

US EPA ARCHIVE DOCUMENT

**TABLE 8-1
AREAS THAT DO NOT CONTAIN LNAPL AND DO NOT REQUIRE FURTHER ACTION BASED ON THE RFI RESULTS**

**RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

AOI:	Section Reference	Description:
	4.5.14	Press Machine Pit
02-E	4.5.15	Former UST
02-F	4.5.16	Hydraulic Oil AST and Pump
04-A	4.5.23	Process Waste Room and Waste Pit
04-B	4.5.24	Elevator Pits
04-C	4.5.25	Elevator Pit
04-D	4.5.26	Former USTs
05-2	4.4.13	Filtration Room, Oil Room, Below-Grade Vault, and Elevator Pit
05-3	4.4.14	Building 43 Basement Containing Process Waste Oil Sumps and Drains
05-4	4.4.15	Metal Forming Operations, Recirculation Trenches and Sumps
05-6	4.4.17	Active Process Machinery, Collection Trenches, and Sumps
07-1	4.4.35	Former Coal Yard
07-2	4.4.36	Inactive Line "Slacker House" and Inactive Lime Slurry Tank
07-3	4.4.37	Two Elevator Pits and a Bulk Acid AST
10-2	4.4.9	Solid Waste Transfer Area and Former ASTs
10-3	4.4.10	Two Process Waste Oil Sumps
12-D	4.5.22	Abandoned, Flooded Utility Tunnel
16-A	4.5.27	Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station
16-B	4.5.28	Elevator Pit
16-D	4.5.30	Former UST and Process Wastewater Sump
17-A	4.5.10	Elevator Pit
21-1	4.4.24	Former Metal Chip Briquetting Operations and Current Metal Welding and Tool Grinding Operations
36-3	4.4.4	Engine Assembly, Waste Oil Collection and Processing, and Former USTs
36-4	4.4.5	Former Metal Machining and Active Engine Assembly
38-1	4.4.1	Process Waste Sumps, Trenches, and Former Hydraulic Car Lifts
40-C	4.5.33	Elevator Pit
40-D	4.5.34	Flooded Basement/Tunnel Area
44-A	4.5.35	Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs
55-1	4.4.7	Industrial Wastewater Treatment Facilities
65-1	4.4.25	Air Compressor Station and a Main Process Waste Pump Station
81-3	4.4.21	Former Foundry Operations, an Elevator Pit and an Inactive Rail Loading Area
81-4	4.4.22	Air Compressor Operations
81-5	4.4.23	Existing and Former ASTs
83/84-1	4.4.26	Former and Existing Machining Operations
83/84-5	4.4.30	Former Process Trenches and Pits, and an Inactive Heat Treating Tunnel
83/84-6	4.4.31	Forklift Battery Charging Area and Associated Trench and Pit, and a Drum Storage Area
83/84-7	4.4.32	Underground Storage Tanks
84-B	4.5.7	Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault
84-C	4.5.8	Sumps, a Trench, and an Oil/Water Separator Pit
84-D	4.5.9	Former UST Farm, and AST Farm, and Drum Storage Area
94-A	4.5.1	Sumps and Trenches in Oil Change Pits and Chemical Storage Areas
94-B	4.5.2	Process Sump and Trench
94-C	4.5.3	Hydraulic Oil Storage Area
94-D	4.5.4	Pit for a Cable-Operated Car Elevator
94-E	4.5.6	Car Loading Machinery and Hydraulic Oil Observed on Floor
Other Areas of Interest:		
	4.6.1	Former Aeration Lagoons Area
	4.6.3	Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs)
	4.6.2	Harriet Street Area (USTs)
	4.6.5	Former Employee Parking Lot North of Oak Park

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**TABLE 8-2
AREAS THAT DO NOT CONTAIN LNAPL AND REQUIRE ACTION BASED ON THE HUMAN HEALTH RISK ASSESSMENT**

**RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

AOI:	Section Reference	Description:	Remarks:
02-A	4.5.11	Process Wastewater Sump	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
02-C	4.5.13	Sump in Materials Laboratory	Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area.
09-A	4.5.36	Former USTs, Floor Trenches, and Former AST	Bounding CCR and HI for potential exposure of residents and recreators to soil at certain locations exceed USEPA risk limits. Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area and an interim measure is being prepared to remove contaminated soil.
29-A	4.5.18	Elevator Pit and Observed Oil Staining	Lead concentrations in surface and deep soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area.
81-1	4.4.19	Metal Machining, Chip, Cooling, and Cutting Oil Filtration and Processing, a Hydraulic Elevator, Process Waste Sumps and Tanks, a Drum Storage Area, and an Active Hazardous Waste Accumulation Area	Mean lead concentrations in deep soil exceed the industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
83/84-3	4.4.28	Former and Existing Machining Operations	Mean lead concentrations in surface and deep soil exceed the industrial routine worker screening criterion. The AOI is covered by operational building floors. A Due Care Plan has been prepared and procedures implemented in this area.
84-A	4.5.76	Elevation Pits, Sumps, Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
--	4.6.4	Former Building 94 Employee Parking Lot	Bounding HI for potential exposure of residents to soil at certain locations exceeds the USEPA HI limit.

