3	0.59	
3&4-Methylphenol	106-44-5	ND		ug/L	5.3	1.2	
3,3'-Dichlorobenzidine	91-94-1	ND		ug/L	21	0.22	
3-Nitroaniline	99-09-2	ND		ug/L	53	0.44	
4,6-Dinitro-2-Methylphenol	534-52-1	ND		ug/L	27	6.0	
4-Bromophenyl-Phenylether	101-55-3	ND		ug/L	5.3	0.41	
4-Chloro-3-Methylphenol	59-50-7	ND		ug/L	5.3	0.54	
4-Chloroaniline	106-47-8	ND		ug/L	5.3	0.70	
4-Chlorophenyl methylsulfone	98-577	ND		ug/L	21	0.50	
4-Chlorophenyl-Phenylether	7005-72-3	ND		ug/L	5.3	0.50	
4-Nitroaniline	100-01-06	ND		ug/L	53	0.41	
4-Nitrophenol	100-02-7	ND		ug/L	110	0.16	
Acenaphthene	83-32-9	ND		ug/L	5.3	0.49	
Acenaphthylene	208-96-8	ND		ug/L	5.3	0.43	
Anthracene	120-12-7	ND		ug/L	5.3	0.51	
Benzidine	92-87-5	ND		ug/L	210	21	R

Client: CES Operating Services, Inc.

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: **PT-DW-01**

Matrix: Aqueous

Collection Date: 10/11/01 4:00:00PM

Lab Sample Number: B0110172-01C

Prep Date: 10/16/01

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std

Prep Method ID: LLE

Prep Batch Number: B011017006

Report Basis: As Received

Analysis Date: 10/24/01 11:10:00AM

Instrument: MS1BNA

File Name: 10240104.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Benzo(a)anthracene	56-55-3	ND		ug/L	5.3	0.41	1
Benzo(a)pyrene	50-32-8	ND		ug/L	5.3	0.41	
Benzo(b)fluoranthene	205-99-2	ND		ug/L	5.3	0.43	
Benzo(g,h,i)perylene	191-24-2	ND		ug/L	5.3	0.90	
Benzo(k)fluoranthene	207-08-9	ND		ug/L	5.3	0.43	
Benzoic Acid	65-85-0	ND		ug/L	140	24	
Benzyl Alcohol	100-51-6	ND		ug/L	11	0.59	
Bis (2-Chloroethoxy) Methane	111-91-1	ND		ug/L	5.3	0.66	
Bis (2-chloroisopropyl) ether	108-60-1	ND		ug/L	5.3	0.63	
Bis(2-Chloroethyl) Ether	95-57-8	ND		ug/L	5.3	0.60	
Bis(2-Ethylhexyl)Phthalate	117-81-7	ND		ug/L	5.3	0.70	
Butylbenzylphthalate	85-68-7	ND		ug/L	5.3	0.38	
Chrysene	218-01-9	ND		ug/L	5.3	0.54	
Dibenzo(a,h)anthracene	53-70-3	ND		ug/L	5.3	0.33	
Dibenzofuran	132-64-9	ND		ug/L	5.3	0.55	
Diethylphthalate	84-66-2	ND		ug/L	5.3	0.55	
Dimethylphthalate	131-11-3	ND		ug/L	5.3	0.51	
Di-n-Butylphthalate	84-74-2	ND		ug/L	5.3	1.4	
Di-n-Octylphthalate	117-84-0	ND		ug/L	5.3	0.33	
Fluoranthene	206-44-0	ND		ug/L	5.3	0.54	
Fluorene	86-73-7	ND		ug/L	5.3	0.46	
Hexachlorobenzene	118-74-1	ND		ug/L	5.3	0.56	
Hexachlorobutadiene	87-68-3	ND		ug/L	5.3	0.43	
Hexachlorocyclopentadiene	77-47-4	ND		ug/L	11	0.98	
Hexachloroethane	67-72-1	ND		ug/L	5.3	0.36	
Indeno(1,2,3-cd)pyrene	193-39-5	ND		ug/L	5.3	0.33	
Isophorone	78-59-1	ND		ug/L	5.3	0.61	
Naphthalene	91-20-3	ND		ug/L	11	2.0	
Nitrobenzene	98-95-3	ND		ug/L	5.3	0.65	
N-Nitroso-Di-N-Propylamine	621-64-7	ND		ug/L	5.3	0.56	
N-Nitrosodiphenylamine	86-30-6	ND		ug/L	11	1.2	
Pentachlorophenol	87-86-5	ND		ug/L	5.3	0.16	

ent: URS Operating Services, Inc.

Client Project Number: none

Report Section: **Client Sample Report**

Client Sample Name: **PT-DW-01**

Matrix: Aqueous

Collection Date: 10/11/01 4:00:00PM

Lab Sample Number: B0110172-01C

Prep Date: 10/16/01

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std

Prep Method ID: LLE

Prep Batch Number: B011017006

Report Basis: As Received

Analysis Date: 10/24/01 11:10:00AM

Instrument: MS1BNA

File Name: 10240104.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Phenanthrene	85-01-8	ND		ug/L	5.3	0.55	1
Phenol	62-53-3	ND		ug/L	5.3	0.89	
Pyrene	129-00-0	ND		ug/L	5.3	0.51	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:
2,4,6-Tribromophenol	118-79-6	140		ug/L	0.0	0.0	160	86	10	123	1
2-Fluorobiphenyl	321-60-8	90		ug/L	5.3	0.0	110	85	43	116	
2-Fluorophenol	367-12-4	90		ug/L	5.3	0.0	160	57	21	100	
D14-Terphenyl	92-94-4D	130		ug/L	5.3	0.0	110	121	33	141	
D5-Nitrobenzene	98-95-3D	89		ug/L	5.3	0.0	110	84	35	114	
D6-Phenol	108-95-2D	84		ug/L	5.3	0.0	160	52	10	94	

Client Project Number: none

Report Section: **Client Sample Report**

Client Sample Name: **PT-DW-02**

Matrix: Aqueous | Collection Date: 10/11/01 5:20:00PM

Lab Sample Number: B0110172-02C | Analysis Date: 10/24/01 11:50:00AM
Prep Date: 10/16/01 | Instrument: MS1BNA
Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std | File Name: 10240105.D
Prep Method ID: LLE | Dilution Factor: 1
Prep Batch Number: B011017006
Report Basis: As Received | Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
1,2,4-Trichlorobenzene	120-82-1	ND		ug/L	5.4	0.39	1
1,2-Dichlorobenzene	95-50-1	ND		ug/L	5.4	0.42	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	5.4	0.46	
2,4,5-Trichlorophenol	95-95-4	ND		ug/L	5.4	0.40	
2,4,6-Trichlorophenol	88-06-2	ND		ug/L	5.4	0.40	
2,4-Dichlorophenol	120-83-2	ND		ug/L	5.4	0.54	
2,4-Dimethylphenol	105-67-9	ND		ug/L	27	1.1	
2,4-Dinitrophenol	51-28-5	ND		ug/L	110	25	
2,4-Dinitrotoluene	121-14-2	ND		ug/L	5.4	0.29	
2,6-Dinitrotoluene	606-20-2	ND		ug/L	5.4	0.39	
2-Chloronaphthalene	91-58-7	ND		ug/L	11	0.42	
2-Chlorophenol	95-57-8	ND		ug/L	5.4	0.62	
2-Methylnaphthalene	91-57-6	ND		ug/L	5.4	0.40	
2-Methylphenol	95-48-7	ND		ug/L	5.4	0.62	
2-Nitroaniline	88-74-4	ND		ug/L	54	0.33	
2-Nitrophenol	88-75-5	ND		ug/L	5.4	0.60	
3&4-Methylphenol	106-44-5	ND		ug/L	5.4	1.3	
3,3'-Dichlorobenzidine	91-94-1	ND		ug/L	22	0.23	
3-Nitroaniline	99-09-2	ND		ug/L	54	0.45	
4,6-Dinitro-2-Methylphenol	534-52-1	ND		ug/L	27	6.1	
4-Bromophenyl-Phenylether	101-55-3	ND		ug/L	5.4	0.42	
4-Chloro-3-Methylphenol	59-50-7	ND		ug/L	5.4	0.55	
4-Chloroaniline	106-47-8	ND		ug/L	5.4	0.72	
4-Chlorophenyl methylsulfone	98-577	ND		ug/L	22	0.51	
4-Chlorophenyl-Phenylether	7005-72-3	ND		ug/L	5.4	0.51	
4-Nitroaniline	100-01-06	ND		ug/L	54	0.42	
4-Nitrophenol	100-02-7	ND		ug/L	110	0.16	
Acenaphthene	83-32-9	ND		ug/L	5.4	0.50	
Acenaphthylene	208-96-8	ND		ug/L	5.4	0.43	
Anthracene	120-12-7	ND		ug/L	5.4	0.52	
Benzidine	92-87-5	ND		ug/L	220	22	R
Benzo(a)anthracene	56-55-3	ND		ug/L	5.4	0.42	

.ent: URS Operating Services, Inc.

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: **PT-DW-02**

Matrix: Aqueous

Collection Date: 10/11/01 5:20:00PM

Lab Sample Number: B0110172-02C

Prep Date: 10/16/01

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std

Prep Method ID: LLE

Prep Batch Number: B011017006

Report Basis: As Received

Analysis Date: 10/24/01 11:50:00AM

Instrument: MS1BNA

File Name: 10240105.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Benzo(a)pyrene	50-32-8	ND		ug/L	5.4	0.42	1
Benzo(b)fluoranthene	205-99-2	ND		ug/L	5.4	0.43	
Benzo(g,h,i)perylene	191-24-2	ND		ug/L	5.4	0.92	
Benzo(k)fluoranthene	207-08-9	ND		ug/L	5.4	0.43	
Benzoic Acid	65-85-0	ND		ug/L	140	25	
Benzyl Alcohol	100-51-6	ND		ug/L	11	0.60	
Bis (2-Chloroethoxy) Methane	111-91-1	ND		ug/L	5.4	0.67	
Bis (2-chloroisopropyl) ether	108-60-1	ND		ug/L	5.4	0.64	
Bis(2-Chloroethyl) Ether	95-57-8	ND		ug/L	5.4	0.61	
Bis(2-Ethylhexyl)Phthalate	117-81-7	ND		ug/L	5.4	0.72	
Butylbenzylphthalate	85-68-7	ND		ug/L	5.4	0.39	
Chrysene	218-01-9	ND		ug/L	5.4	0.55	
Dibenzo(a,h)anthracene	53-70-3	ND		ug/L	5.4	0.34	
Dibenzofuran	132-64-9	ND		ug/L	5.4	0.57	
Diethylphthalate	84-66-2	ND		ug/L	5.4	0.57	
Dimethylphthalate	131-11-3	ND		ug/L	5.4	0.52	
Di-n-Butylphthalate	84-74-2	ND		ug/L	5.4	1.5	
Di-n-Octylphthalate	117-84-0	ND		ug/L	5.4	0.34	
Fluoranthene	206-44-0	ND		ug/L	5.4	0.55	
Fluorene	86-73-7	ND		ug/L	5.4	0.47	
Hexachlorobenzene	118-74-1	ND		ug/L	5.4	0.58	
Hexachlorobutadiene	87-68-3	ND		ug/L	5.4	0.43	
Hexachlorocyclopentadiene	77-47-4	ND		ug/L	11	1.0	
Hexachloroethane	67-72-1	ND		ug/L	5.4	0.37	
Indeno(1,2,3-cd)pyrene	193-39-5	ND		ug/L	5.4	0.34	
Isophorone	78-59-1	ND		ug/L	5.4	0.62	
Naphthalene	91-20-3	ND		ug/L	11	2.1	
Nitrobenzene	98-95-3	ND		ug/L	5.4	0.66	
N-Nitroso-Di-N-Propylamine	621-64-7	ND		ug/L	5.4	0.58	
N-Nitrosodiphenylamine	86-30-6	ND		ug/L	11	1.2	
Pentachlorophenol	87-86-5	ND		ug/L	5.4	0.16	
Phenanthrene	85-01-8	ND		ug/L	5.4	0.57	

Client: CRS Operating Services, Inc.

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: **PT-DW-02**

Matrix: Aqueous

Collection Date: 10/11/01 5:20:00PM

Lab Sample Number: B0110172-02C

Prep Date: 10/16/01

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - Std

Prep Method ID: LLE

Prep Batch Number: B011017006

Report Basis: As Received

Analysis Date: 10/24/01 11:50:00AM

Instrument: MS1BNA

File Name: 10240105.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Phenol	62-53-3	ND		ug/L	5.4	0.91	1
Pyrene	129-00-0	ND		ug/L	5.4	0.52	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:
2,4,6-Tribromophenol	118-79-6	150		ug/L	0.0	0.0	160	91	10	123	1
2-Fluorobiphenyl	321-60-8	94		ug/L	5.4	0.0	110	86	43	116	
2-Fluorophenol	367-12-4	99		ug/L	5.4	0.0	160	60	21	100	
D14-Terphenyl	92-94-4D	150		ug/L	5.4	0.0	110	137	33	141	
D5-Nitrobenzene	98-95-3D	91		ug/L	5.4	0.0	110	84	35	114	
D6-Phenol	108-95-2D	92		ug/L	5.4	0.0	160	56	10	94	

lient: URS Operating Services, Inc.

Client Project Number: none

The following test was conducted by: Analytica - Thornton

Report Section: Client Sample Report

Client Sample Name: PT-DW-01

Matrix: Aqueous

Collection Date: 10/11/01 4:00:00PM

Lab Sample Number:	B0110172-01B	Analysis Date:	10/24/01 4:55:07PM
Prep Date:	10/16/01	Instrument:	GC_E
Analytical Method ID:	SW8015B - Organics by GC/FID - RRO-waterSW	File Name:	10240119.D
Prep Method ID:	LLE	Dilution Factor:	1
Prep Batch Number:	B011017004		
Report Basis:	As Received	Analyst Initials:	RT

Analyte	CASNo		Result	Flags	Units	PQL	MDL	Rerun #:
Residual Range Organics	n/a	UJ	ND		mg/L	0.53	0.21	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:	
Squalane	111-01-3	0.026		mg/L	0.0053	0.0020	0.053	49	50	150	1	LOW

AB

Client: CRS Operating Services, Inc.

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: PT-DW-02

Matrix: Aqueous

Collection Date: 10/11/01 5:20:00PM

Lab Sample Number:	B0110172-02B	Analysis Date:	10/24/01 5:21:05PM
Prep Date:	10/16/01	Instrument:	GC_E
Analytical Method ID:	SW8015B - Organics by GC FID - RRO-waterSW	File Name:	10240121.D
Prep Method ID:	LLE	Dilution Factor:	1
Prep Batch Number:	B011017004		
Report Basis:	As Received	Analyst Initials:	RT

Analyte	CASNo		Result	Flags	Units	PQL	MDL	Rerun #:
Residual Range Organics	n/a	UJ	ND		mg/L	0.54	0.22	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:	
Squalane	111-01-3	0.026		mg/L	0.0054	0.0020	0.054	49	50	150	1	LOW

AB
11-29-01

lient: URS Operating Services, Inc.

Client Project Number: none

The following test was conducted by: Analytica - Thornton

Report Section: Client Sample Report

Client Sample Name: PT-DW-01

Matrix: Aqueous

Collection Date: 10/11/01 4:00:00PM

Lab Sample Number: B0110172-01A

Prep Date: 10/16/01

Analytical Method ID: SW8015B - Organics by GC FID - DRO

Prep Method ID: LLE

Prep Batch Number: B011017003

Report Basis: As Received

Analysis Date: 10/23/01 2:14:54PM

Instrument: GC_E

File Name: 10230125.D

Dilution Factor: 1

Analyst Initials: RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Diesel Range Organics	n/a	ND		mg/L	0.11	0.027	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:
o-Terphenyl	84-15-1	0.041		mg/L	0.00070	0.0030	0.053	78	50	129	1

AB

Client: URS Operating Services, Inc.

Client Project Number: none

Report Section: Client Sample Report

Client Sample Name: **PT-DW-02**

Matrix: Aqueous

Collection Date: 10/11/01 5:20:00PM

Lab Sample Number:	B0110172-02A	Analysis Date:	10/23/01 2:41:02PM
Prep Date:	10/16/01	Instrument:	GC_E
Analytical Method ID:	SW8015B - Organics by GC FID - DRO	File Name:	10230127.D
Prep Method ID:	LLE	Dilution Factor:	1
Prep Batch Number:	B011017003		
Report Basis:	As Received	Analyst Initials:	RT

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Diesel Range Organics	n/a	ND		mg/L	0.11	0.028	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	Rerun #:
o-Terphenyl	84-15-1	0.043		mg/L	0.00072	0.0040	0.054	79	50	129	1

AB

(303) 469-8868

URS Operating Services, Inc.
Suite 710, Denver, CO 80202

SHIP TO: Analytica 12189 Pennsylvania Thornton CO 80241

CHAIN OF CUSTODY REC

ME: Tire Fire

SITE MANAGER: Perlis

SIGNATURE:

DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	TPH	Semi VO/(BNA)				Tag # REMARKS
10/11/01	1600		x	County shop	2x32	x	x				001361 001
10/11/01	1720		x	Smith's Crest	2x32	x	x				001363 001

ED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVE (Signature)
ED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVE (Signature)
ED BY: (Signature)	DATE / TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE / TIME	REMARKS: AIRBILL NUMBER:	

White - Original to Accompany Samples Yellow - UOS Main Office Pink - UOS Field Office DN 3255

Custody.Fm.bas

REGION VIII
DATA VALIDATION REPORT
ORGANICS

TDD No.	Site Name		Operable Unit
75-10913	Pablo Tire Fire		
RPM/OSC Name			
Not Indicated			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Analytica Environmental Laboratories	Not Indicated	B0110172	

Review Assigned Date November 20, 2001
Review Completion Date December 5, 2001

Data Validator Amy Ballow
Report Reviewer Bill Fear

Sample Number	Laboratory ID	Matrix	Analysis
PT-DW-01	B0110172-01	Aqueous	Diesel Range Organics (DRO), Residual Range Organics (RRO), and Semivolatile analyses by SW846 Methods 8015B and 8270C
PT-DW-02	B0110172-02		

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.

( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.

(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ____X_____

TPO Attention Required? Yes _____ No ____X__ If yes, list the items that require attention:

All deliverables were present as specified in the subcontract.

BNA: Yes_X_ No___

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

BNA: Yes_X_ No___

Comments: The water samples were extracted within seven days from sample collection and the extracts were analyzed within 40 days from extraction. The samples were received at the laboratory within the 4 = 2 °C temperature criteria. No shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. DFTPP PERFORMANCE RESULTS

The decafluorotriphenylphosphine (DFTPP) performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes_X_ No___

Comments: Instrument performance check solutions were analyzed at the beginning of each 12-hour period of sample analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the project specified control limits.

BNA: Yes_X_ No___

Comments: The initial calibration relative response factors (RRFs) for the SPCCs met the minimum RRF method requirements and the RRFs for all other semivolatile target compounds and surrogate compounds were greater than or equal to 0.01.

The percent relative standard deviations (%RSDs) for the CCC compounds were less than or equal to 30%. The %RSDs for the other compounds were less than or equal to 15% or the correlation coefficient was greater than 0.99. Summary forms and raw data were evaluated.

Continuing instrument calibrations were performed according to method requirements and met project specified control limits.

BNA: Yes_X_ No__

Comments: Continuing calibration standards containing both target compounds and surrogate compounds were analyzed at the beginning of each 12-hour analysis period. Continuing calibration RRFs for the SPCCs met the minimum RRF method requirements, and the RRFs for all other semivolatile target compounds and surrogate compounds were greater than or equal to 0.01. The percent differences (%Ds) for the CCCs were less than the 20% method criteria. (%Ds were not evaluated for non-CCC compounds.) Summary forms and raw data were evaluated.

5. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to method requirements and results met project specified control limits.

BNA: Yes_X_ No__

Comments: Surrogate spikes were added to all samples and blanks. All surrogate recoveries were within the QC limits. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) and blank spike/blank spike duplicate (BS/BSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

BNA: Yes__ No_X_

Comments: Matrix spike / matrix spike duplicate (MS/MSD)analyses were not performed for this SDG.

Laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analyses were provided and were spiked with the full target list. The following table lists the results for the LCS/LCSD analyses that were outside criteria and qualifiers added to the data:

Sample	Compound	Percent Recovery		RPD	Control Limits		Qualifiers
		LCS	LCSD		% R	RPD	
LCS/LCSD	3&4-Methylphenol	162	155	--	33-125	--	None
	Acenaphthylene	140	141	--	48-133	--	
	N-Nitroso-diphenylamine	177	176	--	60-140	--	
	Phenol	--	57	--	60-140	--	
	Benzidine	0	5	200	30-170	N/A	R- non-detects

The recoveries for benzidine were less than 10%. As a result, the non-detected results for benzidine in the samples were qualified as rejected (R). Summary forms and raw data were evaluated.

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

BNA: Yes_X_ No___

Comments: Internal standard area counts did not vary more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

BNA: Yes___ No_X_

Comments: A method blank analysis was performed for each extraction batch. Summary forms and raw data were evaluated.

The method blank reported a positive result for bis(2-ethylhexyl)phthalate at 1.4 ug/L. No action was necessary because this compound was not identified in the associated samples.

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

BNA: Yes_X_ No___

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ± 30% between standard and sample spectra. TICs were not reported in this data package.

10. Additional Comments or Problems/Resolutions Not Addressed Above

BNA: Yes___ No_X_

Comments: None.

Revision B

Organic Data Completeness Checklist
DRO/RRO

Quality Control Summary Package

NA Internal Standard Area Summary
P MS/MSD or LCS Summary
P Method Blank Summary

Sample Data Package

P Holding Times (CLASS Sample Traffic Reports/UOS Chain-of-Custody)
P Organic Analysis Data Sheets
P GC Chromatogram(s)

Standards Data Package

NR Current List of Laboratory Instrument Detection Limits
P Initial Calibration Summary
P Continuing Calibration Summary
P Analytical Sequence
P Standard Chromatograms and Data System Printouts

Reagent Blank Data

P Organic Analysis Data Sheets
P GC Chromatograms and Data System Printouts

Matrix Spike/Matrix Spike Duplicate or Laboratory Control Sample Data

P Organic Analysis Data Sheets
P GC Chromatograms and Data System Printouts

KEY:

P = Provided in original data package
R = Provided as resubmission
NP = Not provided in original data package or as resubmission
NR = Not required
NA = Not applicable to this data package or analysis

All deliverables were present as specified in the subcontract.

DRO/RRO: Yes___ No_X_

Comments: The initial calibration summary form for the RRO analyses was not provided in the data package. Additionally, the closing continuing calibration for RRO analyzed on 10/14/01 was not included. The missing data was requested and received.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

DRO/RRO: Yes_X_ No___

Comments: All water samples were extracted within 7 days from sample collection and the extracts were analyzed within 40 days of extraction. The samples were received at the laboratory within the 4 ± 2 °C temperature criteria. No shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to requirements and met control limits.

DRO/RRO: Yes_X_ No___

Comments: The initial calibration criteria were met. The percent relative standard deviations (%RSDs) for the initial calibrations were less than or equal to 20%. Summary forms and raw data were evaluated.

Continuing instrument calibrations were performed according to requirements and met specified control limits.

DRO/RRO: Yes_X_ No___

Comments: Continuing calibration standards were analyzed at the required frequency. The percent differences (%Ds) for DRO in the continuing calibrations were less than 15%. The continuing calibrations analyzed on 10/23/01 for RRO reported several %Ds outside the 15% criteria. No action was required because the RRO samples results were reported from the 10/24/01 analyses and all continuing calibration criteria were met on 10/24/01 for RRO.

Surrogate compound recovery analysis was performed according to method requirements and results met control limits.

DRO/RRO: Yes___ No_X_

Comments: Surrogate compounds were added to all samples and blanks.

Listed below are the samples with surrogate percent recoveries (%Rs) outside laboratory control limits, and the qualifiers added to the data:

Sample Number	Surrogate / %R	Qualifiers	Compounds
PT-DW-01	Squalane 49%	JUJ	RRO
PT-DW-02	Squalane 49%		

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

DRO/RRO: Yes___ No_X_

Comments: MS/MSD analyses were not performed for this SDG.

Laboratory control samples/laboratory control sample duplicate (LCS/LCSD) analyses were provided for the DRO and RRO analyses. All percent recoveries and relative percent differences (RPDs) were with the laboratory QC limits. Summary forms and raw data were evaluated.

The laboratory did not provide RPD QC limits; however, all RPDs were less than 20%.

6. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

DRO/RRO: Yes___ No___ NA_X_

Comments: External calibration was used.

The laboratory blank analysis was performed according to method requirements and met control limits.

DRO/RRO: Yes_X_ No___

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Contamination was not reported in the method blanks. Summary forms and raw data were evaluated for the method blanks.

8. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

DRO/RRO: Yes_X_ No___

Comments: No problems were identified with compound identification and quantitation.

9. Additional Comments or Problems/Resolutions Not Addressed Above

DRO/RRO: Yes___ No_X_

Comments: None.

Revision C

Organic Data Completeness Checklist
BNA

Quality Control Summary Package

P Surrogate Recovery Summary
P MS/MSD or LCS Summary
P Method Blank Summary
P GC/MS Tuning and Mass Calibration

Sample Data Package

P Holding Times (CLASS Sample Traffic Reports/LIOS Chain-of-Custody)
P Organic Analysis Data Sheets
P Reconstructed Ion Chromatogram(s) (RIC)
P Quantitation Reports
P Mass Spectral Data
NA Mass Spectral Library Search for TICs

Standards Data Package

NR Current List of Laboratory/Instrument Detection Limits
P Initial Calibration Data for each instrument
P Continuing Calibration Data for each instrument
P Internal Standard Area Summary
P BNA Standards RICs
P BNA Standards Quantitation Reports

Raw QC Package

P DFTPP mass spectra and mass listings

Reagent Blank Data

P Organic Analysis Data Sheets
P RIC or Total Ion Chromatogram
P Quantitation Reports
P Mass Spectral Data
NA Library Search for TICs

Matrix Spike/Matrix Spike Duplicate or Laboratory Control Sample Data

P Organic Analysis Data Sheets
P RIC
P Quantitation Reports
NA Mass Spectral Data
NA Library search for TICs

KEY:

P = Provided in original data package
R = Provided as resubmission
NP = Not provided in original data package or as resubmissiun
NR = Not required

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review," October 1999, modified for the method used.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

TDD No. 75-10913, SDG No. B0110172 consisted of two aqueous samples for DRO, RRO, and semivolatile analyses by SW 846 methods 8015B and 8270C.

Tentatively identified compounds (TICs) were not identified in this SDG.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
PT-DW-01 PT-DW-02	Benzidine	R - Non-detects	Extremely low LCS/LCSD recoveries	6

Sample ID	DRO/RRO	Qualifiers	Reason for Qualification	Review Section
PT-DW-01 PT-DW-02	RRO	UJ	Surrogate recovery below QC limits	4

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R - Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.

N J - Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

S WORKSHEETS

HOLDING TIMES

Method # 8270C - SVOA

Client & Batch # URS B0110172

Validator/Date Amy Ballou

Reviewer/Date [illegible]

es, dilutions & reanalyses

PLE NUMBER per COC)	(If Applicable) COC # = Form I Y/N	(If Applicable) SAMPLE PRE-SERVED Y/N	TEMP 4°C (+2°C) Y/N	CONC LEVEL/ MATRIX	DATE COLLECTED	Extractables DATE EXTRACTED	DATE ANALYZED	Extractables EXT DATE COLL DATE	Extractables ANAL DATE EXT DATE	~~ANAL DATE COLL DATE~~	Action Taken VOA Aromatic [illegible] OJ (U)	Action Taken J ALL	Action Taken J (+) R (U)	COM PROBL SHIPPI SAMPL
)W-01	Y	NA	Y	L/[illegible]	10-11-01	10-16-01	10-24-01	5	8		None			5.8°C
)W-02	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓			≤ 14
														coll
														≤ 40
														ex

ets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators

TUNING

mples, dilutions, reanalyses, calibrations & cal checks

UNING MPOUND	DATE & TIME TUNED	INSTRUMENT ID	ABUND CRIT MET Y/N	SAMPLE WITHIN 12 HR. TIME FRAME Y/N	FORM 5 #'S EQUAL RAW DATA Y/N	CALC OK	HEADER INFO OK Y/N	ACTION/COMMENTS
PP	DATE 10-22-01 TIME 0954	MS1 BNA	✓	✓	✓	✓	✓	Okay
d samples: I.Cal								
	DATE 10-23-01 TIME 0839	"	✓	✓	✓	✓	✓	
d samples MB LCS/D								
"	DATE 10-24-01 TIME 0917	"	✓	✓	✓	✓	✓	
l samples: -01,02								
	DATE TIME							
l samples:								
	DATE TIME							
samples								
	DATE TIME							
samples								

S WORKSHEETS

. CONTINUI.. CALIBRATION

amples, dilutions, reanalyses, spikes & blanks

0.01/SPCC

NTINUING IBRATION	DATE & TIME CALIBRATED	ASSOC I-CAL DATE	DAILY RRF > 0.05 Y/N	20% -CCC only ~~%D ≤~~ 20 % Y/N	CALCULATIONS CHECKS MIN 1 DAILY RRF	MIN 1 %D	COMPOUNDS FAILING CRITERIA (Note if compounds are SPCC or CCC)
CCV	10·23·01 0900	~~10-23~~ 10·22·01	1) SPCC ✓ 0.01 ✓	2) CCC ✓	✓	✓	
ed samples							
	ac.						
CCV	10·24·01 0938	10·22·00	3) SPCC ✓ 0.01 ✓	4) CCC ~~N~~ Y	✓	✓	~~4) 4-Nitrophenol~~
ed samples							
	01, 02.						
			5)	6)			
ed samples							
			7)	8)			
ed samples							
			9)	10)			
ed samples							
			11)	12)			
ed samples							

SURROGATES & INTERNAL STANDARDS

les, dilutions, reanalyses, spikes & blanks which do not meet criteria.

IPLE NUMBER (clude sample mber if limits not met)	SURROGATES: RECOVERIES WITHIN LIMITS FORM II Y/N	SURROGATES: IF NOT, RE-EXT / RE-ANAL Y/N	SURROGATES: RE-EXT/ RE-ANAL WITHIN LIMITS Y/N	INTERNAL STDS: AREAS WITHIN LIMITS MET Y/N	INTERNAL STDS: R T S WITHIN LIMITS Y/N	SURR & IS: CALC OK	SURROGATES OUTSIDE QC LIMITS*	INTERNAL STANDARDS OUTSIDE QC LIMITS*	ACTIONS/CO
MB	Y ✓	–		✓	✓		Okay	Okay	IS summary
CS	Y ✓	–		✓	✓				
CSD	Y ✓	–		✓	✓				
01	Y ✓	–		✓	✓				
02	Y ✓	–		✓	✓				

her surrogate recovery (or internal standard area) was above or below QC limits Use for extremely low surrogate recoveries (< 10%) or internal standard areas (< 2x

ORKSHEETS

COMPOUND IDENTIFICATION, QUANTITATION & MDLS

s, dilutions, reanalyses & blanks

SAMPLE NUMBER (include if problems exist)	ID CRITERIA: RRT (0.06) MET Y/N	ID CRITERIA: MASS SPECTRAL MET Y/N	COMMENTS & COMPOUNDS FAILING ID CRITERIA	SPECTRA PRESENT (TCL & TIC) Y/N	CALC. CHECKS: MDLS CORRECT Y/N	CALC. CHECKS: CHECK 1-3 HIT(S) PER SAMPLE	TRANSCRIPTION ERRORS Y/N	ACTIONS/C
DW-01 940ml→2ml	No targets			No TICs	✓ 5.3	N/A		Okay
DW-02 920ml→2ml	No Targets			No TICs	✓ 5.4			
MB	✓	✓		No TICs ✓	✓	✓	✓	

eets (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators

RKSHEETS

DRO - Diesel Range O.

HOLDING TIMES

Method #: RRO - Residual Range Organic - SW8015B

Client & Batch #: URS B0110172

Validation /Date: Amy Ballow

Review/Date: [illegible]

ples, dilutions & reanalyses

PLE NUMBER (per COC)	(If Applicable) COC# = Form1 Y/N	*SAMPLE PRE-SERVED Y/N	TEMP 4°C (+2°C) Y/N	CONC. LEVEL/ MATRIX	DATE COLLECTED	Extractables DATE EXTRACTED	DATE ANALYZED	Extractables EXT DATE COLL DATE	ANAL DATE EXT DATE	ANAL DATE COLL DATE	Action Taken Aromatic J(+) UJ(U)	J ALL	J (+) R (U)	COMM ANY PROB WITH SI RECEIPT & CONC
DW-01	Y	N/A	Y	L/W	10-11-01	10-16-01	10-24-01	5	8		None			5.1 °C
DW-02	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓			Okay
														≤ 4
DW-01	Y	N/A	Y	L/W	10-11-01	10-16-01	10-23-01	5	7		None			≤ 40
DW-02	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓			

heets: (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators

'KSHEETS

CONTINUING CALIBRATION

ples, dilutions, reanalyses, spikes & blanks

UING ATION	DATE & TIME CALIBRATED	INSTRUMENT ID / GC COLUMN	%Ds 15% Y/N	OCL PEST % BRK-DOWN < 20% Y/N	CALCULATIONS CHECKS MIN 1 DAILY CF	MIN 1 %D	MIN 1 % BRK DOWN	COMMENTS & COMPOUNDS FAILING C
	10-23-01 1053 / 508	GC-E	1) Cont 249. 15.6 out	2) —	✓	✓	—	RRO (C25-C36) = 53802.3 ✓ A w RF; RRO Not Used RUN
amples	RRO (C25-C36)	Not used for RRO - Reanalyzed 10-24 - No Action						DRO (C10 C26) = 288726
	10-23-01 1027 / 0306 start / closed	GC-E	3) 2.8 ✓ 0.4 ✓	4) —	✓	✓	—	
samples	DRO (C10-C26)	~~559.6/500~~ : 12% ✓ -01,02						DRO - Okay
109.D	10-24-01 0206	GC-E	5) ~~28~~ ≤15% ✓ 7.5% ✓	6) —	✓	✓	—	Resub missing std Okay Rec. 12-3-01
samples	RRO C25-C36	-01,02						
~~147~~.D 125.D	10-24-01 ~~1031~~ 0612	GC-E	7) 89 ✓	8) —	✓	✓	—	
samples	RRO	01,02						
			9)	10)				
samples								
			11)	12)				
samples								Missing closing std - Resub Rec.

RKSHEETS

SURROGATES & INTERNAL STANDARDS

nples, dilutions, reanalyses, spikes & blanks which do not met criteria.

