

MACHINE NUMBER SPACE DESCRIPTION	SPACE DESIGNATION	HAZARDS		REQUIRED ENTRY EQUIPMENT	FREQUENCY OF ENTRY
		ACCEPTABLE ENTRY PROCEDURES			
<u>VMM sand hoppers Full</u> #51201-101 (#1) #51202-101 (#2) #51203-101 (#3) #51204-101 (#4) #51405-101 (#5) #51106-101 (#6) #51407-101 (#7) #51108-101 (#8)	Permit Required	Mechanical movement of bottom belt. Engulfment in contents (sand). Fall hazard greater than 4 feet (12 feet). Dusty atmosphere. Toxic atmosphere- previous monitoring has shown low levels of CO	1. Empty contents of hopper 2. Block inflow of material (sand) 3. Lockout related equipment, belts 4. Air monitoring must be within acceptable limits pre-entry & during work	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device Portable ladder Ventilation- system, portable, natural	As needed for maintenance only
<u>VMM sand hoppers Empty</u> #51201-101 (#1) #51202-101 (#2) #51203-101 (#3) #51204-101 (#4) #51405-101 (#5) #51106-101 (#6) #51407-101 (#7) #51108-101 (#8)	Permit Required	Mechanical movement of bottom belt. Fall hazard greater than 4 feet (12 feet). Toxic atmosphere- previous monitoring has shown low levels of CO	1. Lockout related equipment, bottom belt, inflow sand belt 2. Air monitoring must be acceptable prior to and throughout entry period 3. Continuous ventilation is required, possibly with use of portable blower	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device Portable ladder Ventilation- system, portable, natural	As needed for maintenance only
<u>VMM Aerators</u> Gray #1 - #4 Ductile #5 - #8	Non-permit	Mechanical movement of cutter wheels Mechanical movement of bottom belt.	1.Lockout related equipment 2.Clean build up prior entry	*Blower required during hot work	As needed for cleaning
<u>VMM Spill Sand Conveyor Pit</u> Gray #1 - #4 Ductile #5 - #8	Non-permit Ventilation Procedure	Possible toxic atmosphere noted low level CO @ entry during production Mechanical sand conveyor Iron spill into pit if entered during production Dusty atmosphere.	1. Lockout conveyor 2. Enter under non-production with ladle empty	Multi Gas Air Monitor Ventilation- system, portable, natural *Blower required during hot work	Daily
<u>VMM Exhaust Chamber</u> Gray Vmm #1 & #4 Ductile Vmm #5 - #8	Permit Required	Engulfment in contents (sand). Entrapment (Tapered Bottom) Fall hazard greater than 4 feet.	1. Lockout VMM and Dampers 2. Clean out build up as much as possible prior to entry.	Multi Gas Air Monitor Ventilation- system, portable, natural *Blower required during hot work Non-Production Entry Only!	As needed for maintenance only
<u>VMM Auto Pour / Tilt Pour Pits</u> Non-Production Entry Only! Gray Vmm #1 & #4 Ductile Vmm #5 - #8	Non-permit	Iron spill into pit if entered during production Low level carbon monoxide noted during production Electrical hazard from inductor and power leads	1. Lockout VMM & PMC 2. Lock out inductor	Ladder Multi Gas Air Monitor Ladder Non-Production Entry Only!	As needed for cleaning or repair

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VMM Auto Pour / Tilt Pour Pits With Production Running Gray Vmm #1 & #4 Ductile Vmm #5 - #8	Permit Required	Mechanical movement of furnace Iron spill into pit if entered during production Low level carbon monoxide noted during production Electrical hazard from inductor and power leads 1. Lockout VMM & PMC 2. Lock out inductor 3. Sand berm must be in place if concrete berm is missing. 4. Must have spotter when HMC is running.		Ladder Multi Gas Air Monitor Ventilation- system, portable, natural Spotter	As needed for cleaning or repair
#5 VMM Turntable Pit	Non-permit Ventilation Procedure	Mechanical rotating movement Iron spill into pit if entered during production Low level carbon monoxide noted during production 1.Lockout related equipment. 2.Ventilate space 3.Barricade off forklift traffic.		Ventilation- system, portable, natural *Blower required during hot work Meter may be worn on person Non-Production Entry Only!	As needed for maintenance only
Vacuum Pump Filter House Gray Ductile	Non-permit	Dusty atmosphere. Entrapment Possible bad atmosphere 1.Lockout related equipment. 2.Empty contended 3.Ventilate space		Ladder	As needed for cleaning
#4 VMM Hydraulic Tank	Permit Required	Engulfment in contents (Liquid). Entrapment Possible bad atmosphere 1.Lockout pumps 2.Block inflow and outflow lines. 3.Empty contence of space. 4.Ventilate space		Multi Gas Air Monitor Ventilation- system, portable, natural	As needed for cleaning
Parting Spray Day Tank Gray Ductile	Permit Required	Engulfment in contents (Liquid). Entrapment Possible bad atmosphere 1.Lockout pumps 2.Block inflow and outflow lines. 3.Empty contence of space. 4.Ventilate space		Multi Gas Air Monitor Portable ladder Ventilation- system, portable, natural	As needed for cleaning

