THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

SPILL PREVENTION & RESPONSE
Contaminated Sites Program

555 Cordova Street
Anchorage, A/k 99501
Main: 907.269.7558
Fax: 907.269.7687
www.dec.alaska.gov

File No.: 225.38.001

September 24, 2024

Electronic Delivery Only
Matthew Woods
Federal Aviation Administration
222 West 7th Avenue
Anchorage, Alaska 99513

Subject: **DECISION DOCUMENT: No Further Action**
Petroleum Contaminated AOCs at FAA Lake Minchumina
Above-Ground Storage Tanks (ASTs) at Buildings 100, 102, and 402

Dear Mr. Woods,

The Alaska Department of Environmental Conservation, (DEC) Contaminated Sites Program (CSP) has completed a review of the environmental records associated with the petroleum contamination at three areas of concern (AOCs) at the FAA Lake Minchumina Station: Building 100 (AST 57-A-001), Building 102 (AST 57-A-003), and Building 402 (ASTs 57-A-012, 57-A-013, 57-A-014). Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment. No further remedial action will be required unless information becomes available that indicates residual contaminants may pose an unacceptable risk. This determination is limited to petroleum contamination only at Buildings 100, Building 102, and Building 402. The FAA Lake Minchumina site will remain active until cleanup is completed at all AOCs.

This No Further Action determination is based on the administrative record for the FAA Lake Minchumina site maintained by DEC. This decision letter summarizes the site history, cleanup actions and levels, and site closure conditions that apply.

Site Name and Location
FAA Lake Minchumina
Lake Minchumina, AK
- Building 100
- Building 102
- Building 402

Name and Mailing Address of Contact Party
Matthew Woods
Federal Aviation Administration
222 West 7th Avenue
Anchorage, Alaska 99513

DEC Site Identifiers
File No. 225.38.001, Hazard ID 1924

Regulatory Authority for Determination
18 Alaska Administrative Code (AAC) 75

Site Description and Background
The site is located approximately 200 miles north of Anchorage and is adjacent to Lake Minchumina. The FAA operated the Lake Minchumina Station from 1941 until 1969. Many of the former buildings and associated infrastructure were demolished in 2001; however, the site partially remains in use as FAA maintains an active nondirectional beacon (NBD) system with a shop building and transient quarters for personnel on site. Refer to Figure 1A and 2 for site layout.

Building 100 – AST 57-A-001
Building 100 was part of the Lower Housing Area and formerly used as a living quarters for FAA personnel. A former 500-gallon diesel aboveground storage tank (AST) was located on the northeast corner of Building 100. Contaminated soil was discovered during tank decommissioning in 1993. The building and associated concrete foundation were demolished in 2001.

Building 102 – AST-57-A-003
Building 102 was part of the Lower Housing Area and formerly used as a living quarters for FAA personnel. A former 500-gallon diesel heating oil AST was located on the northeast corner of Building 102. Contaminated soil was discovered during tank decommissioning in 1993. The building and associated concrete foundation were demolished in 2001.

Building 402 – ASTs: 57-A-012, 57-A-013, 57-A-014
Building 402, referred to as the Minchumina Resident Landfill Building (MRL), was formerly used as a residence hall. Three former 500-gallon diesel heating oil ASTs were located to the southeast of Building 402. Contaminated soil was discovered during tank decommissioning in 1993 and believed to have occurred during the tank's operation prior to 1969. During the demolition of the building in 2001, the FAA found additional contamination near the former AST area, as well as petroleum-contaminated soil in the center of the building's footprint from an unknown source.

Contaminants of Concern
During the site investigation and cleanup activities at this site, samples were collected from soil and analyzed for diesel range organics (DRO), gasoline range organics (GRO), benzene, ethylbenzene, toluene, and xylenes (BTEX).

Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern (COCs) at this site:

- DRO
- GRO (Building 402, Excavation #2 only)
- BTEX

Cleanup Levels
Soil cleanup levels applicable to the site are the most stringent Method 2 cleanup levels for the under 40-inches of precipitation climate zone found in 18 AAC 75.341(c), Table B1 and 18 AAC 75.341(d), Table B2 (Table 1).

Groundwater cleanup levels applicable to this site are found in 18 AAC 75.345, Table C; however, since contamination in soil has been delineated at concentrations below the most stringent migration to groundwater cleanup levels, no groundwater samples were collected at these AOCs and groundwater is not expected to be impacted by the known petroleum releases at these AOCs.

Table 1 – Approved Cleanup Levels

Contaminant	18 AAC 75 Table B1/B2 Soil Cleanup Level (mg/kg)
DRO	250
GRO	300
Benzene	0.022
Toluene	6.7
Ethylbenzene	0.13
Xylenes, total	1.5

mg/kg = milligrams per kilogram

Samples collected at this site were analyzed for DRO, GRO, and BTEX. No soil results exceeded the most stringent Method 2 cleanup levels for the under 40-inches of precipitation climate zone established 18 AAC 75.341(c), Table B1 and 18 AAC 75.341(d), Table B2.