AMPLE NUMBER (Include sample umber if limits not met)	SURROGATES RECOVERIES WITHIN LIMITS Y/N	IF NOT, RE-EXT / RE-ANAL Y/N	RE-EXT/ RE-ANAL WITHIN LIMITS Y/N	INTERNAL STDS. AREAS WITHIN LIMITS MET Y/N	R T S WITHIN LIMITS Y/N	SURR & IS CALC OK	RRO - Squalane - 50-150 o-Terphenyl - 50-129 SURROGATES OUTSIDE QC LIMITS*	~~INTERNAL STANDARDS OUTSIDE QC LIMITS*~~	Actio
-DW-01	49J						low Surr J/4J		
-02	49J						↓ ↓		
MB	98✓								
LCS	52✓								
LCSD	50✓								
-DW-01	78✓						Okay -DRO		
-02	79✓								
MB	82✓								
LCS	80✓								
LCSD	76✓								

hether surrogate recovery (or internal standard area) was above or below QC limits Use for extremely low surrogate recoveries (<10%) or internal eas(<2x the lower limit)

COMPOUND IDENTIFICATION, QUANTITATION & MDLS

samples, dilutions, reanalyses & blanks

SAMPLE NUMBER (Include if problems exist)	ID CRITERIA: 1ST COL RT IN WINDOW Y/N	ID CRITERIA: 2ND COL RT IN WINDOW Y/N	COMMENTS & COMPOUNDS FAILING ID CRITERIA	CALC CHECKS: MDLS CORRECT Y/N	CALC CHECKS: CHECK 1-3 HIT(S) PER SAMPLE	TRANSCRIPTION ERRORS Y/N	ACTIONS/COMM
-001A (DRO) 950ml->1ml	No	hits	< RL	~~0.11~~ ~~0.55~~	NA	–	
-002A (DRO) 920ml->1ml	↓			0.11	↓	–	
-01B (RRO) 950ml->1ml	No	hits		0.53	NA	–	
-02B (RRO) 920ml->1ml	↓			0.54	↓	–	
MB	No	hits		–			
MB	↓			–			
			Prep: DRB = "A" 1000ml->				
			1000ml -> 1ml or repeat not				

worksheets (1) If a particular category is "Not Applicable," denote with N/A (2) Calculation checks performed by validators

Attachment D

NRCS Soils Report

United States Department of Agriculture

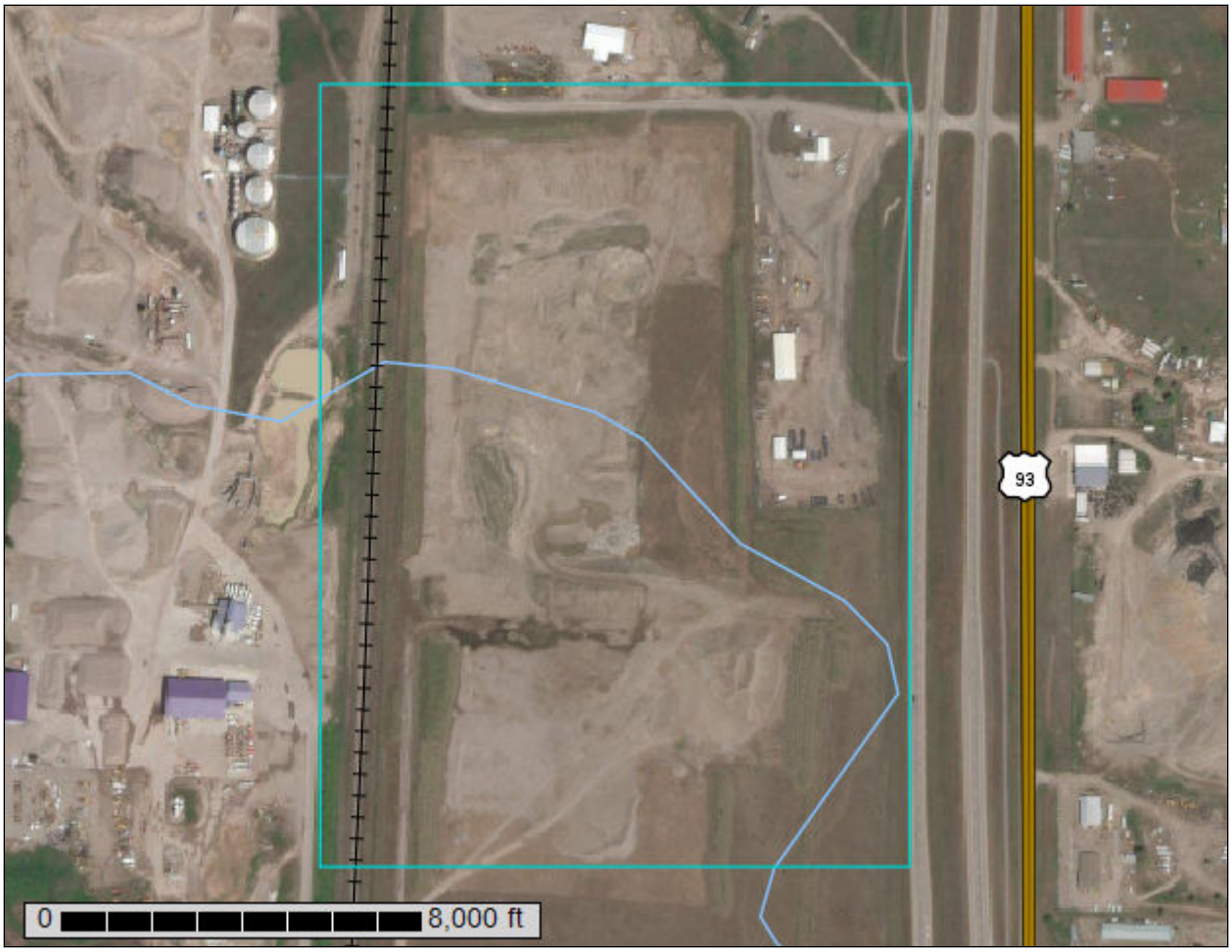
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Lake County Area, Montana



March 20, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface..... 2
Soil Map..... 5
Soil Map.....6
Legend.....7
Map Unit Legend..... 8
References.....9

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,450 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 19, Sep 21, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2014—Nov 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
81	Jocko gravelly loam, 0 to 4 percent slopes	11.1	17.1%
82	Jocko gravelly loam, 4 to 15 percent slopes	1.4	2.1%
101	McCollum fine sandy loam, 0 to 2 percent slopes	6.2	9.5%
104	McCollum fine sandy loam, gravelly substratum, 0 to 2 percent slopes	31.2	47.8%
129	Pits, gravel	5.0	7.7%
155	Sacheen loamy fine sand, 0 to 8 percent slopes	7.0	10.7%
174	Walstead gravelly loam, 0 to 2 percent slopes	3.3	5.1%
Totals for Area of Interest		**65.2**	**100.0%**

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Attachment E

Geology Exploration Site Plan and Cross Sections

NO.	REVISION DESCRIPTION	BY	DATE
△			
△			
△			
△			
△			

PROJECT: 1-16134
DESIGNED: AS / BAA
DRAWN: BAA
CHECKED: SMB
APPROVED: SMB
DATE: APRIL 30, 2018

GreatWest engineering®
2501 BELT VIEW DRIVE
HELENA, MT 59601
(406) 449-8927

REUM TIRE DEPOT
TIRE LANDFILL
LOCATION MAP

FIGURE NO.
E1

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\Geology\1-16134-Geo-01-Location.dwg

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\Geology\1-16134-Geo-02-Plan.dwg

REUM TIRE DEPOT

TIRE LANDFILL

GEOLOGY EXPLORATION SITE PLAN

FIGURE NO. E2

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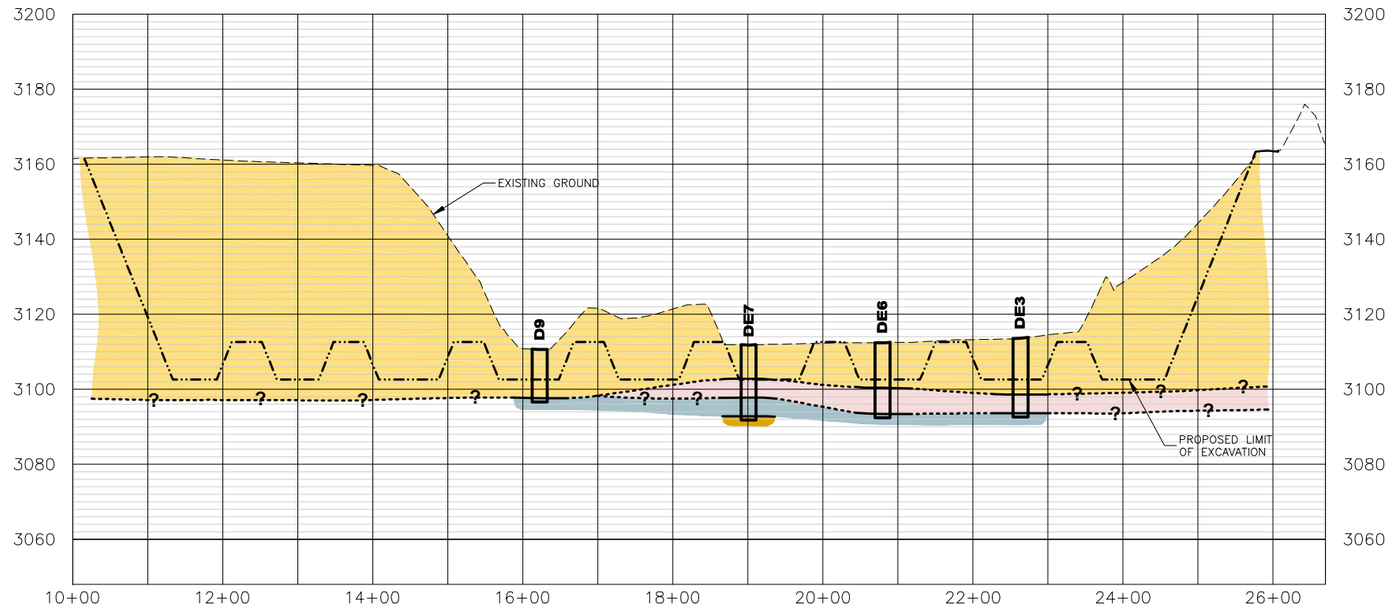
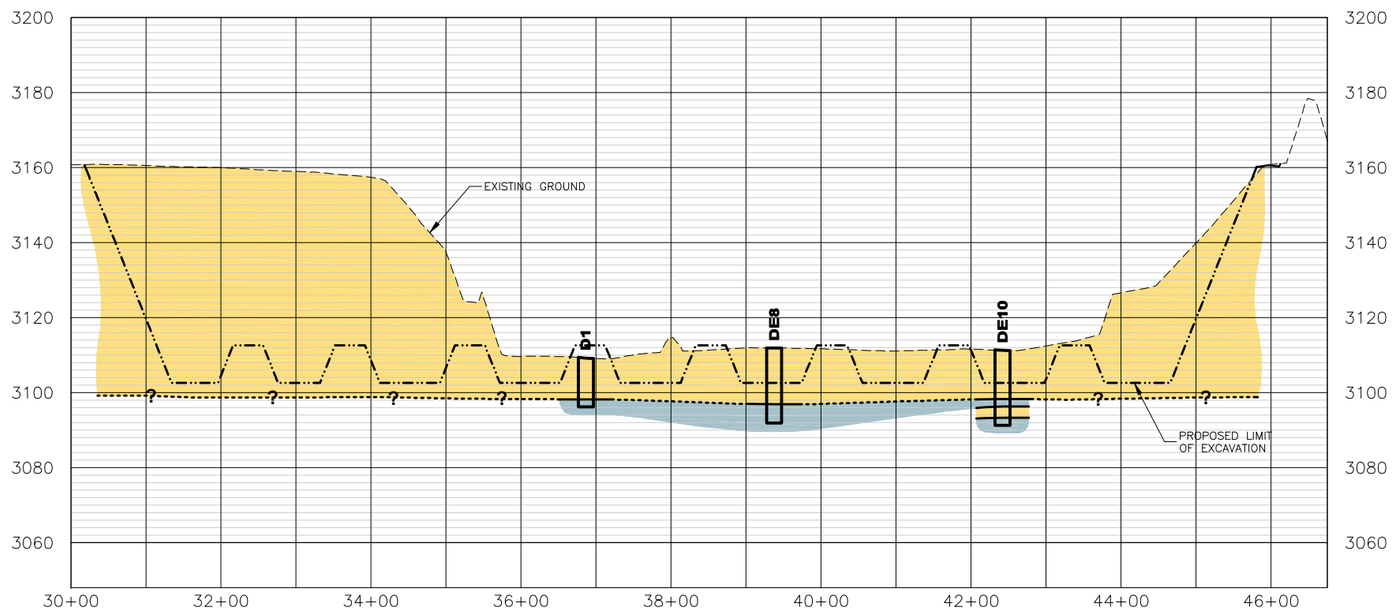
DATE: APRIL 30, 2018				



SECTION A-A'

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 40'



SECTION B-B'

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 40'

GEOLOGY KEY

Qal	SAND, GRAVEL, COBBLES
Ogo	FINE SAND, SILT, CLAY
Ogl	TAN CLAY, TAN SILTY CLAY
Ogls	SAND, GRAVEL, COBBLES

OBSERVED CONTACT
INFERRED CONTACT
CONTACT UNCERTAIN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: AS / BAA
DRAWN: BAA
CHECKED: SMB
APPROVED: SMB
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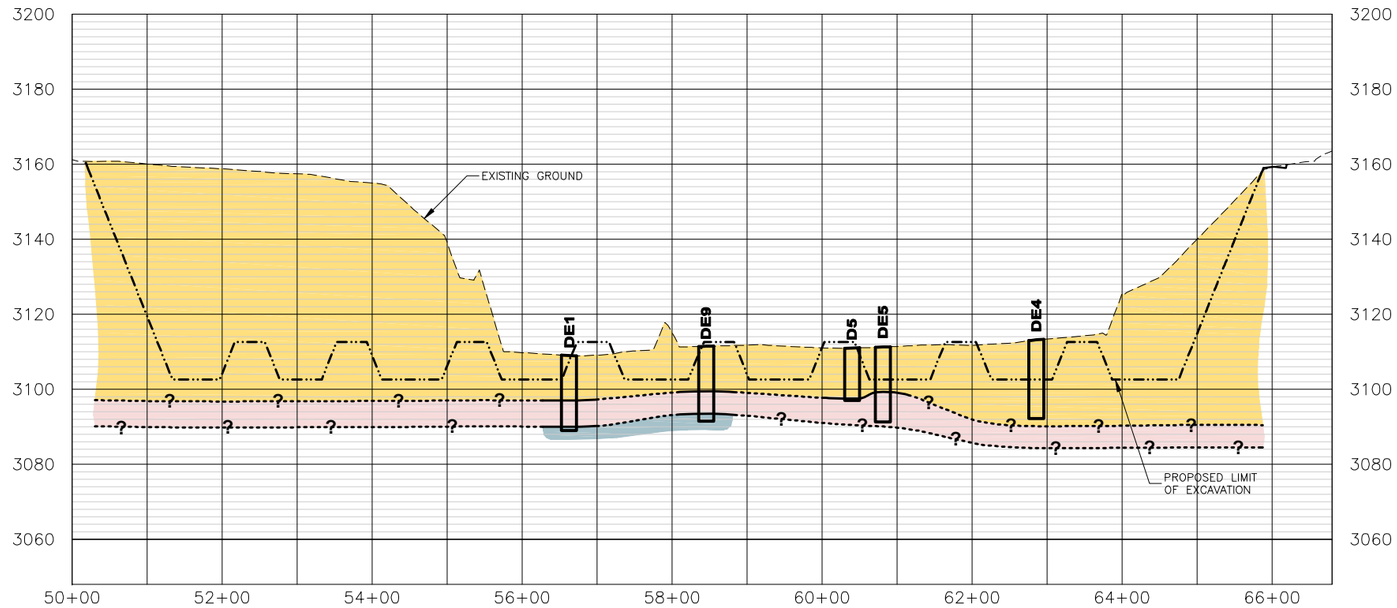
REUM TIRE DEPOT
TIRE LANDFILL
GEOLOGY EXPLORATION CROSS SECTIONS

FIGURE NO.
E3

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\Geology\1-16134-Geo-03-Section.dwg



SECTION C-C'

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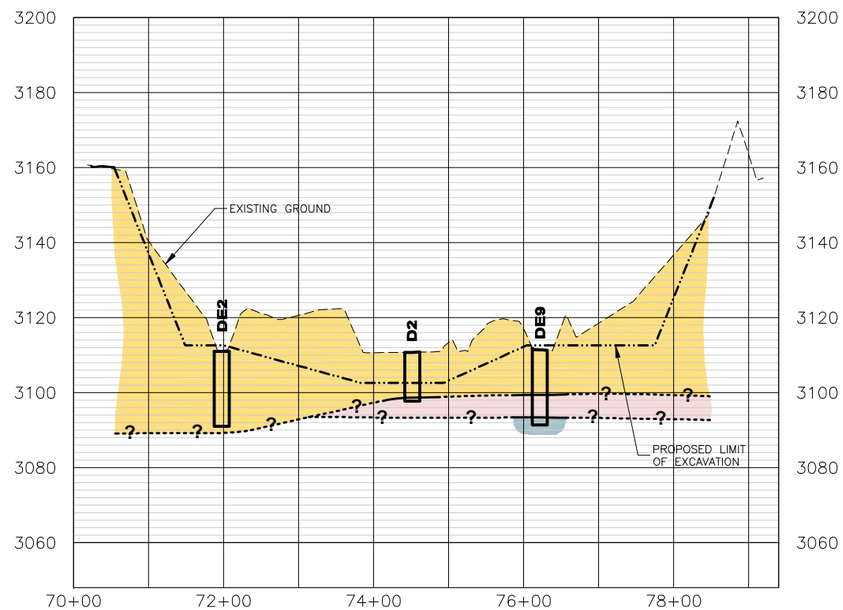
VERTICAL SCALE: 1" = 40'



SECTION D-D'

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 40'

GEOLOGY KEY

Qal	SAND, GRAVEL, COBBLES
Ogo	FINE SAND, SILT, CLAY
Ogl	TAN CLAY, TAN SILTY CLAY
Ogls	SAND, GRAVEL, COBBLES

OBSERVED CONTACT
INFERRED CONTACT
CONTACT UNCERTAIN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-16134
DESIGNED: AS / BAA
DRAWN: BAA
CHECKED: SMB
APPROVED: SMB
DATE: APRIL 30, 2018

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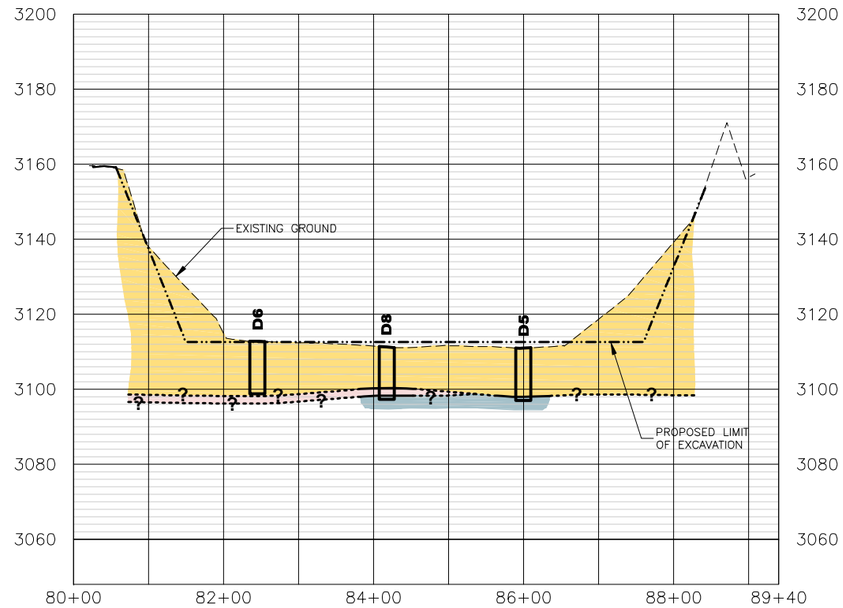
REUM TIRE DEPOT
TIRE LANDFILL
GEOLOGY EXPLORATION CROSS SECTIONS