MACHINE NUMBER SPACE DESCRIPTION	SPACE DESIGNATION	HAZARDS ACCEPTABLE ENTRY PROCEDURES	REQUIRED ENTRY EQUIPMENT	FREQUENCY OF ENTRY
<u>Casting Coolers</u> #51245-406 (#4House) #51245-401 (#4Buzzer) #51245-106 (#1House) #51245-101 (#1Buzzer) #51345-206 (#2House) #51345-201 (#2Buzzer) #51345-306 (#3House) #51345-301 (#3Buzzer) #51445-106 (#5House) #51445-101 (#5Buzzer) #51146-106 (#6House) #51146-109 (#6Buzzer) #51447-106 (#7House) #51447-101 #7Buzzer) #51148-106 (#8 Casting Cooler)	Non-permit Ventilation Procedure	Possible toxic atmosphere (low level CO) if filled with castings/sand. Temperature/Hot castings Extreme air flow Mechanical belt and shaking mechanism Ventilation Procedure Required 1. Run blowers pre-entry to allow castings to cool 2. Lockout related equipment, belt, shaker etc. 3. Suction air remains on for ventilation unless performing Hot Work 4. Air monitoring must be within acceptable limits pre-entry & during work	Multi Gas Air Monitor Ventilation- system, portable, natural *Blower required during hot work	As needed for maintenance only
<u>Rotary Core Butt- Screens</u> #51345-605 (Gray) #51445-605 (Ductile)	Permit Required	Possible toxic atmosphere noted low level CO Mechanical movement of rotary screen, in-feed, out-conveyor belts Fall greater than 4 feet Ventilation Procedure Required 1. Air monitoring pre-entry and during entry must be acceptable. 2. Enter only during non-production by maintenance personnel ONLY 3. Continuous air monitoring and ventilation are required during entry.	Multi Gas Air Monitor Ventilation- system, portable, natural	As needed for maintenance only
<u>Rotary Core Butt- Enclosure</u> #51345-605 (Gray) #51445-605 (Ductile)	Permit Required	Possible toxic atmosphere noted low level CO @ entry during production Mechanical movement of rotary screen, in-feed, out-conveyor belts Fall hazard greater than 4 feet. 1. Lockout rotary screen, in & out feed conveyor system. 2. Fall protection with mechanical retrieval required. 3. Air monitoring must demonstrate acceptable limits.	Multi Gas Air Monitor Body harness Mechanical retrieval device Portable ladder Lifeline/rope	As needed for maintenance only
<u>Surge Bin 250 Ton</u> #51345-613 (Gray) #51445-613 (Ductile)	Permit Required	Dusty atmosphere. Potential to engulf Fall hazard greater than 4 feet Mechanical hazard in & out conveyors 1. Empty contents of silo 2. Lockout related equipment- in & out conveyors 3. Air monitoring must demonstrate acceptable limits. 4. Fall protection with mechanical retrieval required	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device	As needed for maintenance only