Characterization and Cleanup Activities

Building 100

During the 1993 AST-57-A001 removal, spill cleanup was conducted in accordance with 18 AAC 75.315 that included the excavation and stockpiling of 32 cubic yards (cy) of petroleum contaminated soil. Following these activities, analytical data and field screening indicated that in-situ contamination remained at the site but was left in place due to its proximity to the building foundation and buried sewer line.

Additional site characterization conducted in 2001 included the excavation and stockpiling of 218 cy of petroleum contaminated soil, as well as the removal of 10 ft of buried utilidor from the southeast side of the excavation to access all contaminated soil. The final excavation limits were approximately 48 ft. x 17 ft. x 18 ft. maximum depth (Figure 3a). Soil samples collected from excavation limits and analyzed for DRO, GRO, and BTEX indicated that the former AST site had been delineated to below migration to groundwater cleanup levels found in 18 AAC 75.341(c).

Building 102

During the 1993 AST-57-A003 removal, approximately of 19 cubic yards (cy) of petroleum contaminated soil was excavated and stockpiled. Following these activities, analytical data and field screening indicated that in-situ contamination remained at the site but was left in place due to its proximity to the building foundation and buried sewer line.

Additional site characterization was conducted in 2001 included the excavation and stockpiling of 42 cy of petroleum contaminated soil and the collection of seven soil samples to ensure all contaminated soil was removed. Additionally, 18 ft. of buried utilidor had to be removed from the east side of the excavation to access remaining soil contamination. The final limits of excavation were approximately 27 ft. x 10 ft. x 12 ft. maximum depth (Figure 5a). Soil samples collected from excavation limits and analyzed for DRO,

GRO, and BTEX indicated that the former AST site had been delineated to below migration to groundwater cleanup levels.

Building 402

During the 1993 decommissioning of AST-EE402-1, -2, and -3, approximately 22 cy of petroleum contaminated soil was excavated and stockpiled. Confirmational samples collected were below ADEC cleanup levels; however, the number of samples collected was not adequate to delineate the extent of contamination.

Additional site characterization conducted in 2001 included the excavation and stockpiling of 57 cy of petroleum contaminated soil and the collection of six soil samples to ensure proper delineation of the former AST area. The final limits of excavation were 10 ft. x 25 ft. x 8 ft. maximum depth (Figure 13a).

A secondary, unknown source of petroleum contaminated soil was also identified in 2001 during the demolition of former Building 402. Approximately 30 cy of contaminated soil was removed, and four laboratory samples were collected. Final limits of excavation were 15 ft. x 15 ft. x 6 ft. (Figure 13b). Soil samples collected from both excavation limits were analyzed for DRO, GRO, and BTEX indicated that the two excavation areas had been delineated to below migration to groundwater.

All excavation sites were backfilled with clean fill from the airstrip borrow pit. Contaminated soil from the initial 1993 excavations was placed in a bio-cell landspread for remediation. In 2002, the landspread was decommissioned and a new landfarm area was created. Contaminated soil from subsequent excavations was placed in the new landfarm. As soil was remediated to concentrations below the migration to groundwater cleanup level, it was placed in a clean soil stockpile onsite. The landfarm is still active and is being tracked as a separate AOC.

Maximum residual soil concentrations at all four excavations are listed below in Table 2.

Table 2 - Maximum Contaminant Concentrations Remaining in Soil

Contaminant	Soil (mg/kg)	Sample Location	Date Sampled
Building 100			
DRO	42.9	MHM-01-100X-04	10/02/01
Building 102			
DRO	129	MHM-01-102X-05	10/05/01
Building 402, Excavation 1			
DRO	20.6	MHM-01-402X1-06	09/10/01
Building 402, Excavation 2			
DRO	156	MHM-01-402X2-04	09/10/01
GRO	38.4	MHM-01-402X2-01	09/10/01
Xylenes	0.16	MHM-01-402X2-01	09/10/01

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g) when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index (HI) of 1 across all exposure pathways.

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations from Building 100, Building 102, and Building 402 meet the human health cumulative risk criteria for residential land use.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be either De Minimis Exposure or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3.

Table 3 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis	Surface soil contamination was removed during the cleanup actions in 1993 and 2001.
Subsurface Soil Contact	De Minimis	Contamination remains in the subsurface below human health (inclusive of direct contact) and ingestion levels in 18 AAC 75.341, Tables B1 and B2.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface below human health and inhalation levels in 18 AAC 75.341, Tables B1 and B2.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	All buildings were demolished in 2001. Residual soil contamination is not expected to impact outdoor air.
Groundwater Ingestion	Pathway Incomplete	Due to the age of the release and complete removal of the source area, the release is not expected to migrate to groundwater or impact groundwater at significant concentrations.
Surface Water Ingestion	Pathway Incomplete	Despite being approximately 200 ft from surface water, release is not expected to migrate or impact surface water at significant concentrations.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There are no additional ecological concerns associated with petroleum contamination at former Buildings 100, 102, and 402.