FIGURE NO.
E4

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\Geology\1-16134-Geo-04-Section.dwg



SECTION E-E'

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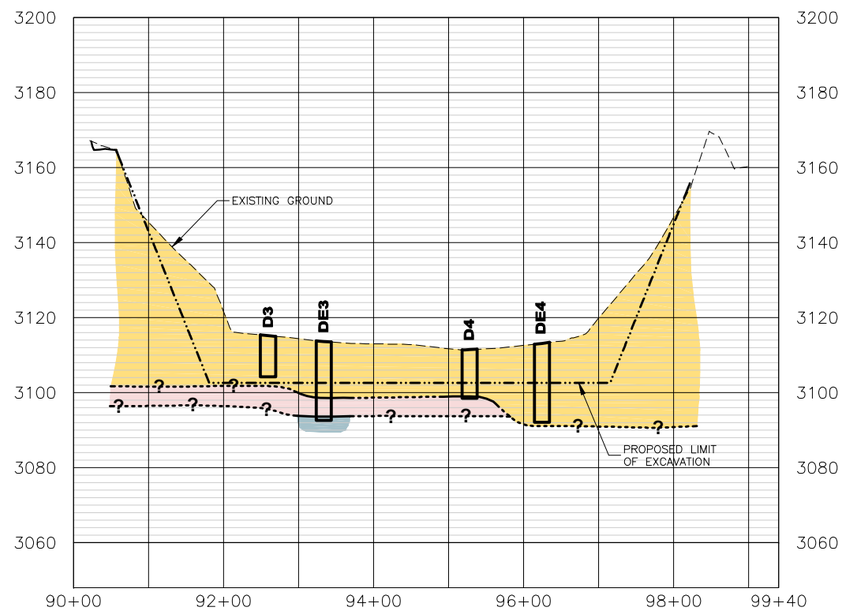
VERTICAL SCALE: 1" = 40'



SECTION F-F'

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 40'

GEOLOGY KEY

Qal	SAND, GRAVEL, COBBLES
Ogo	FINE SAND, SILT, CLAY
Ogl	TAN CLAY, TAN SILTY CLAY
Ogls	SAND, GRAVEL, COBBLES
———	OBSERVED CONTACT
- - - - -	INFERRED CONTACT
-?-	CONTACT UNCERTAIN

NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT: 1-16134
DESIGNED: AS / BAA
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CHECKED: SMB
APPROVED: SMB
DATE: APRIL 30, 2018

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REUM TIRE DEPOT
TIRE LANDFILL
GEOLOGY EXPLORATION CROSS SECTIONS

FIGURE NO.
E5

F:\1-16134 Reum Tire Landfill\CADD 1-16134\Exhibits\Geology\1-16134-Geo-05-Section.dwg

Attachment F

Test Pit Logs and Photos

Test Hole Photos

Logged by: Andrea Stanley [of Great West Engineering, Inc., (GWE)]

D1

Date: 12/11/17
Total Depth: 13 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 11	Mostly sand with 0.5’ seams of cobbles (0.5” to 4” diameter)
11 - 13	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

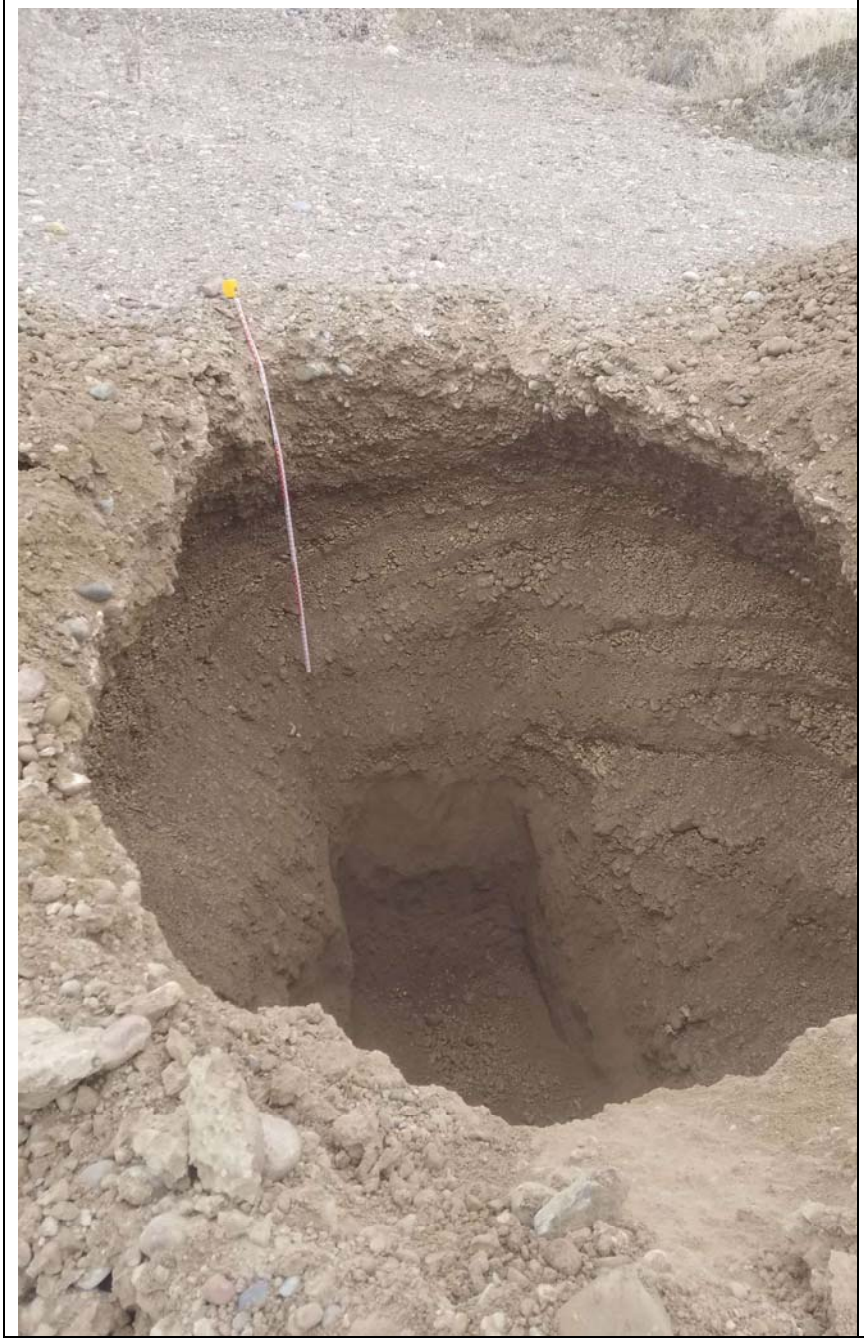
D2

Date: 12/11/17
Total Depth: 13 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 - 12	Mostly sand with 1 to 0.5' seems of coarse gravel and cobbles
12 -13	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)



D3

Date: 12/11/17
Total Depth: 11 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 - 7	0.5’ to 2’cross beds of coarse gravel, cobbles, sand
7 – 11	fine sand

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D4

Date: 12/11/17
Total Depth: 13 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 -1	Sand, coarse gravel, cobbles
1 – 6	Sand
6 - 10	Sand, coarse gravel, cobbles
10 – 12.5	Sand
12.5 – 13	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D5

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 5	Cobbles, coarse gravel, sand
5 – 7	Sand
7 – 10	Cobbles, gravel, sand
10 – 12	Sand
12 – 13.5	Coarse gravel, cobbles, sand
13.5 - 14	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D6

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 11	Alternating 1-3' beds of sand and beds of cobbles, gravel and sand
11 – 14	Sand

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D7

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 1	Gravel, cobbles, sand
1 – 9	Sand
9 – 13	Cobbles, gravel, sand
13 - 14	Silt and silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D8

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 - 5	Sand
5 – 13	Cobbles, gravel, sand
13 - 14	Silt and silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D9

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 10	Cobbles, coarse gravel, sand
10 – 13.5	Sand
13.5 - 14	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

D10

Date: 12/11/17
Total Depth: 14 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 3	Coarse gravel, cobbles, sand
3 – 4.5	Sand
4.5 – 6.5	Coarse gravel, cobbles, sand
6.5 – 13.5	Alternating beds of coarse gravel, sand, and cobbles
13.5 – 14	Silt

Test Hole Photos
Logged by: Andrea Stanley (GWE)

DE1

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 12	Sand with beds of coarse gravel and cobbles
12 – 19	Clay mixed with sand
19 – 20	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

DE2

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 - 20	Sand with beds of coarse gravel and cobbles

Test Hole Photos
Logged by: Andrea Stanley (GWE)

No Photos Collected of DE3

DE3

Date: 4/20/17
Total Depth: 21 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 10	Sand with occasional cobbles
10 – 15	Sand with coarse gravels and cobbles
15 – 20	silty clay with some beds of sand
20 – 21	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)

DE4

Date: 4/20/17
Total Depth: 21 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 4	Sand with coarse gravel and cobbles
4 - 21	Sand with few sills of sand mixed with coarse gravel and cobbles

Test Hole Photos
Logged by: Andrea Stanley (GWE)

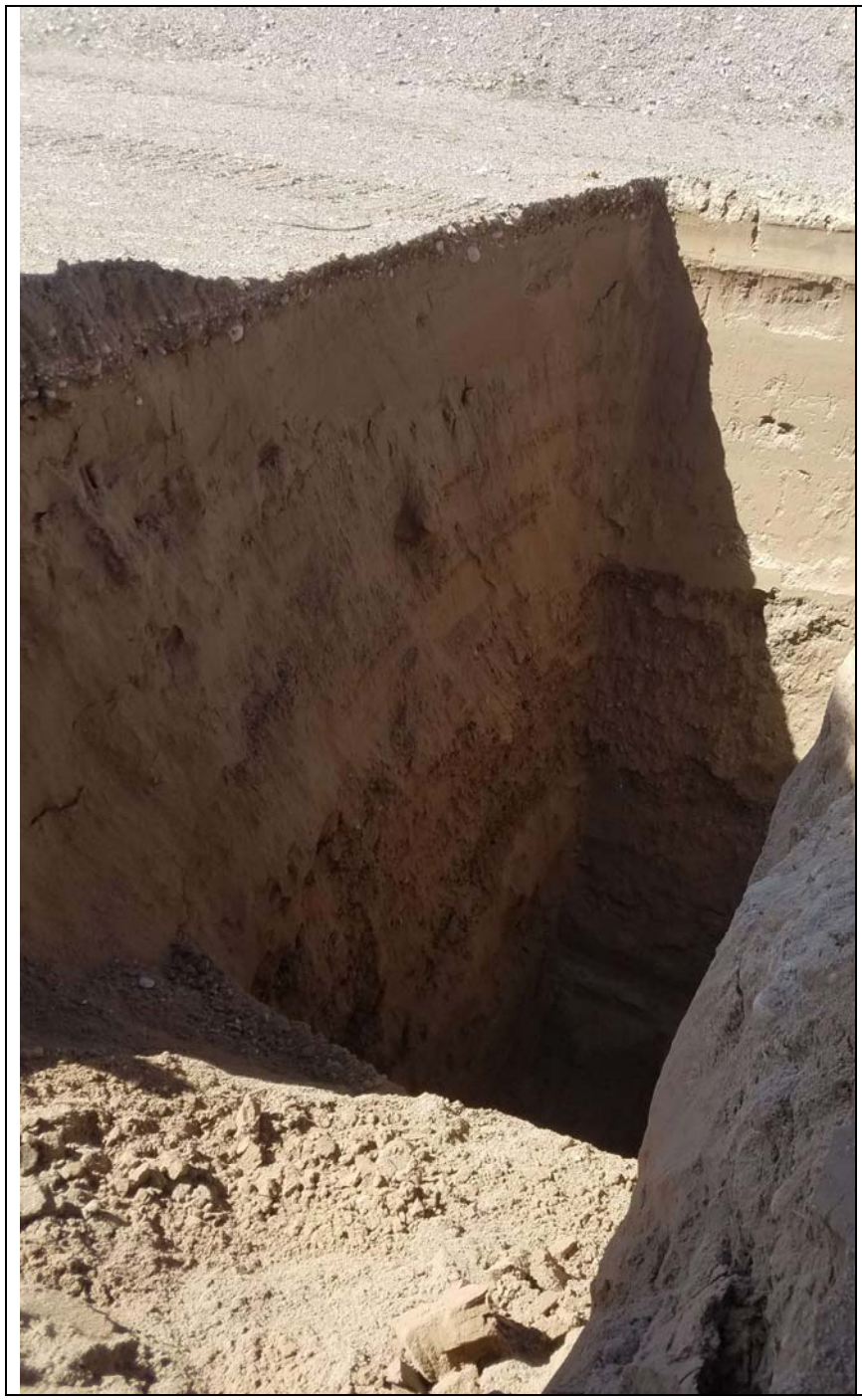
DE5

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 2	Sand with cobbles and coarse gravel
2 – 6	Sand
6 – 8	Sand with cobbles and coarse gravel
8 – 11	Sand
11 – 12	Sand with cobbles and coarse gravel
12 - 20	Sand with silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)



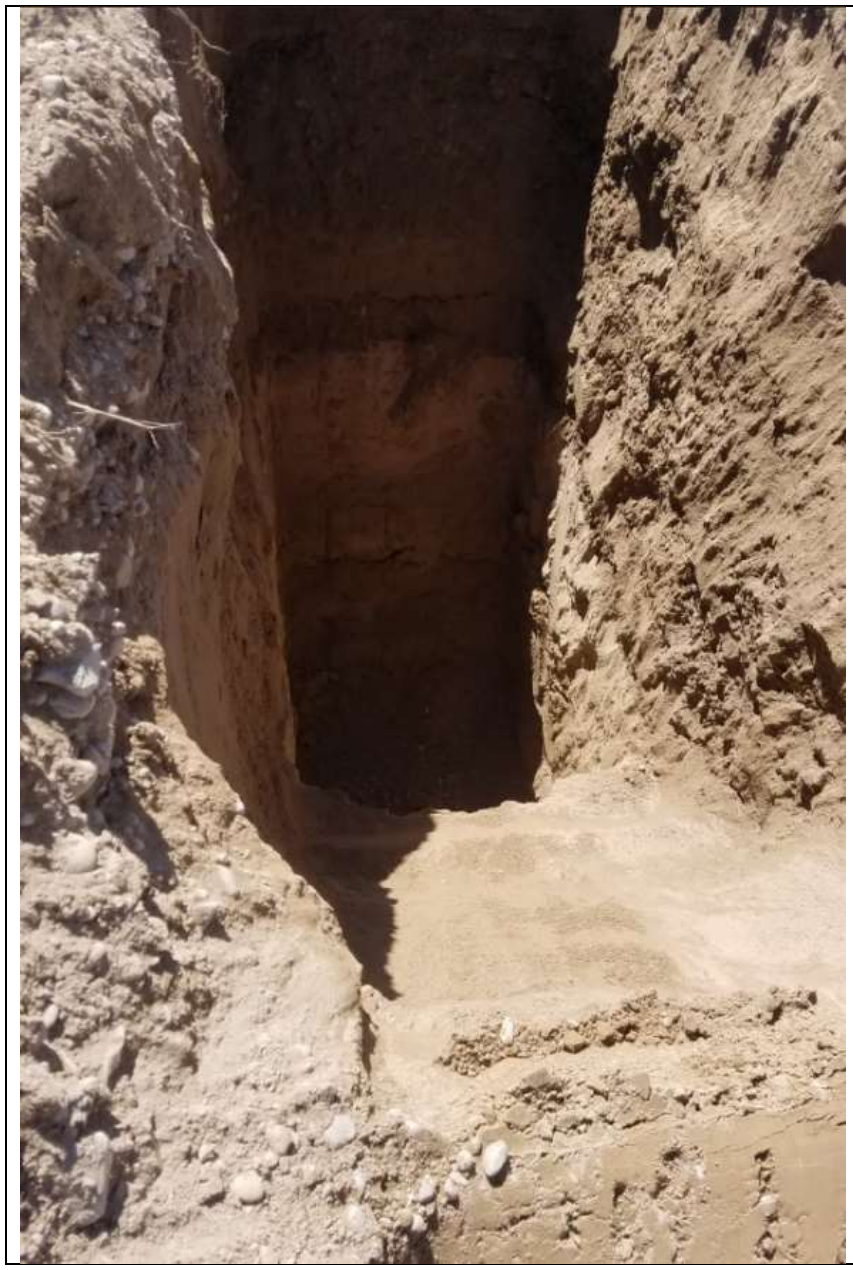
DE6

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 8	Sand
8 – 13	Sand, cobbles, coarse gravel
13 – 19	Sand
19 - 20	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)



DE7

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 6	Sand
6 – 8	Sand, coarse gravel, cobbles
8 – 9	Sand
9 – 14	Clay missed with fine sand
14 – 19.5	Tan silty clay
19.5 - 20	Sand, coarse gravel, cobbles

Test Hole Photos
Logged by: Andrea Stanley (GWE)