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Dry Sand Aerators #51345-618 (Gray) #51345-619 (Gray) #51445-618 (Ductile) #51445-619 (Ductile)	Non-permit	Mechanical movement of cutter wheels Mechanical movement of bottom belt. 1.Lockout related equipment 2.Clean build up prior entry	*Blower required during hot work	As needed for cleaning
Moisture Addition System #51345-629 (Gray) #51445-629 (Ductile)	Non-permit	Mechanical movement of bottom belt. Incoming Water Ionizing Radiation 1.Lockout related equipment 2.Clean build up prior entry	*Blower required during hot work	Weekly
625 Sand Cooler #51345-625 (Gray) #51445-625 (Ductile)	Non-permit Ventilation Procedure	Dusty atmosphere. Excessive heat Excessive air flow 1. Continuous ventilation either system air or portable blower 2. Allow adequate cooling time before entry 3. Lock out sand cooler	Ventilation- system or portable Multi Gas Air Monitor	Weekly
615 Final Sand Screen #51345-615 (Gray) #51445-615 (Ductile)	Non-permit Ventilation Procedure	The entire piece of equipment shakers Possible low level CO during production 1. Lockout related equipment to prevent movement 2. Air monitoring must be acceptable prior to and throughout entry period	Multi Gas Air Monitor Ventilate	Weekly
607/627 Bucket Elevator Enclos #51345-627 #51345-604 #54400-132 #51445-627 #51445-607	Non-permit	Mechanical hazard- bucket elevator Fall hazard greater than 4 feet if entering from the top Dusty atmosphere. 1. Lockout bucket elevator and related equipment 2. Open top door for ventilation 3. Enter via bottom door only	Entry ONLY from bottom door!!!	Weekly

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Gate and Sprue Pit #51345-683 to 690	Non-permit Ventilation Procedure	Mechanical conveyer Low lighting Historically there have been low levels of CO in this pit Ventilation Procedure Required 1. Lockout conveyer if any guards are removed. 2. Air monitoring must be acceptable prior to and throughout entry period 3. Continuous air monitoring and ventilation required	Multi Gas Air Monitor Ventilation- system or portable	Weekly
Pelletizer Dust Silos #59199-418 (Gray South) #59199-419 (Melt) #59199-420 (Ductile)	Permit Required	Lack of oxygen Dusty atmosphere. Engulfment in contents (dust). Fall hazard greater than 4 feet. Combustible gases, vapors, dust 1. Air monitoring pre-entry and during entry must be acceptable. 2. Lockout related equipment 3. Empty space contents (dust) 4. Block inflow lines. 5. Fall protection with mechanical retrieval required	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device Portable ladder	As needed for maintenance only
New Sand / Bond Silos #51350-601 (Gray) #51450-601 (Ductile)	Permit Required	Dusty atmosphere. Potential to engulf Fall hazard greater than 4 feet Pneumatic in feed at top of silo Mechanical auger in bottom of silo 1. Block pneumatic inflow of dust 2. Empty contents of silo 3. Lockout auger in bottom 4. Air monitoring must demonstrate acceptable limits 5. Fall protection with mechanical retrieval required	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device Portable ladder	As needed for maintenance only
Mullors #1-#12 Empty #51350-100 (#1) #51350-200 (#2) #51350-300 (#3) #51350-400 (#4) #51350-500 (#5) #51350-510 (#6) #51450-100 (#7) #51450-200 (#8) #51450-300 (#9) #51450-400 (#10) #51450-500 (#11) #51450-510 (#12)	Non-permit	1. Low level of CO noted in mullor before sand is emptied 2. Dusty atmosphere 3. Mechanical hazard- spinning plow 4. Engulfment in contents (sand) 1. Empty contents of mullor 2. Lockout plow and related equipment 3. Block sand inflow	Lockout	Daily