Notes:
1. "De Minimis Exposure" means that, in DEC's judgment, the receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination.
2. "Pathway Incomplete" means that, in DEC's judgment, the contamination has no potential to contact receptors.

DEC Decision

Soil contamination at the site has been cleaned up to concentrations below the approved cleanup levels suitable for residential land use and groundwater is not expected to be impacted from the releases from these three AOCs. These AOCs will not require any further remedial action, which will be documented on the Contaminated Sites Database.

DEC approval is required for movement and disposal of soil and/or groundwater subject to the Site Cleanup Rules, in accordance with 18 AAC 75.325(i). Since the cleanup at this site met the most stringent cleanup levels of 18 AAC 75.341, Tables B1 and B2 and 18 AAC 75.345, Table C, this letter will serve as your approval for future movement and disposal of soil associated with this release.

Movement or use of contaminated material in an ecologically sensitive area or in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited. Furthermore, groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. If, in the future, groundwater from this site is to be used for other purposes, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Informal Reviews and Adjudicatory Hearings
A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page https://dec.alaska.gov/commish/review-guidance/ for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

If you have questions about this closure decision, please contact me at (907) 269-7695, or via email at livia.bracker@alaska.gov.

Sincerely,

Livia Bracker

Livia Bracker
Environmental Program Specialist

Enclosure(s): Site Figures

cc, via email: DEC, Division of Spill Prevention and Response, Cost Recovery Unit
Tim Sharp, DEC

1. 10CY TIN CAN & JARS
2. 50CY TANK METAL PLATE & PIPE
3. 47CY MISC.METAL & DIMEN.LUMBER
4. 49CY TOWERS,LUMBER,POLES,ANCHORS
5. 20CY ELECTRONICS & CABINETS
6. 20CY BLM DEBRIS
7. 8CY BLDG.600 DEBRIS
8. 133 CY NEW SOUTH DUMP
9. 9CY APRON DEBRIS
10. HOUSING AREA DEBRIS
11. BEACH DEBRIS, 29DRUMS & DEBRIS
11A. PONTOON RAFT
12. 15CY LAGOON DEBRIS
12A. DEMOLISHED & BACKFILLED 603SEPTIC CRIB
13. REMOVED UTILIDOR & WATER LINE
14. SOUTH DRUM SITE
15. NORTH DRUM SITE
15A. 244 DRUM PILE
15B. 85 DRUM PILE IN POND
15C. 63 DRUMS NORTHEND RUNWAY
15D. 53 DRUMS MID RUNWAY NORTH
15E. AIRPLANE DEBRIS & 24 DRUMS
16. FAA GEN.SET IN WOODS

APPROX. LOCATION OF THREE (3) ORIGINAL MONITORING WELL LOCATIONS

NEW INSTALLED MONITORING WELLS
MW5-N63.88153° W152.31421°
MW6-N63.88163° W152.31363°
MW7-N63.88152° W152.31441°
LAT./LONG. COORD.OBTAINED VIA HANDHELD GARMIN GPS

400 0 400 800 1200
SCALE IN FEET

TRUE NORTH
~22°E
2001

LAKE MINCHUMINA

NORTH DEBRIS

ADOT BOUNDARY

RUNWAY

DIRT ROAD

401 DUMP AREA

'NEW' SOUTH DUMP AREA (OLD DUMP, RECENTLY FOUND)

MRL SITE (BLDG.402&604) SEE FIGURE#13

ROAD TO MINCHUMINA RESIDENT LANDFILL

DEMOLISHED BLDG #401

REMOVED POWER LINE & POLES

BURIED CONCRETE TOWER BASE

BURIED CONCRETE TOWER BASE

FSS BLDG.400 SEE FIGURE#12

APRON

MW6
MW5
MW7

SOUTH DEBRIS

BORROW SOURCE (STOCKPILED FILL)

ABANDONED RUNWAY

LAGOON AREA

HOUSING AREA SEE FIGURE#2

FAA LAKE MINCHUMINA DEMOLITION

OVERALL SITE LAYOUT

FILE: C:\FAA\LM\ACAD\SITE1.DWG

DATE: SEP2002

SHEET: FIGURE #1A

REMOVED NDB ANTENNA (NIC)

NEW NDB ANTENNA (NIC)

REMOVED NDB ANTENNA (NIC)

MINCHUMINA HOUSING AREA BOUNDARY

TRUE NORTH

DEMOLISHED BUILDING

REMOVED DEBRIS

ROADS

SITE BOUNDARY

SEWER UTILIDOR (REMAINING) — U —

SAMPLE LOCATION

TRANSFORMER

BLM DEBRIS

LANDFILL SEE FIGURE#8

STOCKPILE#2 SEE FIGURE#8

STOCKPILE#1 SEE FIGURE#8

DEAD SHED

SMOKEHOUSE

REMOVED POSTS

NLA TESTPIT#6 N63°53.041' W152°18.828'

NLA TESTPIT#5 N63° 53.028' W152° 18.822'

NLA TESTPIT#4 N63°53.037' W152°18.779'

NEW LANDSPREAD PROPOSED LOCATION

NLA TESTPIT#2 N63°53.030' W152°18.750'

NLA TESTPIT#3 N63°53.021' W152°18.780'

NLA TESTPIT#1 N63°53.012' W152°18.760'

LAND FARM BIOCELLS SEE FIGURE#8

ADOT PROPERTY BOUNDARY

NOTE: MODIFIED ORIGINAL USACE DRAWING, REFERENCE NO. C-2 "FAA DEMOLITION PROJECT, LAKE MINCHUMINA, ALASKA, MAIN AREA SITE PLAN"
LAT.LONG.COORDINATES OBTAINED VIA HANDHELD GARMIN GPS.

