AJM, Incorporated
1805 Kenyon Drive, Bozeman, MT 59715
(406) 600-2045
e-mail: dennis@ajminc.net lars@ajminc.net
www.environmentalmontana.com
A Full Service Environmental Company

May 21, 2024

Eric Krueger
Environmental Project Officer
Department of Environmental Quality
Eric.krueger@mt.gov

Shannon Collins
Yellowstone Jet Center (YJC)
Signature Flight Service
shannon.collins@signatureaviation.com

**Re: Groundwater Monitoring & Soil Sample Collection - Yellowstone Jet Center Fuel Farm, 456 Wings Way, Belgrade, MT. Facility ID 16-04440 (TID 21287), Release 6502, Work Plan ID 34875**

Dear Mr. Krueger,

AJM Incorporated (AJM) has completed the following work plan to conduct additional groundwater and soil sampling following the initial groundwater monitoring well construction and groundwater sampling by Stantec Consulting Services Incorporated (Stantec). AJM will conduct an additional groundwater sampling event in June 2024 and will collect soil samples from the surface of the impacted region just prior to tank removal in August 2024.

**BACKGROUND**
Information relating to facility background and a receptor survey can be found in the initial workplan submitted to Montana Department of Environmental Quality (DEQ) and Yellowstone Jet Center (YJC) completed by Stantec dated October 27, 2022.

**OBJECTIVES OF INVESTIGATION**
The purpose of this investigation is to determine the extent and magnitude of impacts in the soil and groundwater following Release 6502. Standard operating procedures will be followed when collecting and reporting data. Results from this sampling round will provide evidence to either continue groundwater investigation or provide necessary data to close the Yellowstone Jet Center release. AJM proposes to collect depth to water measurements and groundwater samples from the existing monitoring wells on site. Additionally, prior to the tank removal planned for fall 2024, AJM will collect near surface soil samples and subsequently, confirmation samples lower in the soil profile. Soil samples will be used to determine if there are petroleum hydrocarbon impacts in the soil that may need to be excavated and taken to the local landfill.

**TASK 1 - GROUNDWATER SAMPLING**
Groundwater samples will be collected from MW-1, WM-2, MW-3, and MW-4. Per Montana DEQ Quality Assurance Project Plan (QAPP), stabilization parameters will be collected including temperature, pH, dissolved oxygen, conductivity, turbidity and ORP prior to sample collection. Once the above

parameters stabilize (three consecutive reading within pH ±0.1, specific conductivities ±3%, DO ±10%, turbidity ±10%, ORP ±10mV) a sample will be collected. All sampling will be conducted per AJM's Standard Operating Procedures (SOPs in Appendix C). Sampling order will be determined based on previous well contamination moving from least known concentrations to higher concentrations. All non-well specific equipment will be washed with Alconox and triple rinsed prior to sampling a subsequent well. Historically depths from these wells range from 49.0ft to 55.5ft, therefore the samples will be collected using a 12v downhole submersible pump with 3/8" typical HDPE sample grade tubing and a low flow controller (less than 300mL/min).

Appropriate labeling, cooling, and chain of custody protocols will be followed. Samples will be delivered under chain of custody to an accredited laboratory for analysis of volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) using appropriate DEQ and Environmental Protection Agency (EPA) methodology. EPH fractionation will be conducted as necessary based on total extractable concentrations. All water produced from this sampling process will be contained in appropriate containers and disposed of following the DEQ purge water disposal flow chart.

**TASK II – SOIL SAMPLING AND EXCAVATION**

Due to the removal of all equipment onsite, a private locate will not be necessary before the surface soils are collected and when the system is removed. A public locate will be completed within 30-days of the system removal using Montana811 services no later than 2 business days before the system removal begins.

Prior to the underground storage tank (UST) removal at the Yellowstone Jet Center fuel farm scheduled for fall 2024, AJM will collect 2 soil samples to determine the impacted surface soils (no greater than 2ft below ground surface). Surface sample locations will be determined after communicating with local responders, likely near Tank 7 vent pipe and manhole cover (Figure 2 in Appendix A for sample locations). At this time AJM anticipates that no more than 100 cubic yards of soil will need to be removed and associated pricing is based on that volume. If it is determined that more than 100 yards of soil needs to be excavated, AJM will contact DEQ Project Manager and Petroleum Tank Release Compensation Board to discuss any increases in the amount of soil to be removed.