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Mullors #1-#12 Full #51350-100 (#1) #51350-200 (#2) #51350-300 (#3) #51350-400 (#4) #51350-500 (#5) #51350-510 (#6) #51450-100 (#7) #51450-200 (#8) #51450-300 (#9) #51450-400 (#10) #51450-500 (#11) #51450-510 (#12)	Non-permit Ventilation Procedure	1. Low level of CO noted in muller before sand is emptied 2. Dusty atmosphere 3. Mechanical hazard- spinning plow 4. Engulfment in contents (sand) Ventilation Procedure Required 1. Lockout plow and related equipment 2. Block sand inflow 3. Continuous air monitoring and ventilation required	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance only
Mullor Sand Silos #1-#12 #51350-101 (#1) #51350-201 (#2) #51350-301 (#3) #51350-401 (#4) #51350-501 (#5) #51350-511 (#6) #51450-101 (#7) #51450-201 (#8) #51450-301 (#9) #51450-401 (#10) #51450-501 (#11) #51450-511 (#12)	Permit Required	Toxic atmosphere- previous monitoring has shown low levels of CO Engulfment in contents (sand) Fall hazard greater than 4 feet 1. Block the inflow lines to silo. 2. Empty contents of silo 3. Lockout bin activator 4. Air monitoring must demonstrate acceptable limits	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device	As needed for maintenance only
AO System Clarifier Tank	Permit Required	Engulfment (water) Entrapment sloping sides Electrical hazard from stingers 1.lockout related equipment (chains,pumps,stingers) 2.Block inflow water lines 3.Drain water	Multi Gas Air Monitor Body harness Lifeline/rope Ventilation- system, portable, natural Ladder	As needed for maintenance only
AO System DEMAR Tank	Permit Required	Engulfment (water) Entrapment sloping sides Electrical hazard from stingers 1.lockout related equipment (pumps,stingers) 2.Block inflow water lines 3.Drain water	Multi Gas Air Monitor Body harness Lifeline/rope Ventilation- system, portable, natural	As needed for maintenance only

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Sand Chutes Numerous points throughout the sand system	Non-permit	Mechanical conveyer Rotating Parts Moving Sand 1.Lockout related equipment 2.Clean build up prior entry	*Blower required during hot work	As needed for maintenance only
Sand Debris Hoppers 526B / 531B 610A / 610B	Permit Required	Toxic atmosphere- previous monitoring has shown low levels of CO Combustible dust Fall Hazard > 4 feet Engulfment (sand) Entrapment sloping sides Mechanical movement of belt. 1.Lockout related equipment 2.Clean build up prior entry 3. Fall protection required	Multi Gas Air Monitor Body harness Lifeline/rope Ladder *Blower required during hot work	As needed for maintenance only
Bond Day Tanks Gray Dcuctile	Permit Required	Dusty atmosphere- difficult to ventilate Engulfment in contents (bond/sand) Fall hazard greater than 4 feet Tapered Bottom 1. Block inflow lines to tank 2. Empty contents of tank 3. Air monitoring must demonstrate acceptable limits. *SCBA may be necessary for entry *No hot work performed on lining of silo	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device SCBA	As needed for maintenance only
West- New Sand Day Tank Dcuctile	Permit Required	Dusty atmosphere- difficult to ventilate Engulfment in contents (bond/sand)	Multi Gas Air Monitor Body harness	As needed for maintenance
East- New Sand Day Tank Gray		Tapered Bottom Fall hazard greater than 4 feet 1. Block inflow lines to tank 2. Empty contents of tank 3. Air monitoring must demonstrate acceptable limits.	Lifeline/rope Mechanical retrieval device SCBA	only

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Spill Surge Hopper Gray 40 Ton Ductile 40 Ton	Permit Required	Dusty atmosphere- difficult to ventilate Engulfment in contents-sand Fall hazard greater than 4 feet Tapered Bottom 1. Block inflow lines to tank 2. Empty contents of tank 3. Air monitoring must demonstrate acceptable limits.	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device	As needed for maintenance only
Wheelabrator Cabinets #1-#7 #52501-100 (#1) #52502-100 (#2) #52503-100 (#3) #52502-100 (#4) #52555-100 (#5) #52556-100 (#6) #52557-100 (#7)	Non-permit	Mechanical hazard, shot wheels moving and throwing shot 1. Lockout shot wheels and spinner 2. Allow time for shot wheel movement to stop.	Lockout	Daily
Wheelabrator Pits #1-#7	Non-permit	Mechanical hazard, bucket elevator, shaker moving overhead 1. Lockout spinner, shaker bucket elevator	Lockout	Weekly
Tumble Blast #52558-100 #52558-104 #52550-110	Non-permit	Mechanical hazard of equipment moving, shot wheels, in/out feed shakers Mechanical hazard of doors opening/closing 1. Lockout all related equipment including shot wheels, motors, shakers, door, box dumper. 2. Put door pins in place	Lockout	As needed for maintenance only
Core room CB Pits #54160-100	Permit Required	Toxic atmosphere (carbon monoxide and amine) Chemical leakage into pit 1.Lockout machine 2.Isolate and depressurize chemical lines	Multi Gas Air Monitor Ventilation- system or portable	
Core Sand Holding Silos	Permit Required	Dusty atmosphere Engulfment in contents (sand) Fall hazard greater than 4 feet Historically low levels of CO during hot work 1. Block inflow lines to tank 2. Empty contents of silo 3. Air monitoring must demonstrate acceptable limits.	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device	As needed for maintenance only