Notes:

CCR = Cumulative cancer risk.

HI = Hazard index.

**TABLE 8-3
AREAS THAT CONTAIN LNAPL (TO BE FURTHER EVALUATED IN THE CORRECTIVE MEASURES PLAN)**

**RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN**

AOI:	Section Reference	Description:	Remarks:
AOIs That Contain LNAPL and Do Not Require Further Action Based on the Human Health Risk Assessment			
03-1	4.4.18	Factory 03 Area	
05-1	4.4.12	Former Metal Machining Chip Processing	Automated LNAPL recovery system is currently in service in this area.
05-5	4.4.16	Active Process Machinery, Collection Trenches, and Sumps	Automated LNAPL recovery system is currently in service in this area.
10-1	4.4.8	Factory 10 Area; Manufacturing Operations and Several Tanks	Automated LNAPL recovery system is currently in service in this area.
10-4	4.4.11	Factory 10 Area; Scrapyard	Automated LNAPL recovery system is currently in service in this area.
12-C	4.5.21	Sump in Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water	
16-C	4.5.29	Hydraulic Motor, Former AST, and Former USTs	Automated LNAPL recovery system is currently in service in this area.
23-A	4.5.17	Process Waste Sumps, Dock Levelers, and Basement Used for Heat Treat Process Water	Accumulated product is removed from the tunnel periodically via a vac-truck.
36-2	4.4.3	Metal Chip Processing Area	Automated LNAPL recovery system is currently in service in this area.
36-5	4.4.6	Former UST Farm and Active AST Farm	Automated LNAPL recovery system is currently in service in this area.
40-A	4.5.31	Building 16/40 Corridor Area	
40-B	4.5.32	Building 16/40 Corridor Area	
83/84-4	4.4.29	Factory 83/84 Area	
85-1	4.4.33	Building 87/Leith Street	
AOIs That Contain LNAPL and Require Further Action Based on the Human Health Risk Assessment			
02-B	4.5.12	Elevator Pit	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
09-B	4.5.37		Bounding CCR for potential exposure of residents to soil at certain locations exceed USEPA risk limits. Bounding CCR and HI for potential exposure of routine workers in a non-OSHA commercial building and residents to LNAPL via vapor intrusion also exceed USEPA limits. Bounding CCR and/or HI for potential exposure of maintenance and redevelopment construction workers to LNAPL exceed USEPA risk and HI limits. Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. Due Care Plan has been implemented at the Site to minimize exposure during any planned maintenance activity in the LNAPL area.
12-A	4.5.19	Press Pits, Sumps, Trenches, Traps, and Floor Staining	Lead concentrations in surface soil at certain locations exceed the residential and/or industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
12-B	4.5.20	Truck Loading Dock Drain and Sump	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
36-1	4.4.2	Factory 36 Area; Engine Manufacturing and Metal Machining Processes	High-end CCR and HI for potential exposure of construction workers to LNAPL exceed USEPA risk and HI limits. Bounding CCR and HI for potential exposure of routine workers to soil and LNAPL via vapor intrusion for a future non-OSHA commercial building exceed USEPA risk and HI limits. Bounding CCR and HI for potential exposure of maintenance workers to LNAPL exceed USEPA risk and HI limits. Due Care Plan has been implemented at the Site to minimize exposure during any planned maintenance activity in the LNAPL area.
81-2	4.4.20	Factory 81 Area; Active Metal Welding and Machining and Torque Converter Assembly	Bounding HI for potential exposure of routine workers to soil exceeds the USEPA HI limit. Bounding HI for potential exposure of routine workers to soil via vapor intrusion for a future non-OSHA commercial building exceeds the USEPA HI limit. The AOI is covered by operational building floors. A Due Care Plan has been prepared and procedures implemented in this area.
83/84-2	4.4.27	Former and Existing Machining Operations	Mean lead concentrations in deep soil exceed the industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
86-1	4.4.33	Hazardous Waste Drum Accumulation Area, Process Waste Sump and Pump Station, Waste Transport Vehicle Storage Area, and Former USTs	Bounding CCR and HI for potential exposure of residents to soil at certain locations exceed USEPA risk and HI limits.

Notes:

CCR = Cumulative cancer risk.
HI = Hazard index.