DE8

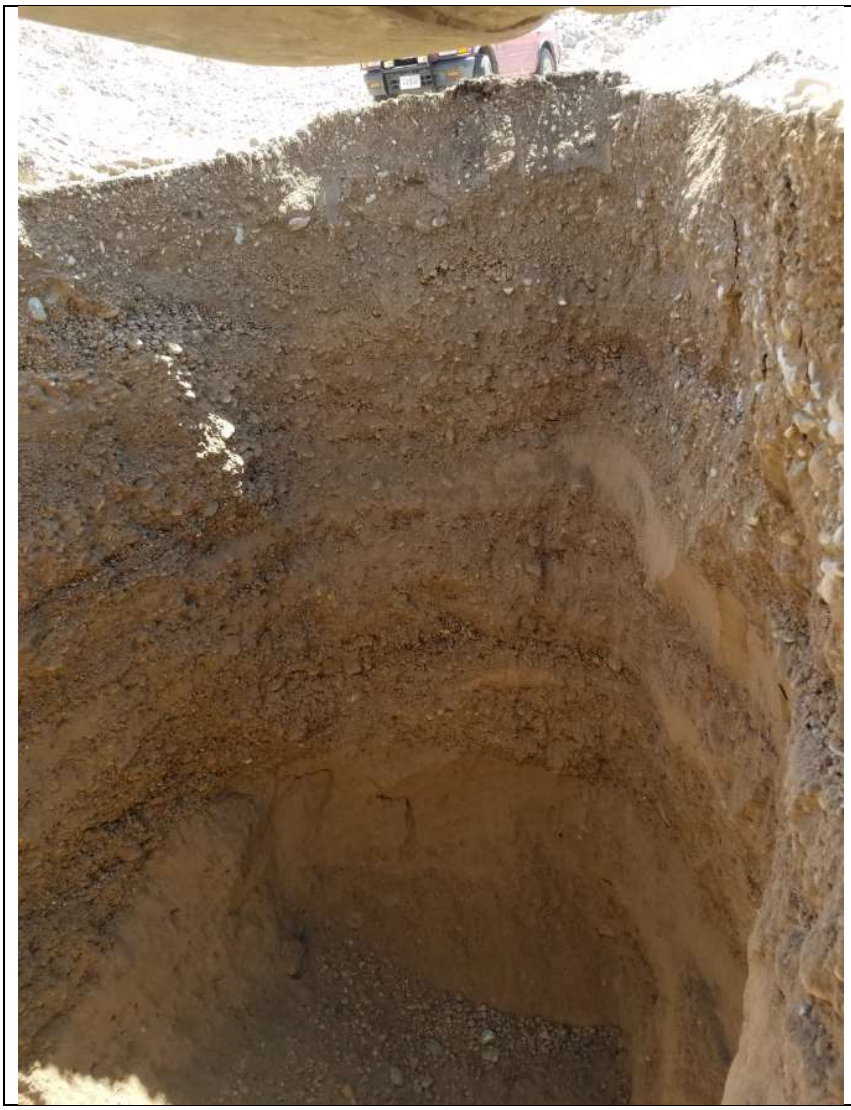
Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 15	Sand, cobbles, coarse gravel
15 - 20	Tan silty clay

*Intercepted abandoned waterline at about 2' bgs (see photo) associated with former gravel pit operations

Test Hole Photos
Logged by: Andrea Stanley (GWE)



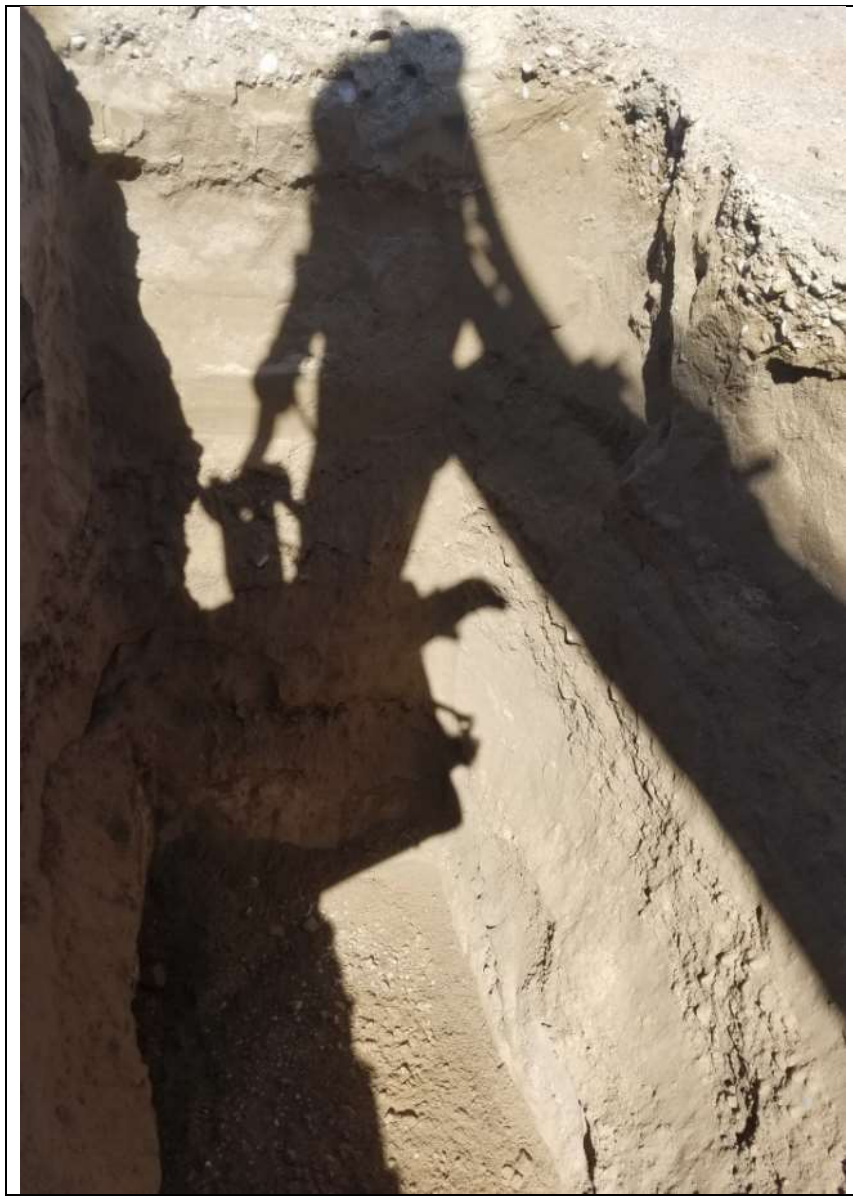
DE9

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 12	Sand, gravel, cobbles
12 - 18	Fine sand
18 - 20	Tan silty clay

Test Hole Photos
Logged by: Andrea Stanley (GWE)



DE10

Date: 4/20/17
Total Depth: 20 feet
Soil: 0 inches
Test hole dry (no groundwater)

Profile:

Depth bgs (feet)	Description
0 – 8	Sand
8 – 10	Sand, cobbles, coarse gravel
10 – 13	Sand
13 – 15	Tan silty clay
15 – 18	Sand, cobbles, coarse gravel
18 - 20	Tan silty clay

Attachment 8

Traffic Impacts

Attachment 8. Traffic Impacts

Polson Tire Depot is owned and operated by the licensee, Vern Reum. Tires are currently delivered to Mr. Reum at the current Tire Depot which is located across Highway 93 from the proposed Tire Landfill location, see Site Map figure in Attachment 2. Once the proposed site is licensed, tires will continue to be delivered to the Tire Depot and the Tire Depot staff will haul approximately four truckloads of processed tires per day across Highway 93 for disposal at the proposed Tire Landfill location. This hauling activity will not negatively impact current traffic patterns on Highway 93 or any of the local roadways.

Attachment 9

Closure Plan

Attachment 9. Closure Plan

Information regarding the closure plan is included in Attachment 1, the O & M Plan, Section VII.

Attachment 10

Deed Notation

NOTICE OF LANDFILL OPERATION
Montana Department of Environmental Quality
Waste & Underground Tank Management Bureau
Solid Waste Program

Underlines and italics in this e-form are a guide...please type in the required info and delete all underlines and italics (including all instructions) before submittal to Solid Waste Program, Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. Questions? Call the Solid Waste Program at 444-5300.

PLEASE TAKE NOTICE as required by the Administrative Rules of Montana (ARM) 17.50.1113 that [a portion of property located within] the deeded tract described below has been or is being used as a landfill facility for the licensed disposal of solid wastes. Future uses are now subject to certain restrictions as to the use of the land according to Administrative Rules of Montana (ARM) 17.50.1404 and Section 75-10-204, Montana Code Annotated (MCA). The deeded tract is described as follows:

Deeded Tract _____ of Certificate of Survey (COS) No. _____ on file in Lake County, Montana, located in the East 1/2 SE 1/4 *(quarter quarter)* of Section 26, Township 22N, Range 20W, P.M.M.

If you wish to segregate out portions of land from the tract above, attach a copy of the survey exhibiting the perimeter of the area(s) affected by solid waste disposal. The location of the perimeter surrounding the waste area(s) is more particularly described in reference to the COS monuments as follows:

Provide legal description of bearing and length of waste boundary segments and acreage contained from the survey:

_____
_____
_____

(If the original notation covers all of the land in the deed, but at closure, you wish to segregate out those portions used for waste disposal, the original notation may be modified with the written approval of the Montana Department of Environmental Quality.)

RESTRICTIONS:

Following closure of the above-described landfill facility (License No._____), the owner's use of the described property must not disturb the integrity of the landfill final cover, liners (if any), or any other components of the containment systems, or the functioning of the monitoring systems (if any) without the written approval of the Montana Department of Environmental Quality. The Department may approve a disturbance if it is necessary to comply with the requirements of the solid waste laws and rules or if the owner demonstrates in writing that it will not increase the potential threat to human health or the environment. ARM 17.50.1404(3)(c); § 75-10-204, MCA.

DATED:_____, 20___

PROPERTY OWNER: _____
(Signature)

BY: _____
Printed Name & Title

STATE OF _____
: ss
County of _____

This instrument was subscribed and sworn before me on the _____day of _____, 20____, by _____*(name)* as _____*(e.g. officer, trustee, etc)* of _____*(property owner).*

_____
(Signature)

[SEAL]

Printed name:_____

Title:_____

Notary Public for the State of _____

Residing at:_____

My commission expires:_____

AGREEMENT

THIS AGREEMENT is made and entered into on this 19th day of January, 2018, by and between **DOUGLAS A. REHBEIN**, in trust and as Trustee, however, under Trust Agreement dated August 1, 2008, entitled the **DOUGLAS A. REHBEINS LIVING TRUST**, and **ANNETTE REHBEIN**, both of P.O. Box 1380, Bigfork, Montana 59911, (hereinafter referred to as "Rehbeins") and **VERNON E. REUM**, of 35414 Courville Trail, Polson, Montana 59860, (hereinafter referred to as "Reum").

WHEREAS Reum is purchasing 40 acres from Rehbeins shown and described as Tract 1 on Subdivision Plat No. 274, records of Lake County, Montana.

WHEREAS Rehbeins, or their designated business entity, have a reclamation bond posted with the Montana Department of Environmental Quality (hereinafter "MT DEQ") to insure reclamation of the subject lands.

WHEREAS Reum is required to take over the MT DEQ bond or replace same with his own bond under the terms of the Purchase Agreement for the above described property..

WHEREAS Reum cannot assume or take over Rehbeins' bond until he acquires title and petitions for his own reclamation plans for the property.

NOW, THEREFORE, in consideration of the mutual advantages to the parties, and other good and valuable consideration, receipt of which is acknowledged, the parties agree as follows:

1. Rehbeins will continue his existing reclamation bond with the Montana Department of Environmental Quality for reclamation of Tract 1 on Subdivision Plat No. 274, located in the E1/2SE1/4 of Section 26, Township 22 North, Range 20 West, P.M.M., Lake County, Montana.

2. Until Reum obtains his own reclamation bond upon the subject property, Reum shall comply with all rules, regulations or other terms of the existing Rehbeins reclamation bond and shall take no action which would jeopardize said existing reclamation bond.

3. Reum will reimburse Rehbeins within 30 days of any demand for all fees, costs, interest or other expense associated with maintenance of the Rehbeins reclamation bond until such time as Reum posts his own bond for reclamation of the above described property, and secures the complete release of the Rehbeins bond. This shall include, but not limited to, bond premiums and attorney fees related to said bond.

4. In the event Reum has not obtained the release of the Rehbeins bond within 2 years, he shall be considered in default of this Agreement. Likewise, should he fail to pay or reimburse Rehbeins for any costs associated with said bond, including premiums, interest, renewal fees and attorney fees he shall be in default. If that default is not cured within 30 days Rehbeins may enter the property and perform such reclamation as is

determined necessary by the Montana Department of Environmental Quality. Additionally, Reum shall pay to Rehbeins all costs of reclamation within 30 days of completion. IN the event Reum fails to pay said cost in a timely manner, then he shall be further obligated to pay a late charge of $1,000.00 plus interest on the remaining balance at 10% per annum until paid in full.

5. Reum shall indemnify and hold Rehbeins harmless from all liability, claims, actions or damages relating to the subject property and the reclamation of same.

6. GOVERNING LAW: This Agreement will be governed by and construed in accordance with the laws of the State of Montana.

7. JURISDICTION: The courts of the 20th Judicial District Court of Montana are to have jurisdiction to decide and settle any dispute or claim arising out of or in connection with this Agreement.

8. ATTORNEY FEES: If either party institutes legal proceedings to enforce the terms of this agreement, the unsuccessful party to the proceedings will pay the reasonable attorney's fees and legal costs of the successful party.

9. ADDITIONAL TERMS: Reum shall cease from selling, or giving away top soil, gravel, or other minerals from his separate real estate described as the E1/2NW1/4SW1/4 of Section 25, Township 22 North, Range 20 West, and Tract B on Certificate of Survey No. 5243, all of Lake County, Montana. Any top soil, minerals or aggragate materials on those properties will be offered to or delivered to Rehbeins and shall not be otherwise removed from the above described property.

10. This Agreement contains all terms and conditions agreed to by the Indemnifier and the Indemnitee. Statements or representations which may have been made by either Party in the negotiation stages of this Agreement may in some way be inconsistent with this final written Agreement. All such statements are declared to be of no value to either Party. Only the written terms of this Agreement will bind the Parties.

11. Any failure of either Party to enforce any of the terms, covenants and conditions in this Agreement does not infer or permit a further waiver of that or any other right or benefit under this Agreement. A waiver by one Party of any right or benefit provided in this Agreement does not infer or permit a further waiver of that right or benefit, nor does it infer or permit a waiver of any other right or benefit provided in this Agreement.

12. This Agreement will pass to the benefit of and be binding upon the Parties' respective heirs, executors, administrators, successors, and permitted assigns.

13. The clauses, paragraphs, and subparagraphs contained in this Agreement are intended to be read and construed independently of each other. If any part of this

Agreement is held to be invalid, this invalidity will not affect the operation of any other part of this Agreement.

14. All of the rights, remedies and benefits provided in this Agreement will be cumulative and will not be exclusive of any other such rights, remedies and benefits allowed by law or equity that the Parties may have now or may acquire in the future.

15. Time is of the essence in this Agreement.

16. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which together will be deemed to be one and the same instrument.

17. Headings are inserted for the convenience of the Parties only and are not to be considered when interpreting this Agreement. Words in the singular mean and include the plural and vice versa. Words in the masculine gender include the feminine gender and vice versa. Words in the neuter gender include the masculine gender and the feminine gender and vice versa.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

REHBEINS:

DOUGLAS A. REHBEINS LIVING TRUST

BY: _____
DOUGLAS A. REHBEIN, Trustee
Date: 1/19/18

_____
ANNETTE REHBEIN
Date: 1/19/18

REUM:

_____
VERNON E. REUM
Date: 1-5-18

560219 DEED Pages: 2
STATE OF MONTANA LAKE COUNTY
RECORDED: 01/19/2018 4:20 KOI: DEED
PAULA A HOLLE CLERK AND RECORDER
FEE: $14.00 BY: Janet Munn dep
TO: ,

Return to:
Vernon Reum
35414 Courville Trail
Polson, MT 59860

FT170513

WARRANTY DEED

THIS INDENTURE Is made the 19th day of January, 2018, by and between, **DOUGLAS A. REHBEIN,** as Trustee of the **DOUGLAS A. REHBEIN LIVING TRUST, and ANNETTE REHBEIN,** of P.O. Box 1380, Bigfork, Montana 59911**, Grantors,** and **VERNON E. REUM**, of 35414 Courville Trail, Polson, Montana 59860**, Grantee.**

W I T N E S S E T H :

That the said Grantors, for and in consideration of the sum of **TEN DOLLARS AND OTHER GOOD AND VALUABLE CONSIDERATION**, lawful money of the United States of America to Grantors in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, do by these presents grant, bargain, sell, convey and confirm unto the said Grantee, and to Grantee's heirs, successors and assigns forever, all that certain lot, piece or parcel of land, situate, lying and being in the County of Lake, State of Montana, and particularly described as follows:

A tract of land located in the E1/2SE1/4 of Section 26, Township 22 North, Range 20 West, P.M.M., Lake County, Montana, further shown and described as being Tract 1 on Subdivision Plat No. 274, records of Lake County, Montana.

Reserving unto Grantor all excess top soil, and all gravel or other aggregate materials.

SUBJECT TO the following restrictive covenants:

1. There shall be no dumping of rubbish or hazardous materials. Any waste, tires, or other non-natural materials shall not be disposed or stored above elevation of the natural terrain.

2. No billboard type signs will be placed on the property.

These covenants may only be removed with the written consent of the owners of Amended Amended Tract B on Subdivision Plat No. 274, records of Lake County, Montana.

FUTHER SUBJECT TO AND TOGETHER WITH easements, reservations, restrictions, covenants, agreements, conditions and rights-of-way apparent or of record, Lake County.

TOGETHER WITH all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining and the reversion and reversions, remainder or remainders, rents, issues and profits thereof, and also all the right, title, interest and right of homestead property possession, claim and demand whatsoever, as well in law as in equity of the said Grantors of, in or to the said premises, and every part and parcel thereof, with the appurtenances. TO HAVE AND TO HOLD, all and singular, the above mentioned and described premises, together with the appurtenances unto the said Grantee, and to Grantee's heirs, successors and assigns forever.