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Core Ovens #54401-120 (#1) #54402-120 (#2) #54403-120 (#3) #54404-120 (#4) #54405-120 (#5) #54406-120 (#6) #54407-120 (#7) #54408-120 (#8) #54171-120 (cell 1) #54172-120 (cell 2) #54173-120 (cell3) #6 CB 3644 Oven	Non-permit	Extreme Heat Mechanical moving belt 1. Allow ovens to cool prior to entry (approx. 2 hours minimum) 2. Lockout belts and related equipment 3. Open all doors and hatches to allow natural ventilation	Ventilation- system or portable Lockout	As needed for cleaning
Core room Bulk Chemical Tank (2) 6000 Gallon Tanks	Permit Required	Toxic atmosphere (chemical contact) Possible oxygen deficient Possible reaction between Part I and Part II 1.Lockout receiving equipment in truck bay. 2.Lockout associated piping. 3.Lockout Pumps 4.Lockout N2 purge ability	Multi Gas Air Monitor Chemical Suit, Gloves and Goggles	As needed for maintenance only
Core room Chemical Day Tank (8) 500 Gallon Tanks	Permit Required	Toxic atmosphere (chemical contact) Possible oxygen deficient Possible reaction between Part I and Part II 1.Lockout receiving equipment in truck bay. 2.Lockout associated piping. 3.Lockout Pumps 4.Lockout N2 purge ability	Multi Gas Air Monitor Chemical Suit, Gloves and Goggles	As needed for maintenance only
Core wash Mixing Tank Hotbox (2) 500 gallon Coldbox (1) 500 gallon Loramendi (2) 500 gallon	Permit Required	Mechanical hazard (moving mixer blades / paddles) Entrapment (tall sides) 1.Lockout mixing blades / paddles. 2.Lockout associated piping. 3.Lockout Pumps 4.Drain and rinse tank prior to entry	Multi Gas Air Monitor Ladder	As needed for cleaning

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Loramendi Dip Tanks	Non-permit	Engulfment in contents (liquid corewash) Mechanical hazard (moving mixer blades / paddles) Slippery Surface	<ol style="list-style-type: none"> 1.Lockout mixing blades / paddles. 2.Lockout associated piping. 3.Lockout Pumps 4.Drain and rinse tank prior to entry 	Ladder Lockout	As needed for cleaning
Spent Acid Tank (Scrubber) East Scrubber Room West Scrubber Room	Permit Required	Toxic atmosphere, residual sulfuric acid Chemical contract with sulfuric acid	<ol style="list-style-type: none"> 1. Block inflow of solution 2. Empty contents of tank and allow ventilation 3. Lockout related equipment 4. Air testing must be within acceptable limits 	Multi Gas Air Monitor Body harness Lifeline/rope Mechanical retrieval device Acid gear SCBA	ENTRY NOT PERMITTED
Dakota Scrubbers #54400-135 (East) Dakota Scrubber DES-108 #54170-135 (West) Dakota Scrubber DES-108	Permit Required	Toxic atmosphere- residual sulfuric acid and low levels of CO Chemical contract with sulfuric acid Mechanical hazard- pump, blower Electrical hazard if using electric tools in wet environment	<ol style="list-style-type: none"> 1. Block inflow of solution 2. Empty contents of tank and allow ventilation 3. Lockout related equipment, pump, blower 4. Air testing must be within acceptable limits 	Multi Gas Air Monitor Body harness Lifeline/rope Acid gear *Safety rope must be present but not worn during entry due to trip hazard, slippery surface	Monthly
HVAC #59199-671 to 688 (Gray) #59199-701 to 715 (Ductile)	Non-permit Ventilation Procedure	Excessive air flow Natural gas lines with burners	<ol style="list-style-type: none"> 1. Perform lockout on related equipment 	Multi Gas Air Monitor No Smoking inside Enclosure!	As needed for maintenance only