Field screening will include heated head space sampling and volatile organic carbon (VOC) analysis using a photoionization detector (PID). Once PID measurements read 50ppm VOCs or less, confirmation samples will be collected. Per DEQ QAPP, a minimum of sidewall and floor confirmation samples will be collected, more samples may be necessary depending on soil excavation area. Laboratory samples will be immediately placed on ice and delivered to an accredited laboratory for VPH and EPH analysis. Soil sampling will be collected following AJM SOPs and DEQ QAP. Impacted soils may be stored on plastic sheeting outside of the excavation or taken directly to the local landfill depending on when soil analytical data is returned from the laboratory.

For the local landfill to accept hydrocarbon impacted soils, a laboratory analysis must be submitted to accurately profile the soil concentrations. Soil samples collected prior to the fuel system removal will provide the local landfill with necessary documentation to profile the soil and admit the soil for proper disposal as needed. During the tank removal, excavation, hauling and necessary equipment for soil disposal will be accessible and used for both the soil sampling and disposal as well as the tank removal. For efficiency, the soil removal and confirmation sampling will be completed during the UST removal scheduled for Fall 2024. Based on the estimated volume of fuel released and immediate response from the YJC personnel, approximately 100 yards of soil may be impacted and removed from the site as necessary.

Excavation will be backfilled with appropriate clean material and site backfill requirements are 95%+ compaction, not measured by an engineer.

**REPORT WRITING**
One Cleanup Report (Report) will be completed following the standardized DEQ guidance document found on the dropdown on the Petroleum Tank Cleanup Section (PTCS) webpage. This Report will include the following:

- Discussion of the monitoring method results, deviations from the approved work plan, recommendations, and conclusions.
- Cumulative soil and groundwater data tables.
- Site features and potentiometric surface maps.
- Create a Release Closure Plan (RCP) based on the site data collected.
- Submit WP and reports electronically following the PTCS requirements.
- Validate all laboratory data using the DEQs Data Validation Summary Form.

A cost estimate for the above-described work and can be found in Appendix B. Work at Yellowstone Jet Center Fuel Farm can begin upon written approval by the DEQ. Please do not hesitate to call if there are any questions or if we can provide any additional information.

Sincerely,

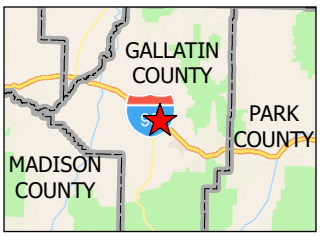
*Lars Heinstedt*

AJM Incorporated
Lars Heinstedt, Staff Scientist
lars@ajminc.net

*Dennis Franks*

AJM Incorporated
Dennis Franks, President
dennis@ajminc.net

Appendix A
Site Map
Soil Sample Location


**Legend**

- As-Built Monitoring Well Locations
- Non-functioning Irrigation Well
- Approximate UST Location
- Historic Soil Excavation Area
- Irrigation Ditch (no longer in service)