50 0 50 100 150 200
SCALE IN FEET

REMOVED UTILIDOR

301 PCS EXCAVATION LIMITS SEE FIGURE#6

CONCRETE STAIRS

601 WELLHOUSE

102 PCS EXCAVATION LIMITS SEE FIGURE#5

DECOM. 301 WATER WELL

101 PCS EXCAVATION LIMITS SEE FIGURE#4

100 PCS EXCAVATION LIMITS SEE FIGURE#3

2-1/2" OD WATER LINE REMOVED TO LAKE

603 SEPTIC

SEPTIC TANKS

603 SEPTIC CONCRETE BURIAL EXCAVATION LIMITS

SEPTIC LINE TO CRIB OUTFLOW

MINCHUMINA HOUSING AREA BOUNDARY

LAGOON AREA

REMOVED PIPES

COMMUNITY SCHOOLHOUSE

TEMP OFFICE

REMOVED ARMY TRUCK SHED

BLDG. 200

REMOVED APRON DEBRIS

Trailer

OUTHOUSE

BLDG. 602

PHONE

POST OFFICE

BLDG 600 SEE FIGURE#7

REMOVED GRADER

ALASCOM DISHES

FAA RCO

BLDG 600 DEBRIS

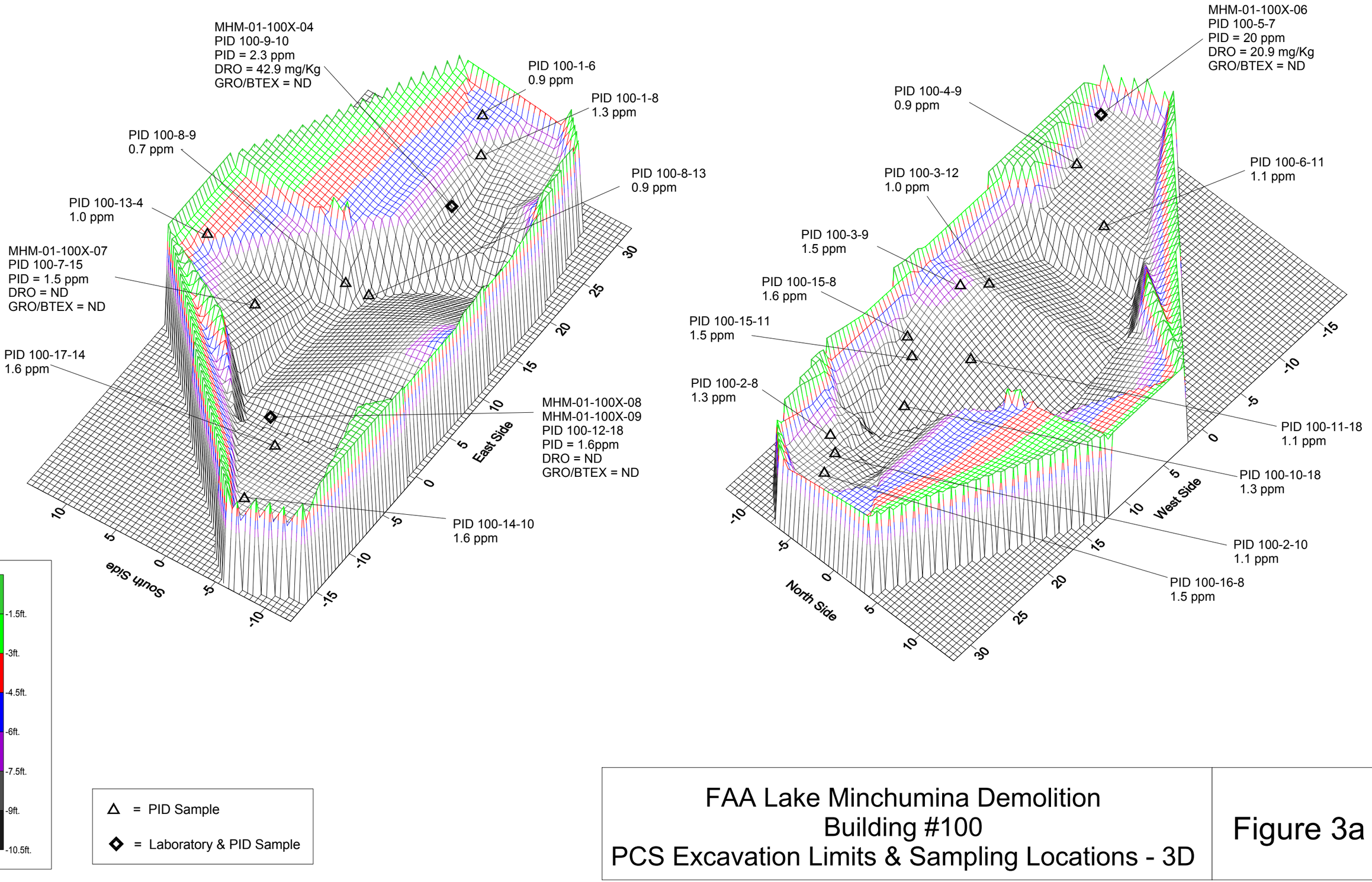
FAA LAKE MINCHUMINA DEMOLITION

HOUSING AREA

FILE: C:\FAA\LM\ACAD\HOUSING.DWG

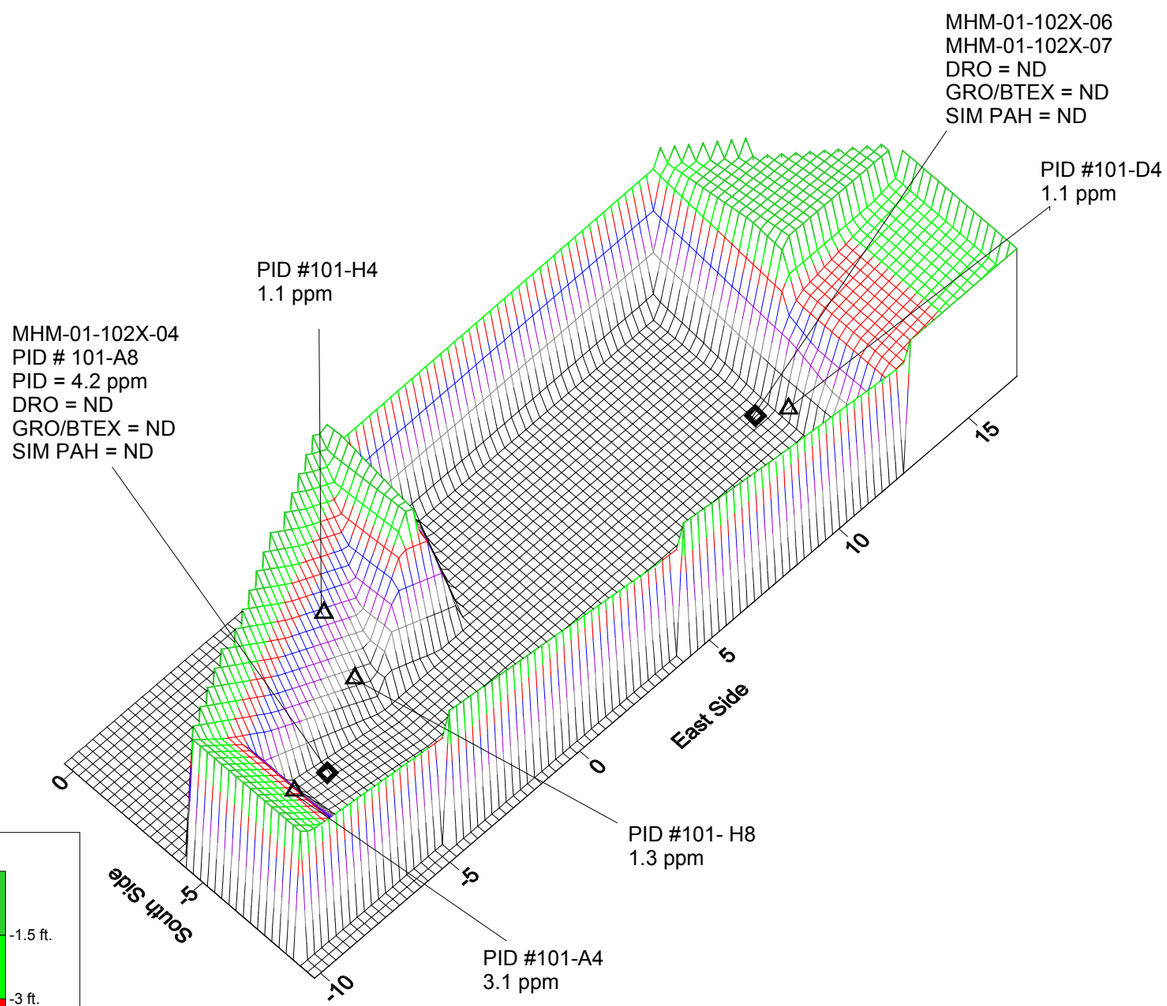
DATE: SEP2002

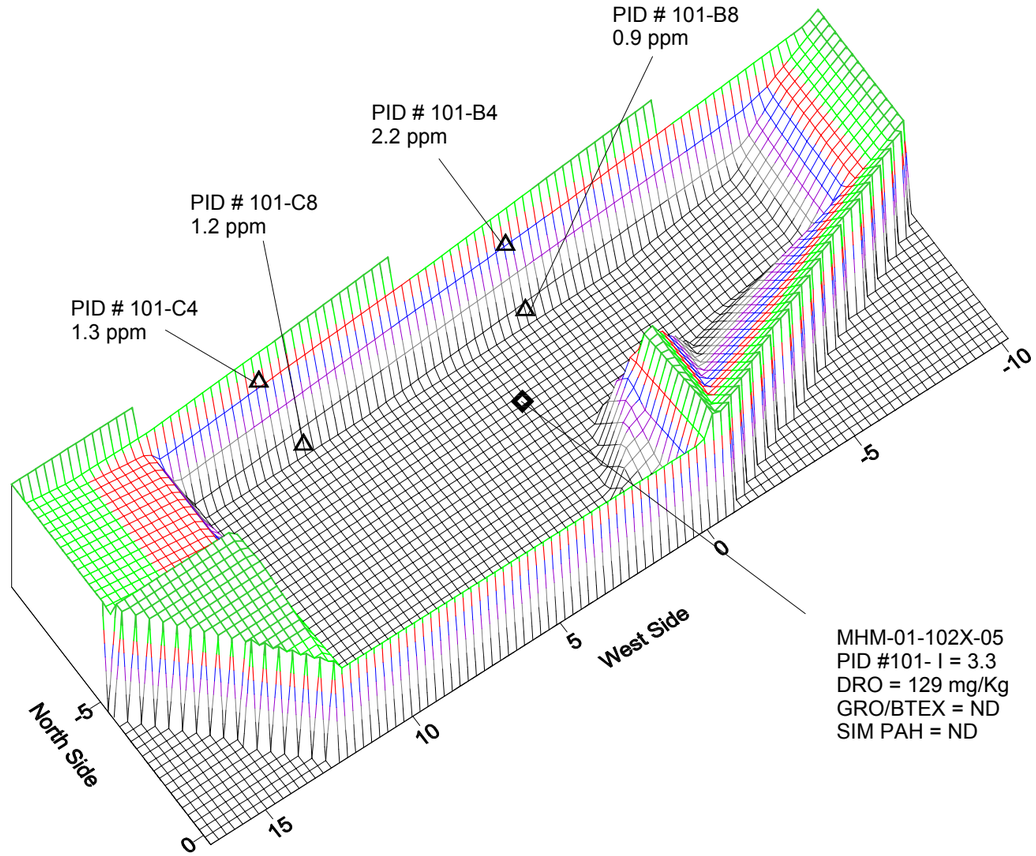
SHEET: FIGURE #2

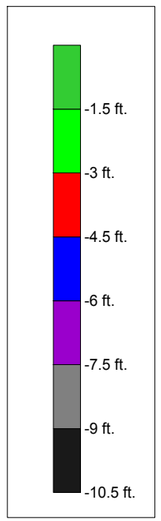


FAA Lake Minchumina Demolition
Building #100
PCS Excavation Limits & Sampling Locations - 3D