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Stacks SO-1 SO-4 SO-7 SO-8 SO-9 S14 S15 S16 S17 S44	Permit Required	Toxic atmosphere (possible high levels of carbon monoxide, amine gas, sulfur dioxide) Dusty atmosphere Extreme temperature Extreme air flow	Multi Gas Air Monitor Ventilation- system or portable May require extra cooling time Non-Production Entry Only!	As needed for maintenance only
		Ventilation Procedure Required 1. Air monitoring pre-entry and during entry must be acceptable. 2. Continuous ventilation required, a portable blower may be necessary 3. Lockout equipment related to stack to prevent emissions from interfering with entry.		
Ductwork Located throughout facility in upper and lower levels of plant.	Permit Required	Toxic atmosphere Possible high levels of carbon monoxide, Oxygen deficient Extreme temperature Extreme air flow Entrapment Engulfment Fall > 4 feet	Multi Gas Air Monitor Ventilation- system or portable May require extra cooling time Non-Production Entry Only!	As needed for maintenance only
		Ventilation Procedure Required 1. Air monitoring pre-entry and during entry must be acceptable. 2. Continuous ventilation required, a portable blower may be necessary 3. Lockout equipment related to stack to prevent emissions from interfering with entry.		
Torit Dust Collector	Permit Required	Dusty atmosphere Mechanical hazard- blower	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance only
		1. Lockout blower 2. Lockout all related equipment 3. Air monitoring must be acceptable prior to and during entry 4. No hot work is allowed while filters are in place		

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Bughouse Top #59199-201 (Gray VMM) #59199-301 (Gray Millroom) #59199-501 (Ductile VMM) #59199-515 (Ductile Millroom) #59199-351 (Hot & Coldbox) #59199-101 (Gray GMD) #59199-531 (Ductile GMD) #59199-534 (Melt Fugitive) Top Section Only	Non-permit Ventilation Procedure	Pulse Valves Dusty atmosphere	Multi Gas Air Monitor Ventilation- system or portable	Weekly
		Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry 4. No hot work is allowed while bags are in place	Non-Production Entry Only!	
Bughouse Bottom & Middle #59199-201 (Gray VMM) #59199-301 (Gray Millroom) #59199-501 (Ductile VMM) #59199-515 (Ductile Millroom) #59199-351 (Hot & Coldbox) #59199-101 (Gray GMD) #59199-531 (Ductile GMD) #59199-534 (Melt Fugitive) Bottom & Middle Section Only	Permit Required	Toxic atmosphere Oxygen deficient Entrapment Dusty atmosphere Bughouse dust collectors are pulling air from the mold cooling lines and may have low level carbon monoxide	Multi Gas Air Monitor Ventilation- system or portable	Weekly
		Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry 4. No hot work is allowed while bags are in place	Non-Production Entry Only!	
Dust Collector Blower Housing	Permit Required	Toxic atmosphere Oxygen deficient Entrapment Dusty atmosphere Baghouse dust collectors are pulling air from the mold cooling lines and may have low level carbon monoxide	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance
		1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Non-Production Entry Only!	

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Classifier Gray Ductile	Permit Required	Engulfment by contents Entrapment by configuration Dusty atmosphere Fall hazard greater than 4 feet	Ventilation Procedure Required 1. Lockout blowers, burners, rotolocks 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Ventilation- system or portable Portable ladder Portable lighting Non-Production Entry Only	As needed for maintenance only
Hot Box Dust Collection	Permit Required	Toxic atmosphere Mechanical hazard- auger Dusty atmosphere	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry 4. No hot work is allowed while bags are in place	Multi Gas Air Monitor Ventilation- system or portable Non-Production Entry Only	As needed for maintenance only
Loramendi Dust Collection	Permit Required	Toxic atmosphere Mechanical hazard- auger Dusty atmosphere	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry 4. No hot work is allowed while bags are in place	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance only
Railcar Sand,Scrap,Alloys and Non Metallics	Permit Required	Dusty atmosphere Engulfment by contents (sand) Possible toxic atmosphere (low level CO) Fall hazard greater than 4 feet	1.Empty contence of space. 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to entry 4.Blue flag on tracks to prevent railroad from moving car.	Multi Gas Air Monitor Body harness Lifeline/rope 2-way radio Mechanical retrieval device Blue Flag	As needed for maintenance only
Sand Railcar Unload Pit	Non-permit	Dusty atmosphere Rotating Parts (belt,tail pulley)	1.All guarding must be in place. 2.Conveyor pull cord accessible.	Ladder Blue Flag	Weekly