And the said Grantors and Grantors' heirs, successors and assigns, do hereby covenant that Grantors will forever WARRANT AND DEFEND all right, title and interest in and to the said premises, and the quiet and peaceable possession thereof unto the said Grantee, and to Grantee's heirs, successors and assigns, against the acts and deeds of the said Grantors and all and every person and persons whomsoever, lawfully claiming or to claim the same.

IN WITNESS WHEREOF, the said Grantors have hereunto set their hands and seals the day and year above first written.

DOUGLAS A. REHBEIN LIVING TRUST

BY: _____ _____

DOUGLAS A. REHBEIN, Trustee **ANNETTE REHBEIN**

STATE OF MONTANA)
:SS.
County of Lake)

On this 19 day of January, 2018, before me, the undersigned, a Notary Public for the State aforesaid, personally appeared **DOUGLAS A. REHBEIN,** as Trustee of the **DOUGLAS A. REHBEIN LIVING TRUST**, and **ANNETEE REHBEIN** and whose names are subscribed to the within instrument and acknowledged to me that they executed the same in that capacity.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year above first written.

TRUDY L PEDERSEN NOTARIAL SEAL STATE OF MONTANA

TRUDY L PEDERSEN
NOTARY PUBLIC for the
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018.

_____
Notary Public for the State of Montana

_____
Printed Name of Notary

RIGHT OF FIRST REFUSAL

This agreement being entered into the 19th day of January, 2018, by and between **VERNON E. REUM**, of 35414 Courville Trail, Polson, Montana 59860, hereinafter "Reum", **and DOUGLAS A. REHBEIN** and **ANNETTE REHBEIN**, of P.O. Box 1380, Bigfork, Montana 59911, hereinafter "Rehbeins".

REUM grants to REHBEINS the right of first refusal to purchase the following described real property, to-wit:

The E1/2SE1/4 of Section 26, Township 22 North, Range 20 West, P.M.M., Lake County, Montana.

EXCEPTING THEREFROM a portion of the NE1/4SE1/4 of said Section 26, Township 22 North, Range 20 West, P.M.M., described as follows:

Beginning at the East ¼ corner of said Section 26, thence Norht 89°49' West 690.70; thence South 0°01' East 990.0 feet; thence South 89°49 East 690.70 feet to the East line of said Section 26; thence North 0°01' West along said East line 990.00 feet to the point of beginning. Deed Exhibit H-948.

AND ALSO

EXCEPTING THEREFROM those lands conveyed to the Montana Department of Transportation by Bargain and Sale Deed; recorded March 13, 2006 under Microfile No. 467403, records of Lake County, Montana.

AND ALSO

TOGETHER WITH access rights as reserved in Bargain and Sale Deed, recorded March 13, 2006 under Microfile No. 467403, records of Lake County, Montana.

FURTHER IDENTIFIED AS TRACT 1 ON SUBDIVISION PLAT NO. 274, RECORDS OF LAKE COUNTY, MONTANA.

SUBJECT TO AND TOGETHER WITH easements, reservations, restrictions, agreements, covenants, conditions and rights of way apparent or of record, Lake County, Montana.

In the event REUM, receives a bona fide offer for said real property, REUM, his heirs, successors and assigns, agree to provide REHBEINS a notice of such offer or offers, in writing via certified mail and REHBEINS shall have fourteen (14) days from the date of said notice or personal service, in which to give notice of intent to exercise their right to purchase said real property according to the same terms as contained in said bona fide offer or REHBEINS shall be deemed to have released this Right of First Refusal.

Upon exercise of the right of first refusal, REHBEINS shall have at least 30 days to close said purchase in a commerically reasonable fashion with closing costs split in the customary fasion..

The written notice required by this Right of First Refusal shall be made by certified mail to REHBEIN at the above address or such new address as is provided to REUM. The 14-day time period shall commence to run on the day after mailing.

This Right of First Refusal is enforceable by REHBEINS, their heirs, successors and assigns.

This Right of First Refusal cannot be assigned or sold.

Vernon E. Reum

VERNON E. REUM

STATE OF MONTANA)
:SS.
County of Lake)

On this day of 19th January, 2018, before me, the undersigned, a Notary Public for the State aforesaid, personally appeared **VERNON E. REUM** known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and date in this Certificate first above written.

TRUDY L PEDERSEN
NOTARY PUBLIC
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018.

TRUDY L PEDERSEN NOTARIAL SEAL STATE OF MONTANA

Trudy L Pedersen

Notary Public for the State of Montana

Printed Name of Notary

Return:
Montana Department of Transportation
Right–of–Way Bureau
PO Box 201001
Helena, MT 59620–1001

467403

STATE OF MONTANA, COUNTY OF LAKE
Recorded At 9:12 O'clock A M MAR 13 2006
Microfilm 467403 RUTH E. HODGES Recorder
Fees $ 42.00 By Deputy

Access to property

ROW\Forms\Pln\521

Revised 11/18/04

State of Montana
Department of Transportation

Right-of-Way Bureau
2701 Prospect Avenue
PO Box 201001
Helena, MT 59620-1001

Project ID: NH 0002(418) Parcel No.: 5-89 County: Lake
Designation: US 93 – Corridor Preservation
(Ronan – Polson Section)
Project No.: 1744-418

Bargain and Sale Deed

This Deed, made this 9th day of December, 2005, in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration now paid, the receipt of which is acknowledged, **witnesses that,**

Douglas A. Rehbein
P.O. Box 1368
Polson, MT 59860-1368

does hereby **grant, bargain, sell** and **convey** to the **Montana Department of Transportation** the following-described real property:

Parcel No. 5-89 on Montana Department of Transportation Project NH 0002(418), as shown on the Right-of-Way plan for said project recorded in the office of the County Clerk and Recorder of Lake County, Montana. Said parcel is also described as a tract of land in the E½SE¼ of Section 26, Township 22 North, Range 20 West, P.M.,M., Lake County, Montana, as shown by the shaded area on the plat, consisting of 2 sheets, attached hereto and made a part hereof, containing an area of 4.218 ha (10.42 acres), more or less.

ALSO, the Grantor hereby conveys to the MONTANA DEPARTMENT OF TRANSPORTATION all rights of ingress and egress over and across the access control lines shown on said attached plat.

Grantor reserves the right to reasonable access to and from the above-mentioned project and the adjacent property of the Grantor, subject to the Access Control Resolution for the above referenced project on file in Lake County, Montana and any subsequent and/or amended resolution(s).

It is expressly intended and agreed that these covenants, burdens and restrictions shall run with the land and shall forever bind the Grantor(s), his heirs, successors, and assigns.

ROW:D1:1744:p5-89:alb

467403

Parcel No.: 5-89

Bargain And Sale Deed
Project ID: NH 0002(418)
Designation: US 93 - Corridor Preservation
(Ronan - Polson Section)

Excepting and reserving to Grantor(s), however, all gas, oil and minerals beneath the surface of the above-described and conveyed premises, together with the right to extract the same, provided that in the exercise of such right, the surface thereof shall not be disturbed, interfered with or damaged. This exception and reservation does not include sand, gravel and other road building materials, which are conveyed by this Deed.

Further excepting and reserving unto the Grantor(s), his heirs, successors and assigns, all water, water rights, ditches, canals, irrigation systems, existing or as relocated, if any, including but not limited to, water stock or shares, bonds, certificates, contracts and any and all other indicia of water, water right and ditch ownership, or any interest therein appurtenant to the land described therein, save and except groundwater for the use, benefit and purposes of the Grantee(s).

To have and to hold the above-described and conveyed premises, with all the reversions, remainders, tenements, hereditaments and appurtenances thereto, unto the Montana Department of Transportation, and to its successors and assigns forever.

This Deed was executed on the date of its last acknowledgment.

State of Montana)
County of Lake)

This instrument was acknowledged before me on 12-9-05
(date)

by Douglas A Rehbein
(names)

DAN W. EASTMAN NOTARY PUBLIC STATE OF MONTANA (Seal)

Notary Signature Line

DAN W. EASTMAN
Notary Printed Name

Notary Public for State of Montana
Residing at: 735 Pendavilla Dr. Polson
My Commission Expires: June 4th 2008

State of)
County of)

This instrument was acknowledged before me on
(date)

by
(names)

Notary Signature Line

(Seal)

Notary Printed Name

Notary Public for State of
Residing at:
My Commission Expires:

Recording Information

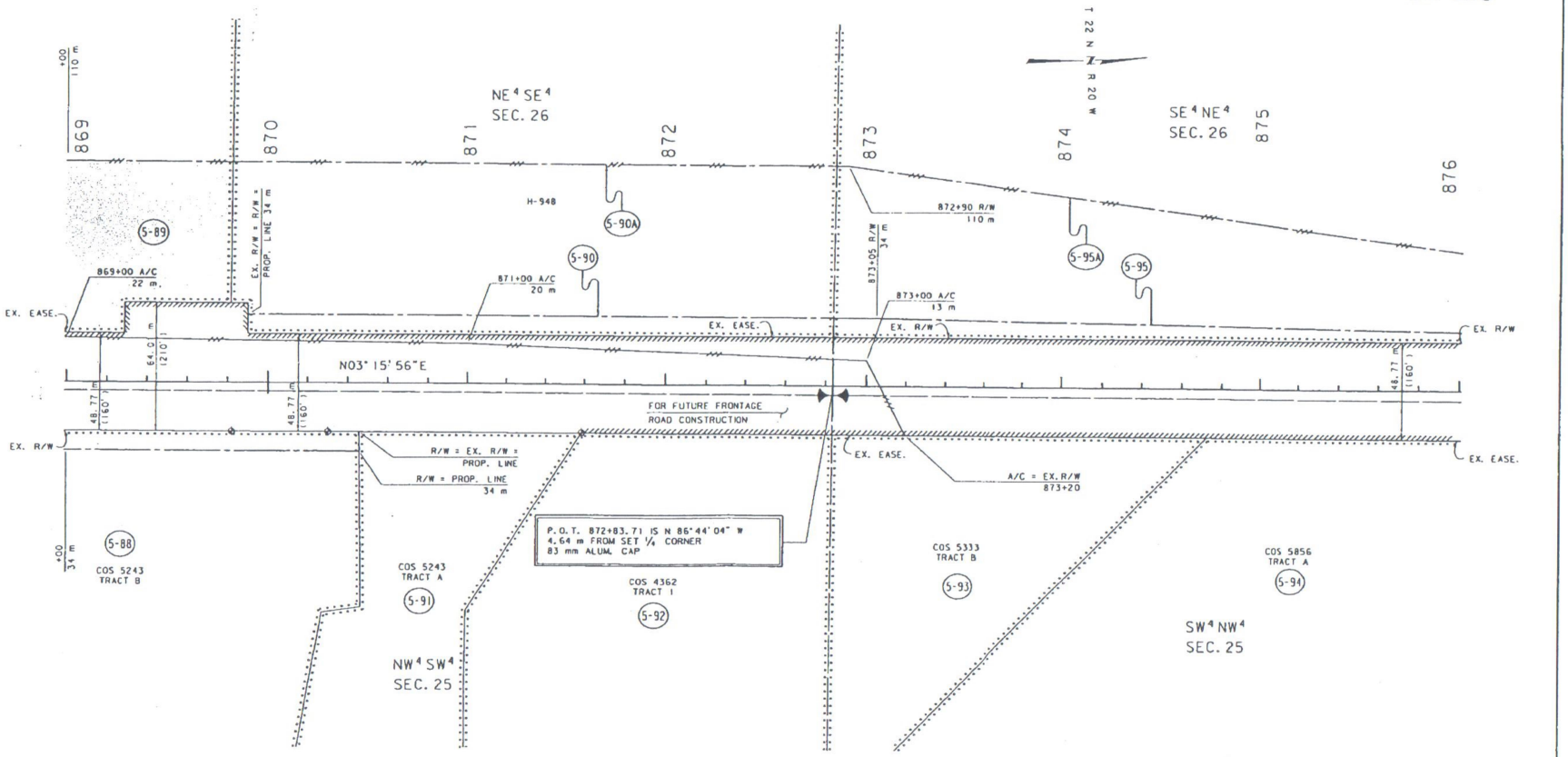
467403

STATE	RIGHT-OF-WAY ID	SHEET NO.	TOTAL SHEETS
MONTANA	NH 0002(41B)		

PROJECT NUMBER 1744-41B

US 93 - CORRIDOR PRESERVATION
(RONAN - POLSON SECTION)

467403



PARCEL 5-89; SHEET 2 OF 2

STATE PLANE GRID COORDINATES
THIS IS A STATE PLANE COORDINATE PROJECT.
ALL DIMENSIONS, DISTANCES AND AREAS ON THIS PROJECT ARE GRID, EXCEPT FOR THE EXISTING R/W WIDTH, WHICH IS RECORD.
THE COMBINED SCALE FACTOR USED IS 0.9993

NOTES:
1. ALL MEASUREMENTS ARE METRIC EXCEPT AS NOTED
2. THE PROPOSED R/W LINE WHERE A SPIRAL CURVE TRANSITION IS USED IS A CHORD RATHER THAN A CONCENTRIC CURVE.
3. THE ENGLISH AREAS ARE FOR INFORMATIONAL PURPOSES ONLY.
4. ALL STATIONS AND OFFSETS FOR R/W BREAKS ARE IN REFERENCE TO THE R/W BASELINE.

LEGEND

OWNERSHIP BOUNDARY		TRACT CONVEYED	
RIGHT OF WAY LINE			
R.R. R/W LINE		DATE PREPARED	9-14-05
CENTERLINE		DATE REVISED	
FULL ACCESS CONTROL	AC AC	THIS PLAT IS PREPARED FROM THE MONTANA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLANS & RECORDED IN THE OFFICE OF THE COUNTY CLERK AND RECORDER.	
LIMITED ACCESS CONTROL			

MONTANA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY EXHIBIT
LAKE COUNTY
SCALE 1:1000
0 50M 100M

MONTANA DEPARTMENT OF TRANSPORTATION
MONTANA DOT
SKILLINGS CONSULTANTS
RDROW

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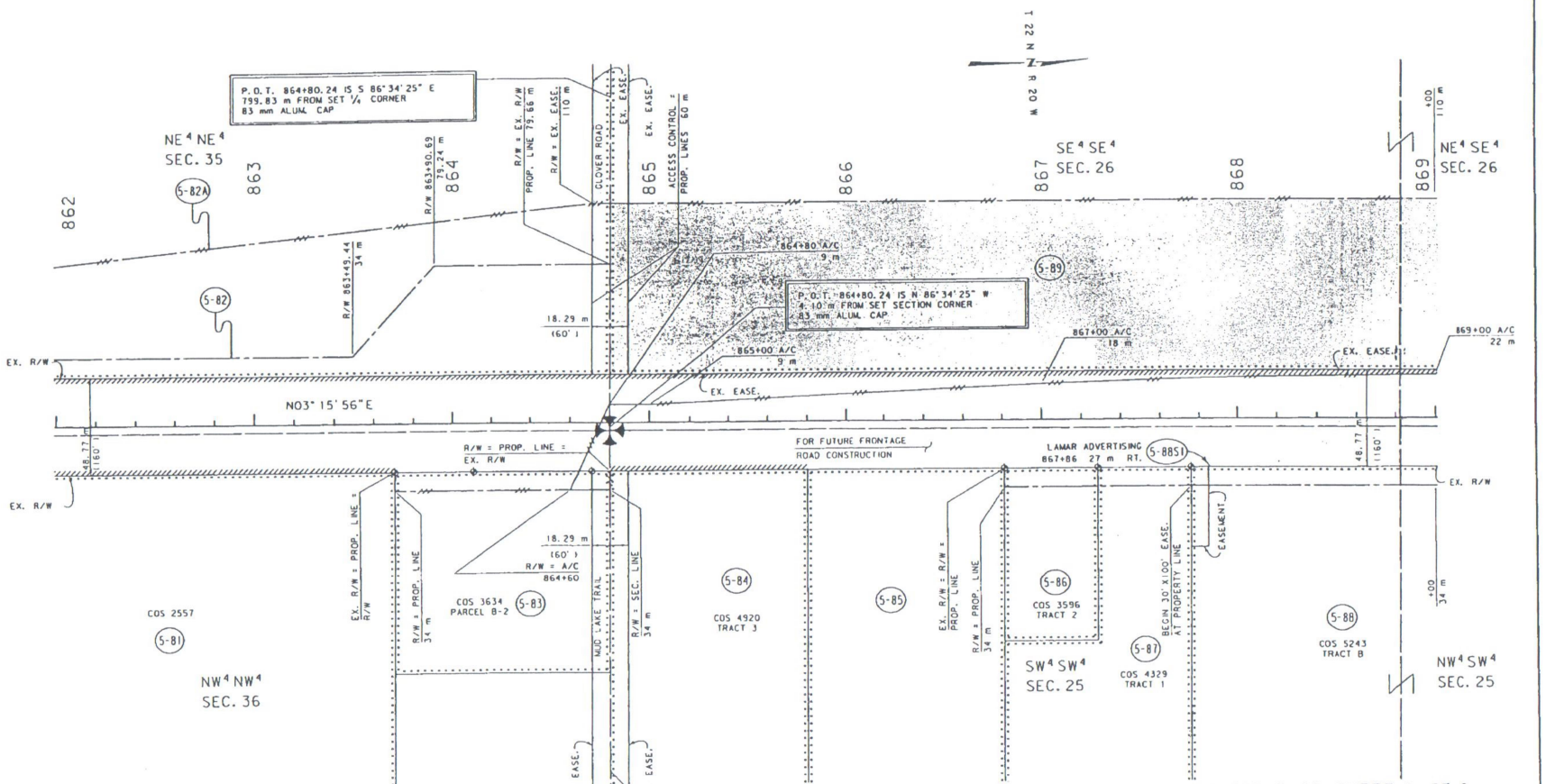
467403

STATE	RIGHT-OF-WAY ID	SHEET NO.	TOTAL SHEETS
MONTANA	NH 0002(418)		

PROJECT NUMBER 1744-418

US 93 - CORRIDOR PRESERVATION
(RONAN - POLSON SECTION)



PARCEL 5-89; SHEET 1 OF 2

STATE PLANE GRID COORDINATES

THIS IS A STATE PLANE COORDINATE PROJECT. ALL DIMENSIONS, DISTANCES AND AREAS ON THIS PROJECT ARE GRID, EXCEPT FOR THE EXISTING R/W WIDTH, WHICH IS RECORD. THE COMBINED SCALE FACTOR USED IS 0.9993

L E G E N D

OWNERSHIP BOUNDARY	TRACT CONVEYED
RIGHT OF WAY LINE	DATE PREPARED 9-14-05
R.R. R/W LINE	DATE REVISED
CENTERLINE	THIS PLAT IS PREPARED FROM THE MONTANA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY PLANS & RECORDED IN THE OFFICE OF THE COUNTY CLERK AND RECORDER.
FULL ACCESS CONTROL	
LIMITED ACCESS CONTROL	

MONTANA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY EXHIBIT
LAKE COUNTY

SCALE 1:1000

0 50M 100M

MONTANA DEPARTMENT OF TRANSPORTATION

MONTANA CADD

SKILLINGS CONNOLLY

RDROW

1744A 065-B2.dgn
9/14/2005
2:39:42 PM
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SUBDIVISION PLAT 274 INCLUDING AMENDED TRACT B, SP 170 & PORTIONS OF THE E 1/2, SE 1/4 SECTION 26 T.22 N.,R.20 W.,P.M.M., LAKE COUNTY MT.