Figure 3a





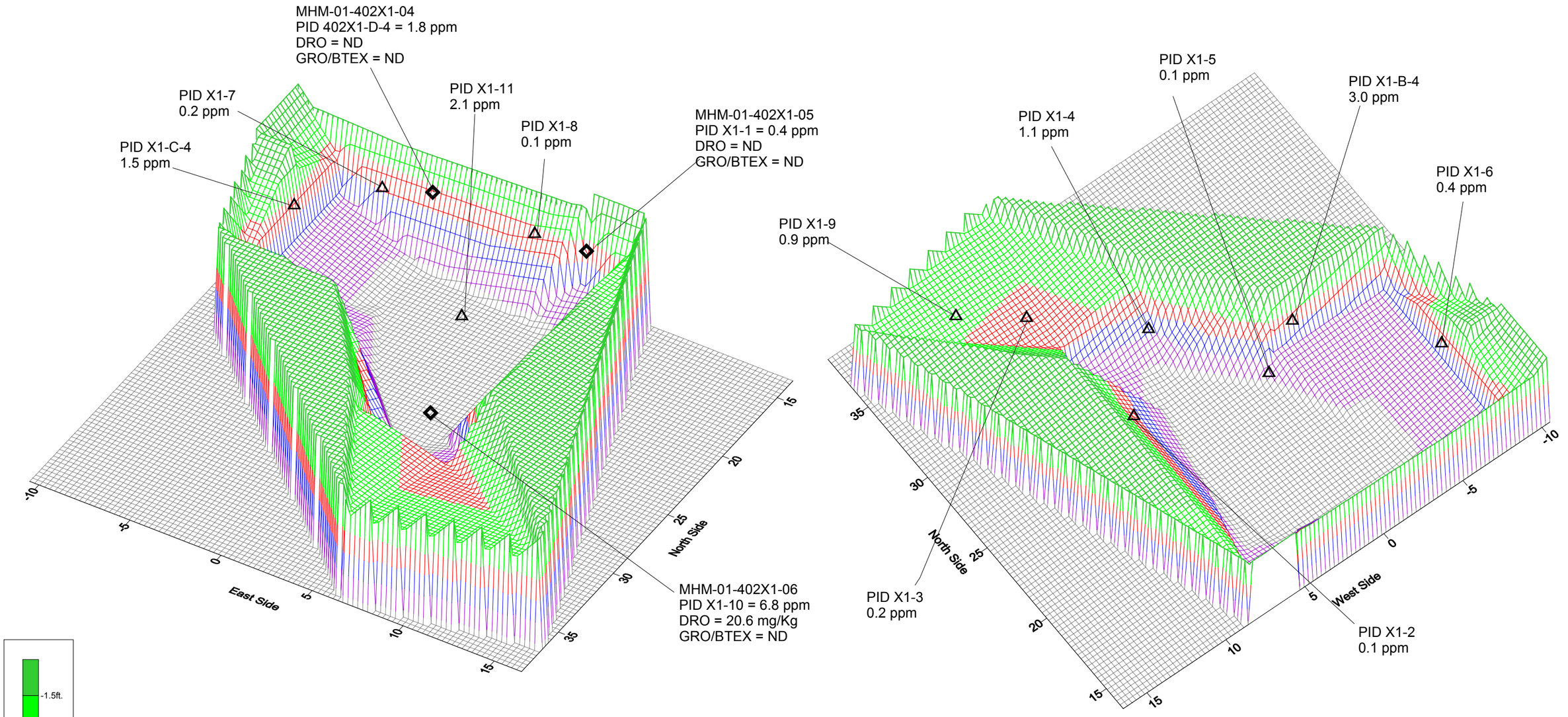


◆ = Lab / PID Sample

△ = PID Sample