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Valve Vaults Located Throughout Facility and surrounding outside areas	Permit Required	Possible toxic atmosphere (low level CO or oxygen deficient) Contains material that can engulf (water) Fall hazard > 4 feet Engulfment Animals and/or Insects Acceptable air prior to entry Lockout fill pipe Empty contents prior to entry	Multi Gas Air Monitor Body harness Mechanical retrieval device 2-way radio Portable lighting No Entry During Rain Event!	As needed for maintenance only
Manholes / Storm Sewers Located Throughout Facility and surrounding outside areas	Permit Required	Possible toxic atmosphere (low level CO or oxygen deficient) Contains material that can engulf (water) Fall hazard > 4 feet Entrapment Animals and/or Insects Acceptable air prior to entry Lockout fill pipe Empty contents prior to entry	Multi Gas Air Monitor Body harness Mechanical retrieval device 2-way radio Portable lighting No Entry During Rain Event!	As needed for maintenance only
Ringwood Unit	Permit Required	Possible toxic atmosphere (low level CO or oxygen deficient) Contains material that can engulf (water) Entrapment Chemical Contact (caustic) 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Portable lighting Chemical Gloves	As needed for maintenance only
Trash Compactor Galbreath Marathon	Permit Required	Crush from Compacting Ram Entrapment hazard Contains material that can engulf (trash) Entrapment hazard (sloping sides) Animals and/or Insects 1. Lockout all equipment 2. Brace Ram in position	Locks Bracing material	As needed for maintenance only
Sump Pit Septic Lift Station #55001-103 (Gray Millroom) #55001-102 (Air Compressor) #55001-105 (X-Ray Building)	Permit Required	Fall hazard greater than 5 feet Contains material that can engulf Mechanical hazard 1. Empty contents prior to entry 2. Lockout all equipment 3. Ventilate with blower	Multi Gas Air Monitor Body harness Mechanical retrieval device Portable ladder	As needed for maintenance only

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Air Tanks Located Throughout Facility	Permit Required	Toxic atmosphere Oxygen deficient Entrapment	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Ventilation- system or portable Portable lighting No Hot Work Allowed On Pressure Vessels!	As needed for maintenance only
Hydraulic Tanks Located Throughout Facility	Permit Required	Toxic atmosphere Oxygen deficient Entrapment	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Ventilation- system or portable Portable lighting No Hot Work Allowed On Oil Vessels!	As needed for maintenance only
Oily Condensate Tank	Permit Required	Engulfment (oily condensate water) Entrapment (deep sides)	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance only
Used Oil Tank	Permit Required	Engulfment (oil) Entrapment (deep sides)	1. Lockout all related equipment (inflow pump)	Multi Gas Air Monitor Ventilation- system or portable	As needed for maintenance only
Used Oil Tank Containment	Non-permit	Slippery Surface	1. Lockout all related equipment (inflow pump to tank)	Lockout	As needed for maintenance only
New Water Room (West) #59190-201 #59190202 (2) 5000 Gallon overflow tanks (2) Coldwell tanks (2) Heat exchangers	Permit Required	Engulfment (water) Entrapment (deep sides)	Ventilation Procedure Required 1. Lockout all related equipment 2. Continuous ventilation required, a portable blower may be necessary 3. Air monitoring must be acceptable prior to and during entry	Multi Gas Air Monitor Ventilation- system or portable Mechanical retrieval device Ladder	As needed for maintenance only

MACHINE NUMBER SPACE DESCRIPTION	SPACE DESIGNATION	HAZARDS	REQUIRED ENTRY EQUIPMENT	FREQUENCY OF ENTRY
		ACCEPTABLE ENTRY PROCEDURES		
BRM Project Open sand pit in center of project. <i>Pit is temporary until project is up to finished grade.</i>	Non-permit	Engulfment (water, loose sand) Entrapment (deep sloping sides) Possible low level CO (from construction equipment). Heavy equipment working in close proximity (dozers, excavators, trucks). 1. Shore or excavate sides to minimize slope. 2. Acceptable air readings prior to entry. 3. Must have spotter for equipment working in close proximity.	Multi Gas Air Monitor Barricades Spotter	As needed to install pipe sections.