BASIS OF BEARINGS;
MSP GRID NORTH NAD 83

0' 300' 600' 900'

SCALE 1" = 300'

COS No. 5057

FOUND DIMENSION			RECORD DIMENSION SP 170		
LINE	BEARING	HORIZ DIST	LINE	BEARING	HORIZ DIST
L1	N5°54'34"E	2191.56'	L1	N2°56'27"E	2191.56'
L2	N84°05'26"W	423.05'	L2	N87°23'33"W	423.05'
L3	N5°54'34"E	1716.93'	L3	N2°36'27"E	1716.93'
L4	N86°35'20"W	625.60'	L4	N89°53'27"W	625.60'
L5	S3°18'31"W	3922.78'	L5	S0°00'24"W	3922.78'
L6	S86°33'35"E	870.86'	L6	S89°51'42"E	870.86'
L7	N5°58'05"E	1104.54'	L7	N2°39'58"E	1104.54'
L8	N15°07'26"W	357.42'	L8	N18°25'35"W	357.42'
L9	N39°48'13"W	148.49'	L9	N43°06'20"W	148.49'
L10	N17°43'40"W	136.27'	L10	N21°01'47"W	136.27'
L11	N15°43'59"E	171.37'	L11	N12°25'52"E	171.37'
L12	N9°10'14"E	359.67'	L12	N5°52'07"E	359.67'
L13	N19°34'59"W	204.00'	L13	N22°53'06"W	204.00'
L14	S86°34'48"E	1249.35'	RECORD COS 5684		
L15	N3°14'15"E	706.06'			
L16	N86°27'34"W	314.77'	L16	N89°47'56"W	545.96
L17	N3°19'13"E	990.00'	L17	N0°00'55"W	990.00'
L18	N86°27'32"W	856.77'	L18	N89°47'56"W	888.21'
L19	S5°54'34"W	1700.14'	L19	S5°54'34"W	1700.14'
L20	S5°54'34"W	943.62'			
L21	S86°34'48"E	1293.34'			
L22	N3°14'15"E	942.74'			

LEGEND

DENOTES OWNERSHIP TIE

DENOTES ANGLE POINT, NOTHING FOUND OR SET.

DENOTES SET 5/8" X 24" REBAR WITH 1 1/4" YPC STAMPED "M. CARSTENS 5940LS".

DENOTES FOUND 5/8" REBAR WITH 1 1/4" YPC STAMPED "MARENGO 9012 S".

DENOTES FOUND AS NOTED.

RM DENOTES REFERENCE MONUMENT

PURPOSE OF SURVEY & OWNERS' CERTIFICATE:

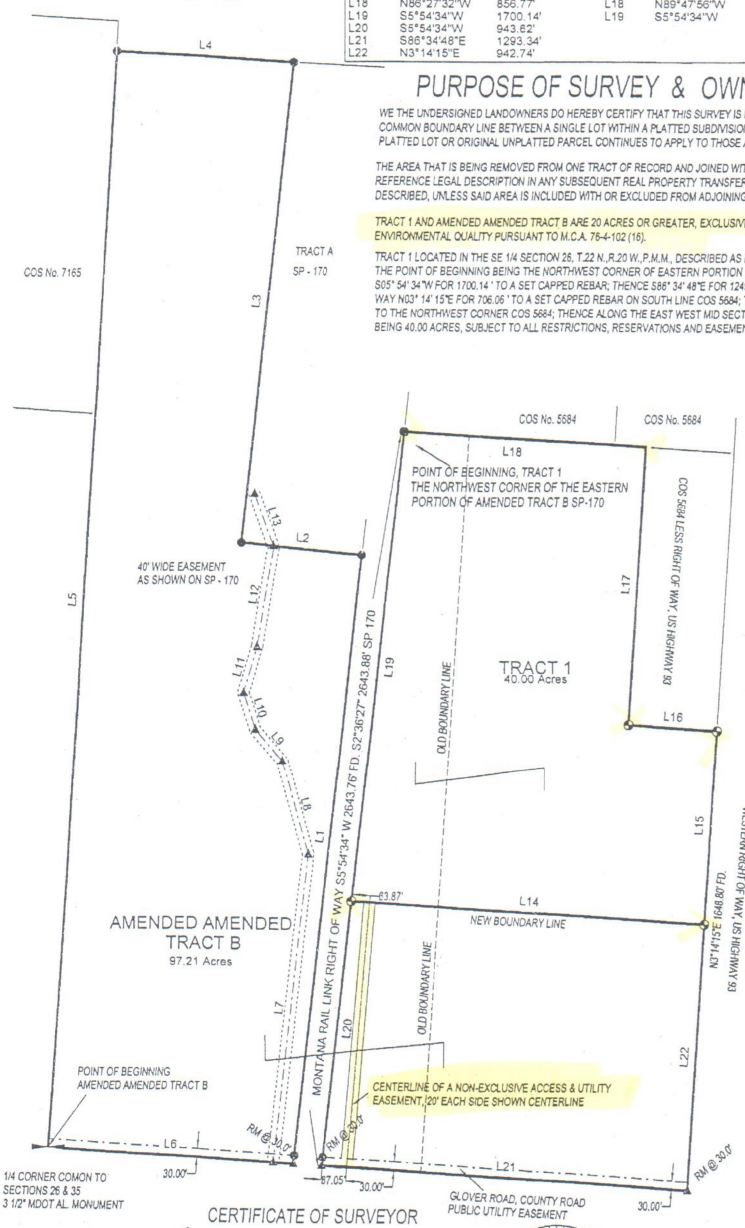
WE THE UNDERSIGNED LANDOWNERS DO HEREBY CERTIFY THAT THIS SURVEY IS FILED PURSUANT TO SECTION 76-3-207 (1) (e) MCA TO WIT: DIVISIONS MADE FOR THE PURPOSE OF RELOCATING A COMMON BOUNDARY LINE BETWEEN A SINGLE LOT WITHIN A PLATTED SUBDIVISION AND ADJOINING LAND OUTSIDE A PLATTED SUBDIVISION. A RESTRICTION OR REQUIREMENT ON THE ORIGINAL PLATTED LOT OR ORIGINAL UNPLATTED PARCEL CONTINUES TO APPLY TO THOSE AREAS.

THE AREA THAT IS BEING REMOVED FROM ONE TRACT OF RECORD AND JOINED WITH ANOTHER TRACT OF RECORD IS NOT ITSELF A TRACT OF RECORD. SAID AREA SHALL NOT BE AVAILABLE AS A REFERENCE LEGAL DESCRIPTION IN ANY SUBSEQUENT REAL PROPERTY TRANSFER AFTER THE INITIAL TRANSFER ASSOCIATED WITH THE CERTIFICATE OF SURVEY ON WHICH SAID AREA IS DESCRIBED, UNLESS SAID AREA IS INCLUDED WITH OR EXCLUDED FROM ADJOINING TRACTS OF RECORD.

TRACT 1 AND AMENDED AMENDED TRACT B ARE 20 ACRES OR GREATER, EXCLUSIVE OF PUBLIC ROADWAYS, AND IS THEREFORE NOT SUBJECT TO SANITATION REVIEW BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY PURSUANT TO M.C.A. 76-4-102 (16).

TRACT 1 LOCATED IN THE SE 1/4 SECTION 26, T.22 N.,R.20 W.,P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE NORTHWEST CORNER OF EASTERN PORTION OF AMENDED TRACT B, SP 170; THENCE ALONG THE EASTERN EDGE OF MONTANA RAIL LINK RIGHT OF WAY, S05° 54' 34"W FOR 1700.14 ' TO A SET CAPPED REBAR; THENCE S86° 34' 48"E FOR 1249.35 ' TO A SET CAPPED REBAR ON THE WESTERLY EDGE OF US HIGHWAY 93 ; THENCE ALONG SAID RIGHT OF WAY N03° 14' 15"E FOR 706.06 ' TO A SET CAPPED REBAR ON SOUTH LINE COS 5684; THENCE N86° 27' 34"W FOR 314.77 ' TO THE SOUTHWEST CORNER COS 5684; THENCE N03° 19' 13"E FOR 990.00 ' TO THE NORTHWEST CORNER COS 5684; THENCE ALONG THE EAST WEST MID SECTION LINE OF AFORE MENTIONED SECTION 26 N86° 27' 32"W FOR 856.77 ' TO THE POINT OF BEGINNING, THE AREA BEING 40.00 ACRES, SUBJECT TO ALL RESTRICTIONS, RESERVATIONS AND EASEMENTS, APPARENT OR OF RECORD.

AMENDED AMENDED TRACT B LOCATED IN A PORTION OF THE SE 1/4, SW 1/4 NE 1/4 SECTION 26, T.22 N.,R.20 W. P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE 1/4 CORNER COMMON TO SECTIONS 26 AND 35; THENCE S86° 33' 35"E FOR 870.86 ' TO A POINT OF INTERSECTION, OF SAID LINE COMMON TO SECTIONS 26 AND 35, AND THE WESTERN EDGE ON MONTANA RAIL LINK RIGHT OF WAY; THENCE ALONG SAID RAIL LINK N05° 54' 34"E FOR 2191.56 ' TO THE SOUTHEAST CORNER AMENDED TRACT A SP-170; THENCE N84° 05' 26"W FOR 423.05 ' TO THE SOUTHWEST CORNER AMENDED TRACT A, SP 170; THENCE N05° 54' 34"E FOR 1716.93 ' TO THE NORTHWEST CORNER AMENDED TRACT A SP-170; THENCE N86° 35' 20"W FOR 625.60 ' TO A POINT ON THE NORTH SOUTH MID SECTION LINE, OF AFORE MENTIONED SECTION 26; THENCE S03° 18' 31"W FOR 3922.78 ' TO SAID COMMON 1/4 CORNER, ALONG WITH AND INCLUDING THE FOLLOWING; BEGINNING AT THE SOUTHWEST CORNER OF THE EASTERN PORTION OF AMENDED TRACT B SP-170; THENCE CONTINUING ALONG THE LINE COMMON TO SECTIONS 26 & 35 S86° 34' 48"E FOR 1293.34 ' TO THE WESTERLY EDGE OF US HIGHWAY 93 RIGHT OF WAY; THENCE ALONG SAID RIGHT OF WAY, N03° 14' 15"E FOR 942.74 ' ; THENCE N86° 34' 48"W FOR 1249.35 ' TO A SET CAPPED REBAR ON THE EASTERLY EDGE OF MONTANA RAIL LINK RIGHT OF WAY; THENCE ALONG SAID RIGHT OF WAY, S05° 54' 34"W FOR 943.62 TO AFORE MENTIONED SOUTHEAST CORNER OF EASTERN PORTION, THE TOTAL AREA BEING 97.21 ACRES, SUBJECT TO ALL RESTRICTIONS, RESERVATIONS AND EASEMENTS, APPARENT OR OF RECORD.



DOUGLAS A. REHBEIN

ANNETTE REHBEIN

TRUDY L PEDERSEN
NOTARY PUBLIC for the
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018.

STATE OF Montana
COUNTY OF Lake
THIS DOCUMENT WAS SIGNED OR ACKNOWLEDGED BEFORE ME ON THIS DATE: 11/28/2017
BY DOUGLAS A. REHBEIN
(PRINT NAME)
(SIGNATURE)
ACTING IN THE CAPACITY OF Trustee
ON BEHALF OF
DOUGLAS A. REHBEIN LIVING TRUST
NOTARY SIGNATURE
RESIDING AT
MY COMMISSION EXPIRES

TRUDY L PEDERSEN
NOTARY PUBLIC for the
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018.

STATE OF Montana
COUNTY OF Lake
ON THIS 5th DAY OF Jan 2018
BEFORE ME PERSONALLY APPEARED
ANNETTE REHBEIN
KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME HE EXECUTED THE SAME.
(NOTARY SIGNATURE)
(NOTARY PRINTED)
NOTARY PUBLIC FOR THE STATE OF
RESIDING AT
MY COMMISSION EXPIRES

GOVERNING BODY APPROVAL

THE COUNTY COMMISSION OF LAKE COUNTY, MONTANA DOES HEREBY CERTIFY THAT IT HAS EXAMINED THIS SUBDIVISION PLAT AND HAVING FOUND THE SAME TO CONFORM TO LAW, APPROVES IT.

CHAIRMAN
COMMISSIONER
COMMISSIONER
COMMISSIONER
ATTEST: CLERK & RECORDER

LAKE COUNTY EXAMINING SURVEYOR — DATE 20 November
LAKE COUNTY PLANNING DEPT. — DATE 1/11/18
LAKE COUNTY SANITATION DEPT. — DATE 1/8/2018

MONTANA
DONALD M. ROEDEL
No. 10999LS
LICENSED PROFESSIONAL LAND SURVEYOR

CERTIFICATE OF SURVEYOR

MARC J. CARSTENS DATE OF SURVEY 10/10/2017 — 11/16/17

MONTANA
MARC J. CARSTENS
5940 LS
PROFESSIONAL LAND SURVEYOR

TREASURER'S CERTIFICATE
STATE OF MONTANA
COUNTY OF Lake
I HEREBY CERTIFY THAT REAL PROPERTY TAXES ASSESSED AND LEVIED ON THE LANDS DESCRIBED IN THE WITHIN PLAT ARE PAID. THIS CERTIFICATE IS MADE AS REQUIRED BY SECTION 76-3-207 (3) MCA.
DATED THIS 18 DAY OF Jan 2018
TREASURER

COUNTY TREASURER
OFFICIAL SEAL
LAKE COUNTY, MONTANA

SURVEY PREPARED AT THE REQUEST OF RECORD OWNERS:
DOUGLAS A. REHBEIN LIVING TRUST
ANNETTE REHBEIN

560110 PLATS Pages: 1
STATE OF MONTANA LAKE COUNTY
RECORDED: 01/11/2018 3:56 KOI: PLATS
PAULA A HOLLE CLERK AND RECORDER
FEE: $26.00 BY:
TO: LAKE COUNTY PERMANENT FILES , 106 4TH AVE E. POLSON MT

SP-274

"This plat is provided solely for the purpose of assisting in locating the land and the company assumes no liability for variations, if any, with actual survey."
Fidelity Title Agency of Lake County

L16	N86°27'34"W	314.77'	L16	N89°47'56"W	545.96
L17	N3°19'13"E	990.00'	L17	N0°00'55"W	990.00'
L18	N86°27'32"W	856.77'	L18	N89°47'56"W	888.21'
L19	S5°54'34"W	1700.14'	L19	S5°54'34"W	1700.14'
L20	S5°54'34"W	943.62'			
L21	S86°34'48"E	1293.34'			
L22	N3°14'15"E	942.74'			

PURPOSE OF SURVEY & OWNERS' CERTIFICATE:

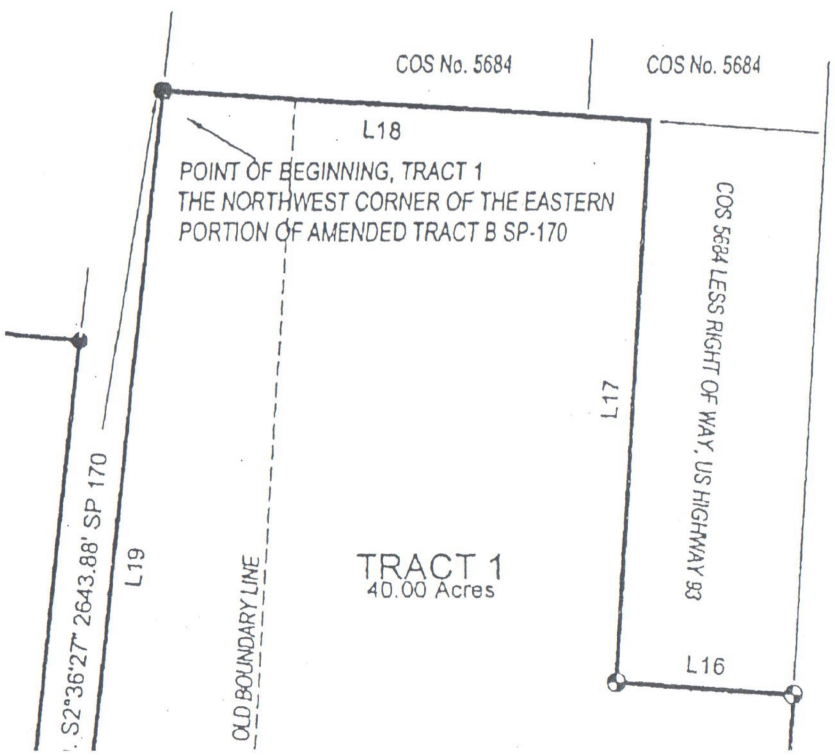
WE THE UNDERSIGNED LANDOWNERS DO HEREBY CERTIFY THAT THIS SURVEY IS FILED PURSUANT TO SECTION 76-3-207 (1) (e) MCA TO WIT: DIVISIONS MADE FOR THE PURPOSE OF RELOCATING A COMMON BOUNDARY LINE BETWEEN A SINGLE LOT WITHIN A PLATTED SUBDIVISION AND ADJOINING LAND OUTSIDE A PLATTED SUBDIVISION. A RESTRICTION OR REQUIREMENT ON THE ORIGINAL PLATTED LOT OR ORIGINAL UNPLATTED PARCEL CONTINUES TO APPLY TO THOSE AREAS.