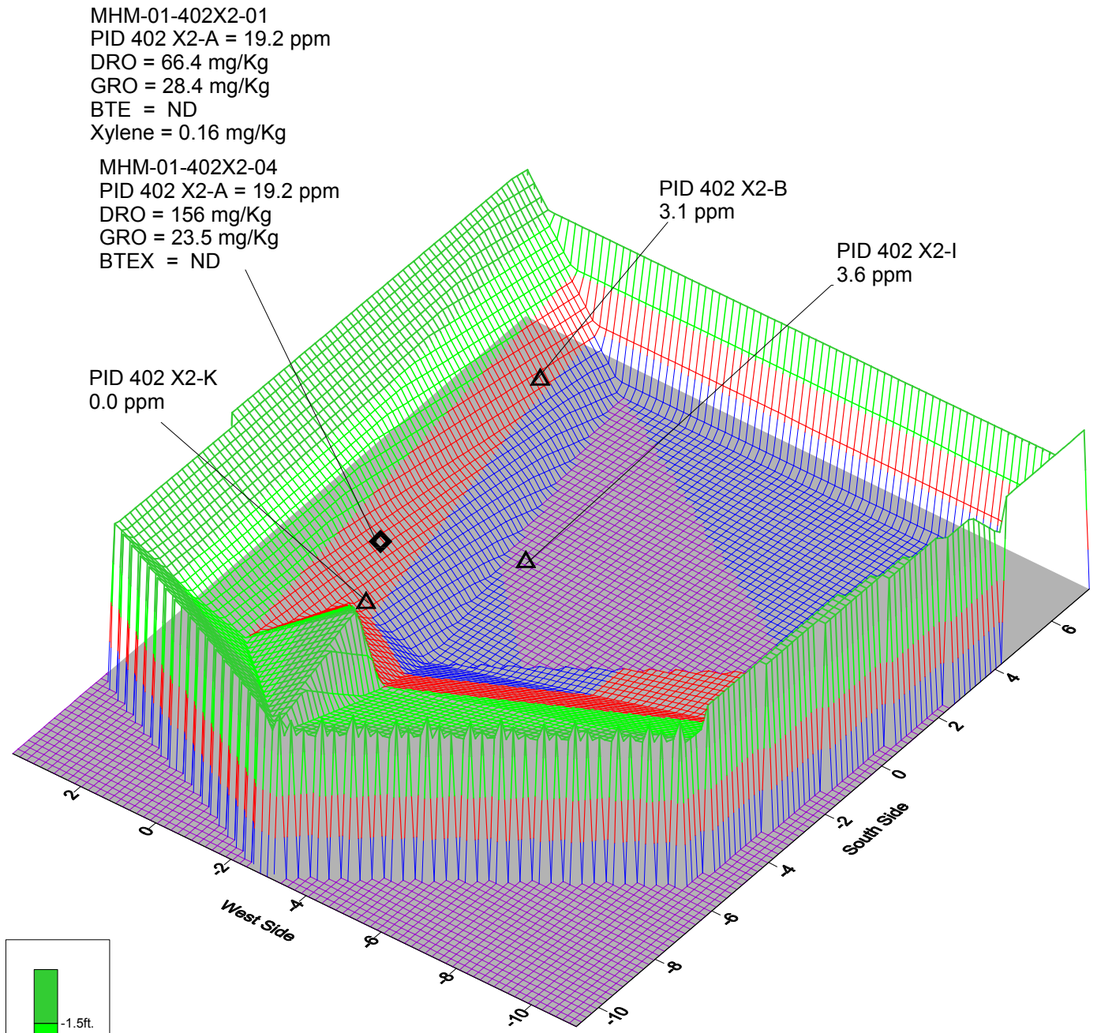
FAA Lake Minchumina Demolition
Building #102
PCS Excavation Limits & Sampling Locations - 3D