0 40 80 Feet
(At original document size of 8.5x11)
1:960

N

Stantec

*Project Location*
T001S, R005E, S07
C. of Belgrade, Gallatin Co., MT

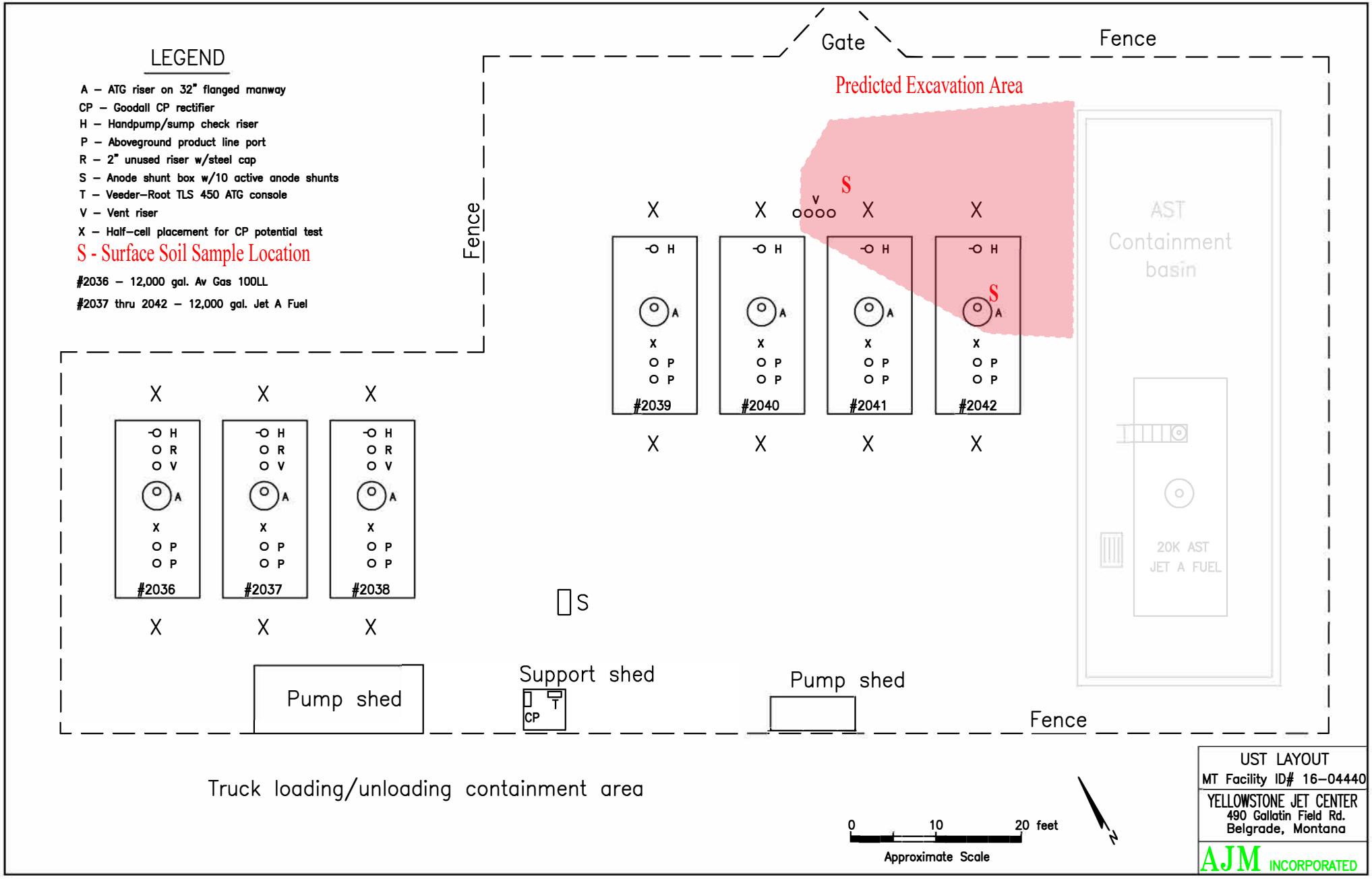
Prepared by FT on 2023-03-14
Checked by MS on 2023-xx-xx

*Client/Project* 225600387
Signature Flight Services
Yellowstone Jet Center Spill

*Figure No.*
**2**

*Title*
**Site Plan**

***Notes***
**1.** Coordinate System: NAD 1927 StatePlane Montana Central FIPS 2502
**2.** Vertical Datum: NAVD88
**3.** Data Sources: Site detail digitized from Final Phase III Ground Water Sampling Report, AJM Incorporated (2009), Stantec, ESRI
**4.** Background: Maxar (2020)


LEGEND
A – ATG riser on 32" flanged manway
CP – Goodall CP rectifier
H – Handpump/sump check riser
P – Aboveground product line port
R – 2" unused riser w/steel cap
S – Anode shunt box w/10 active anode shunts
T – Veeder–Root TLS 450 ATG console
V – Vent riser
X – Half–cell placement for CP potential test
S - Surface Soil Sample Location
#2036 – 12,000 gal. Av Gas 100LL
#2037 thru 2042 – 12,000 gal. Jet A Fuel
Gate
Fence
Predicted Excavation Area
Fence
AST Containment basin
20K AST JET A FUEL
#2039
#2040
#2041
#2042
#2036
#2037
#2038
Pump shed
Support shed
CP
Pump shed
Fence
Truck loading/unloading containment area
0 10 20 feet
Approximate Scale
N
UST LAYOUT
MT Facility ID# 16–04440
YELLOWSTONE JET CENTER
490 Gallatin Field Rd.
Belgrade, Montana
AJM INCORPORATED