THE AREA THAT IS BEING REMOVED FROM ONE TRACT OF RECORD AND JOINED WITH ANOTHER TRACT OF RECORD IS NOT ITSELF A TRACT OF RECORD. SAID AREA SHALL NOT BE AVAILABLE AS A REFERENCE LEGAL DESCRIPTION IN ANY SUBSEQUENT REAL PROPERTY TRANSFER AFTER THE INITIAL TRANSFER ASSOCIATED WITH THE CERTIFICATE OF SURVEY ON WHICH SAID AREA IS DESCRIBED, UNLESS SAID AREA IS INCLUDED WITH OR EXCLUDED FROM ADJOINING TRACTS OF RECORD.

TRACT 1 AND AMENDED AMENDED TRACT B ARE 20 ACRES OR GREATER, EXCLUSIVE OF PUBLIC ROADWAYS, AND IS THEREFORE NOT SUBJECT TO SANITATION REVIEW BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY PURSUANT TO M.C.A. 76-4-102 (16).

A

TRACT 1 LOCATED IN THE SE 1/4 SECTION 26, T.22 N.,R.20 W.,P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE NORTHWEST CORNER OF EASTERN PORTION OF AMENDED TRACT B, SP 170; THENCE ALONG THE EASTERN EDGE OF MONTANA RAIL LINK RIGHT OF WAY, S05° 54' 34"W FOR 1700.14 ' TO A SET CAPPED REBAR; THENCE S86° 34' 48"E FOR 1249.35 ' TO A SET CAPPED REBAR ON THE WESTERLY EDGE OF US HIGHWAY 93 ; THENCE ALONG SAID RIGHT OF WAY N03° 14' 15"E FOR 706.06 ' TO A SET CAPPED REBAR ON SOUTH LINE COS 5684; THENCE N86° 27' 34"W FOR 314.77 ' TO THE SOUTHWEST CORNER COS 5684; THENCE N03° 19' 13"E FOR 990.00 ' TO THE NORTHWEST CORNER COS 5684; THENCE ALONG THE EAST WEST MID SECTION LINE OF AFORE MENTIONED SECTION 26 N86° 27' 32"W FOR 856.77 ' TO THE POINT OF BEGINNING, THE AREA BEING 40.00 ACRES, SUBJECT TO ALL RESTRICTIONS, RESERVATIONS AND EASEMENTS, APPARENT OR OF RECORD.



AMENDED AMENDED TRACT B LOCATED IN A PORTION OF THE SE 1/4, SW 1/4 NE 1/4 SECTION 26, T.22 N.,R.20 W. P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE 1/4 CORNER COMMON TO SECTIONS 26 AND 35; THENCE S86° 33' 35"E FOR 870.86 ' TO A POINT OF INTERSECTION, OF SAID LINE COMMON TO SECTIONS 26 AND 35, AND THE WESTERN EDGE ON MONTANA RAIL LINK RIGHT OF WAY; THENCE ALONG SAID RAIL LINK N05° 54' 34"E FOR 2191.56 ' TO THE SOUTHEAST CORNER AMENDED TRACT A SP-170; THENCE N84° 05' 26"W FOR 423.05 ' TO THE SOUTHWEST CORNER AMENDED TRACT A, SP 170; THENCE N05° 54' 34"E FOR 1716.93 ' TO THE NORTHWEST CORNER AMENDED TRACT A SP-170; THENCE N86° 35' 20"W FOR 625.60 ' TO A POINT ON THE NORTH SOUTH MID SECTION LINE, OF AFORE MENTIONED SECTION 26; THENCE S03° 18' 31"W FOR 3922.78 ' TO SAID COMMON 1/4 CORNER, ALONG WITH AND INCLUDING THE FOLLOWING; BEGINNING AT THE SOUTHWEST CORNER OF THE EASTERN PORTION OF AMENDED TRACT B SP-170; THENCE CONTINUING ALONG THE LINE COMMON TO SECTIONS 26 & 35 S86° 34' 48"E FOR 1293.34 ' TO THE WESTERLY EDGE OF US HIGHWAY 93 RIGHT OF WAY; THENCE ALONG SAID RIGHT OF WAY, N03° 14' 15"E FOR 942.74 '; THENCE N86° 34' 48"W FOR 1249.35 ' TO A SET CAPPED REBAR ON THE EASTERLY EDGE OF MONTANA RAIL LINK RIGHT OF WAY; THENCE ALONG SAID RIGHT OF WAY, S05° 54' 34"W FOR 943.62 TO AFORE MENTIONED SOUTHEAST CORNER OF EASTERN PORTION', THE TOTAL AREA BEING 97.21 ACRES, SUBJECT TO ALL RESTRICTIONS, RESERVATIONS AND EASEMENTS, APPARENT OR OF RECORD.

DOUGLAS A. REHBEIN

ANNETTE REHBEIN

TRUDY L PEDERSEN
NOTARY PUBLIC for the
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018

STATE OF MONTANA
COUNTY OF LAKE

THIS DOCUMENT WAS SIGNED OR ACKNOWLEDGED BEFORE ME ON THIS DATE: 11/28/2017
BY DOUGLAS A. REHBEIN
(PRINT NAME)

TRUDY L PEDERSEN
NOTARY PUBLIC for the
State of Montana
Residing at Polson, MT
My Commission Expires
September 15, 2018.

STATE OF Montana
COUNTY OF Lake

L15	N3°14'15"E	706.06'
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RECORD COS 5684

L16	N89°47'56"W	545.96
L17	N0°00'55"W	990.00'
L18	N89°47'56"W	888.21'
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STAMPED "MAR

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PURPOSE OF SURVEY & OWNERS' CERTIFICAT

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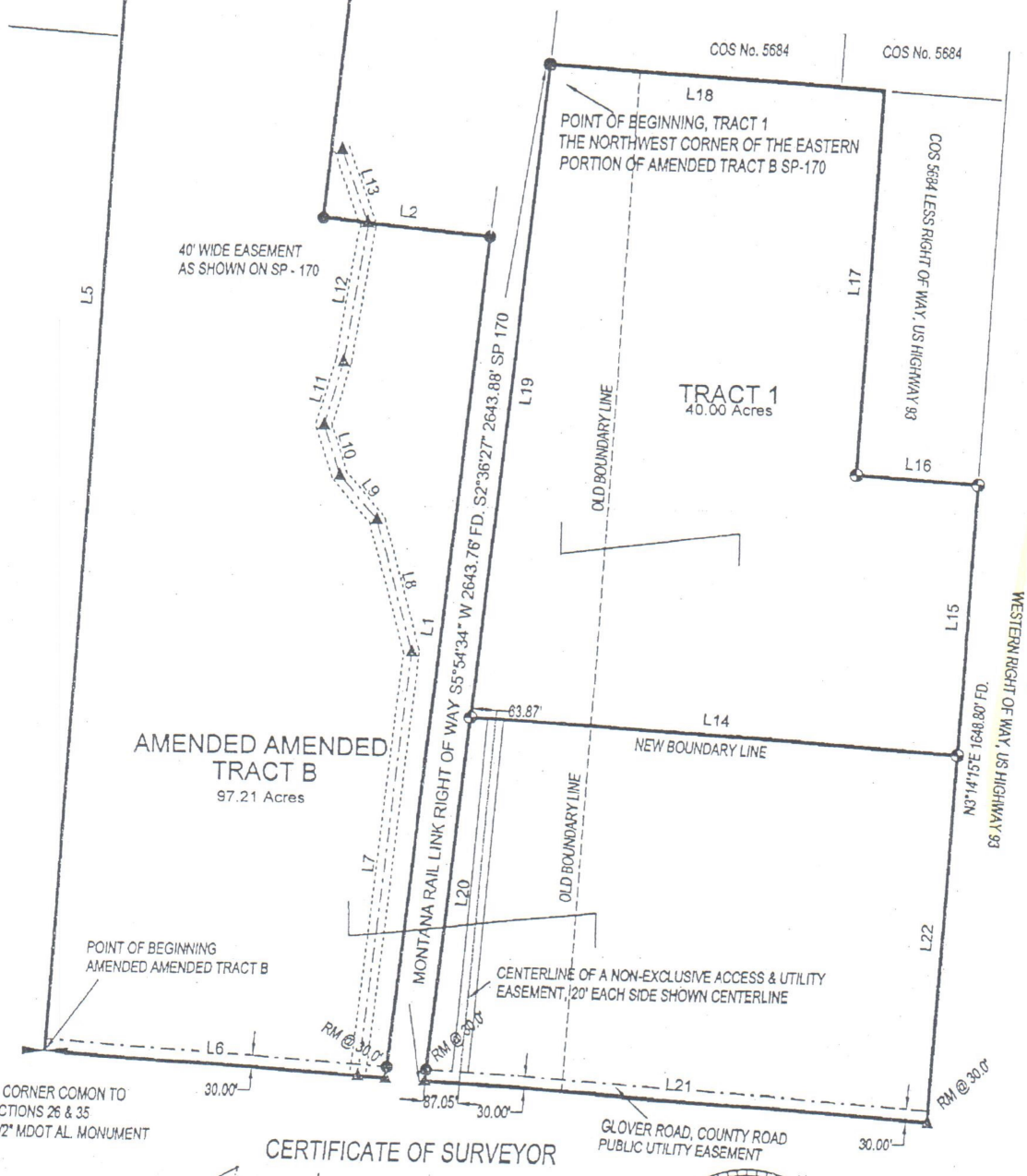
TRACT 1 AND AMENDED AMENDED TRACT B ARE 20 ACRES OR GREATER, EXCLUSIVE OF PUBLIC ROADWAYS, AND IS THEREFORI ENVIRONMENTAL QUALITY PURSUANT TO M.C.A. 76-4-102 (16).

TRACT 1 LOCATED IN THE SE 1/4 SECTION 26, T.22 N.,R.20 W.,P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE NORTHWEST CORNER OF EASTERN PORTION OF AMENDED TRACT B, SP 170; THENCE ALO S05° 54' 34"W FOR 1700.14 ' TO A SET CAPPED REBAR; THENCE S86° 34' 48"E FOR 1249.35 ' TO A SET CAPPED REBAR ON THE WES WAY N03° 14' 15"E FOR 706.06 ' TO A SET CAPPED REBAR ON SOUTH LINE COS 5684; THENCE N86° 27' 34"W FOR 314.77 ' TO THE SO TO THE NORTHWEST CORNER COS 5684; THENCE ALONG THE EAST WEST MID SECTION LINE OF AFORE MENTIONED SECTION 26 BEING 40.00 ACRES, SUBJECT TO ALL RESTRICTIONS, RESERVATIONS AND EASEMENTS, APPARENT OR OF RECORD.



AMENDED AMENDED TRACT B LOCATED
P.M.M., DESCRIBED AS FOLLOWS:
THE POINT OF BEGINNING BEING THE 1/
870.86 ' TO A POINT OF INTERSECTION, C
MONTANA RAIL LINK RIGHT OF WAY; THE
CORNER AMENDED TRACT A SP-170; TH
TRACT A, SP 170; THENCE N05° 54' 34"E
THENCE N86° 35' 20"W FOR 625.60 ' TO A
SECTION 26; THENCE S03° 18' 31"W FOR
FOLLOWING; BEGINNING AT THE SOUTH
THENCE CONTINUING ALONG THE LINE
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N86° 34' 48"W FOR 1249.35 ' TO A SET CA
WAY; THENCE ALONG SAID RIGHT OF WA
EASTERN PORTION, THE TOTAL AREA BE
EASEMENTS, APPARENT OR OF RECORD

DOUGLAS A. REHBEIN

STATE OF MONTANA
COUNTY OF LAKE

TRUDY L PEDERSEN NOTARIAL SEAL STATE OF MONTANA

TRUDY
NOTARY
State
Residing
My Comm
Septem

THIS DOCUMENT WAS SIGNED OR ACKNO
ME ON THIS DATE: 11/28/2017
BY DOUGLAS A. REHBEIN
(PRINT NAME)
(SIGNATURE)
ACTING IN THE CAPACITY OF Trustee

ON BEHALF OF
DOUGLAS A. REHBEIN LIVING TRU

NOTARY SIGNATURE
RESIDING AT
MY COMMISSION EXPIRES

GOVERNING
THE COUNTY COMM
CERTIFY THAT IT HA
FOUND THE SAME T

CHAIRMAN
COMMISSIONER
LAKE COUNT
LAKE COUNT
LAKE COUNT

CERTIFICATE OF SURVEYOR

MARC J. CARSTENS DATE OF SURVEY 10/10/2017

MONTANA MARC J. CARSTENS 5940 LS

TREASURER'S CERTIFICATE
STATE OF MONTANA
COUNTY OF Lake
I HEREBY CERTIFY THAT REAL PROPERTY TAXES ASSESSED AND

Attachment 11

Liability Insurance

Attachment 11. Liability Insurance

The general liability insurance will be submitted upon approval or conditional approval of the Class III Solid Waste Management System License Application.

NOTICE: This coverage is issued by an unauthorized insurer that is an eligible surplus lines insurer. If this insurer becomes insolvent, there is no coverage by the Montana Insurance Guaranty Association under the Montana Insurance Guaranty Association Act.

CRUM & FORSTER
A FAIRFAX COMPANY

CRUM & FORSTER SPECIALTY INSURANCE COMPANY

305 Madison Avenue, Morristown NJ 07962

ENVIRONMENTAL POLICY DECLARATIONS

POLICY NUMBER:	RENEWAL OF:	DATE ISSUED:
EPK-118412	EPK-113635	7/26/2017

Item 1.	**NAMED INSURED & ADDRESS:** *Tire Depot, Inc.* *55528 US Highway 93* *Polson, MT 59860*	**Broker Fee: $100.00** **State Tax: $359.92**
	FORM OF BUSINESS: Corporation	
Item 2.	**POLICY PERIOD:**	07/26/2017 to 07/26/2018 12:01 a.m. Standard Time at the Named Insured's address stated above.

Item 3.	**LIMITS OF INSURANCE:**	
	General Aggregate Limit (Other than Products/Completed Operations):	$2,000,000
	Products/Completed Operations Aggregate Limit:	$2,000,000
	Personal & Advertising Injury Limit:	$1,000,000
	Commercial General Liability Each Occurrence Limit:	$1,000,000
	Damage To Premises Rented To You Limit:	$50,000
	Medical Expense Limit:	$5,000
	Contractor's Pollution Liability Each Pollution Condition Limit:	$1,000,000
	Errors & Omissions Liability Each Wrongful Act Limit:	$1,000,000
	Third Party Pollution Liability Each Pollution Condition Limit:	$1,000,000
	Onsite Cleanup Each Pollution Condition Limit:	$1,000,000
Item 4.	**DEDUCTIBLE/SELF-INSURED RETENTION:** See Deductible Schedule Endorsement EN0009	
Item 5.	**RETROACTIVE DATES:**	
	Errors & Omissions Liability	07/26/2010
	Third Party Pollution Liability	07/26/2009
	Onsite Cleanup	07/26/2009
Item 6.	**PREMIUM:**	
	Policy Premium:	$13,088
	TRIPRA Premium:	Excluded
	Total Policy Premium:	$13,088
	Minimum Earned Premium:	25%
	Minimum Policy Premium:	100%
Item 7.	**AUDIT PERIOD: Not Subject to Audit**	Basis: Gross Revenue: $1,300,000 Rate: Flat
Item 8.	**FORMS AND ENDORSEMENTS ATTACHED TO THIS POLICY:** *See Form EN0002 - Schedule Of Forms And Endorsements*	

"NOTICE: This coverage is issued by an unauthorized insurer that is an eligible surplus lines insurer. If this insurer becomes insolvent, there is no coverage by the Montana Insurance Guaranty Association under the Montana Insurance Guaranty Association Act."

THESE DECLARATIONS, TOGETHER WITH POLICY JACKET, FORMS, SCHEDULES AND ENDORSEMENTS, IF ANY, ARE ISSUED AS PART OF AND IN COMPLETION OF THE ABOVE NUMBERED POLICY.

*License MT License Number of the Surplus Lines

Producer:_____*

Countersigned By:

Signature of the Surplus Lines Producer: _____

*Printed Name of the Surplus Lines Producer: _____

_____
Authorized Representative

Schedule of Forms and Endorsements

Form No.	Form Title
EN0001	Environmental Package Policy Declarations
EN0002	Schedule of Forms and Endorsements
CS07001	Signature Page
EN0004	Claims Reporting
EN0005	Service of Process Clause
EN0007	Certified Acts of Terrorism and Other Acts of Terrorism Exclusion
EN0009	Deductible Schedule Endorsement
EN0010	Minimum Premium and Minimum Retained Premium
EN0011	Privacy Notice
EN0020	Common Provisions
EN0021	Commercial General Liability Occurrence Coverage Part
EN0023	Contractors Pollution Liability Occurrence Coverage Part
EN0025	Errors and Omissions Liability Coverage Part
EN0026	Third Party Pollution Liability Coverage Part
EN0027	Onsite Cleanup Coverage Part
EN0050	Policyholder Notice - Emergency Response Hotline
EN0052	Notice of Loss
EN0109	Amended Waiver of Transfer of Rights of Recovery Against Others To Us
EN0111	Additional Insured – Owners, Lessees Or Contractors
EN0118	Primary and Non-Contributory Additional Insured with Waiver of Subrogation
EN0120	Breach of Contract Exclusion
EN0122	Exclusion – Designated Work
EN0127	Total Mold Exclusion
EN0320	Additional Insured – Owners, Lessees Or Contractors – Completed Operations
EN0346	Amendment to Damage to Your Work Exclusion
EN0405	Transportation Pollution Liability Blanket Endorsement
EN0615	Covered Locations Endorsement
EN0645	Onsite Cleanup Coverage Restriction to Release From Aboveground Storage Tanks
EN0650	Loading or Unloading of Watercraft and Automobiles at Covered Location(s)
EN0720	Montana Changes
IL P 001 01 04	U.S Treasury Department's Office of Foreign Assets Control ("OFAC") Advisory Notice to Policyholders