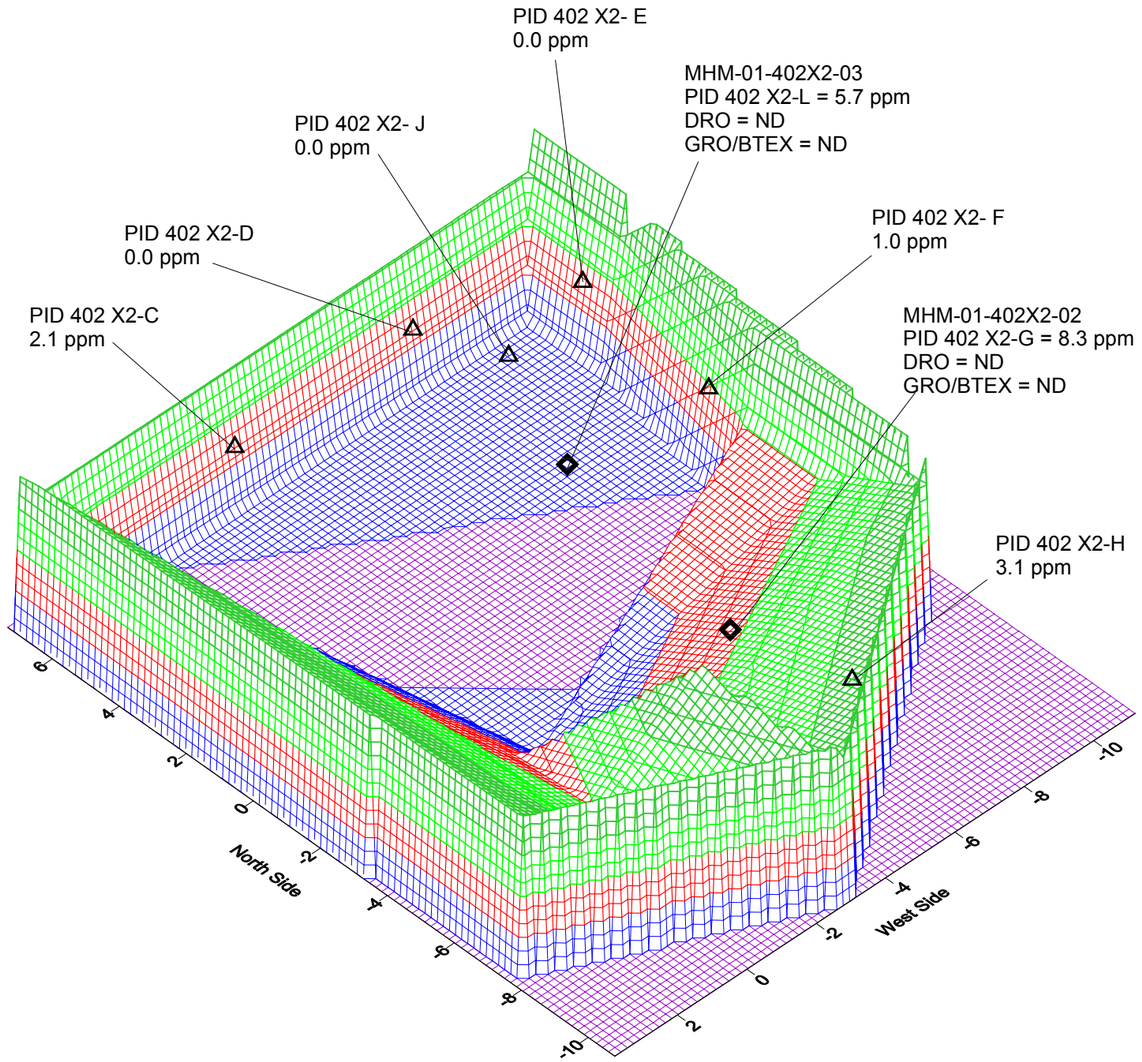
Figure 5a

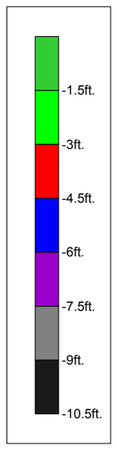


FAA Lake Minchumina Demolition
Building #402
PCS Excavation #1 Limits & Sampling Locations - 3D

Figure 13a







△ = PID Sample

◆ = Laboratory & PID Sample

FAA Lake Minchumina Demolition
Building #402
PCS Excavation #2 Limits & Sampling Locations - 3D

Figure 13b