
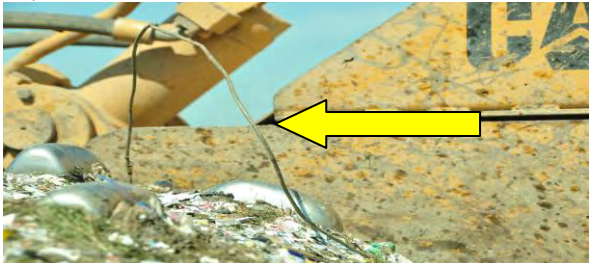



JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Removing Items Caught in Compactor- Bulldozer	Task ID:
Job:		Date Developed: August 14, 2009	
		Date Revised:	
Hazards Present <ul style="list-style-type: none"> • Crush by machinery • Sharp/ Protruding objects • Slips/ Falls from machine • Muscle/ Back injury 	Applies To: (Department/Division/Branch/Section) Water and Waste/ Solid Waste/ Disposal/ Removing Items Caught in Compactor- Bulldozer	Training Requirements: <ul style="list-style-type: none"> • Operator 4 training 	
Tools/Equipment Required <ul style="list-style-type: none"> • Cable cutters • Big bolt cutters • Knife • Cutting torch • Pulling chain • Come along/ Bulldozer/ Compactor 	Materials Required <ul style="list-style-type: none"> • 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • CSA approved steel toe footwear • Puncture proof gloves • Safety Glasses • Welding gloves • Welding eye protection 	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Shut machine off, lock the breaks and lower the blade to the ground.	-Potential serious/ fatal injury from blade not being lowered to the ground. -Potential/ fatal injury from machinery shifting while working on it. -Body being caught in moving parts and hydraulics if machine isn't shut off.	-Lower blade to ground to lock it out. -Put machine into neutral and activate the emergency/ parking breaks.

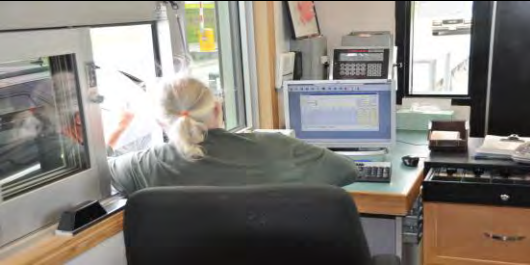
2	<p>Dismount machine</p>	<ul style="list-style-type: none"> -Slipping on mud, ice, steel -Back injury or muscle strain from a fall -Being cut or impaled by hard/sharp/ protruding landing surfaces when falling 	<ul style="list-style-type: none"> -Clear mud off ladder steps (summer). - Use sand on machine ladder steps (winter). - Dismount machinery slowly; refrain from using quick jerky movements. - Ensure footing is solid before proceeding to next mounting step. - Grip handles tight, with full fist.
3	<p>Lock out machine and survey what/ how items need to be removed from machine.</p> 	<ul style="list-style-type: none"> -Other people starting machine and driving machine unknowing to worker in/ under machine area. -Falling off machine/ knocking limbs from pulling items out of machine that were loose in the first place. 	<ul style="list-style-type: none"> -Find master cut off switch on machine, near engine bay, turn the key to the off position and remove it before surveying. -Look and asses to see how items need to be removed, or how stuck they might be. -Gently pull and wiggle stuck items to evaluate if they might need to be taken out a different way.
4	<p>Pull or cut small cables in machine by hand, or;</p> 	<ul style="list-style-type: none"> -Cutting hands/ fingers with tools. -Cut or puncture to skin by cables/ springs/ sharps from pulling material. -Cables/ springs poking eyes when pulling. -Material pulling out and hitting worker in the face. -Muscle/ back injury 	<ul style="list-style-type: none"> -If material (cables, springs, etc.) wont move, do not attempt to pull harder or to keep pulling. Move on to another option of removal. -Wear all personal protective equipment. -Avoid from jerky/ abrupt pulling movement.

5	<p>Pull large items or cables out of machine by dozer/ come-along/ front-end loader with a chain, or;</p> 	<ul style="list-style-type: none"> -Falling into/ off of machine parts when attaching chain. -Chain/ cables snapping when pulling, causing severe injury to workers standing in vicinity. -Being hit by heavy machinery 	<ul style="list-style-type: none"> -Sand steps (winter) -Maintain a three point contact when climbing machine. -Ensure good solid footing when attaching chain to material. -Stand far back or on the other side of the inactive machinery, out of the way to avoid from being hit by chain. -Maintain eye contact at all times with other machinery operators.
6	<p>Have equipment mechanic cut large cables with cutting torch if necessary</p>	<ul style="list-style-type: none"> -Explosion if torch contacts flammable materials. -Burns to mechanic from torch. -Damaging machinery from torch. 	<ul style="list-style-type: none"> -Ensure only the equipment mechanic uses the cutting torch, and only if necessary. -Ensure there are no leaks from machinery or the cutting material is not extremely flammable before cutting. -Wear all personal protective equipment.
7	<p>Going under machinery to remove caught items</p>	<ul style="list-style-type: none"> -Puncture to skin from protruding/ sharp articles in ground. -Worker being crushed by machine. 	<ul style="list-style-type: none"> -Ensure the machine is OFF, the breaks are locked, and the machine is locked-out before going under machine. -Bring machine to mechanic bay or onto pavement if possible before going under machine.
8	<p>Climbing machine to access/ pull caught items in machinery by hand.</p>	<ul style="list-style-type: none"> -Slipping off machine steel surfaces. -Falling onto protruding objects in ground -Falling behind blade area causing serious injury -Material dislodging causing operator to fall off machine 	<ul style="list-style-type: none"> -Sand steps (winter) -Maintain a three point contact when climbing machine. -Ensure good solid footing when attaching pulling material. -If material (cables, springs, etc.) wont move, do not attempt to pull harder or to keep pulling. Move on to another option of removal.

Developed By:	Brian Roach	Duncan Menzies	Jim Rose
Mgmt Co-Chair Approval:	Original Signed By:		Worker Co-Chair Approval: Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Operating the Scale	Task ID:
Job:			Date Developed: July 15, 2009
			Date Revised:
Hazards Present <ul style="list-style-type: none"> • Cold/ wet weather conditions • Irate customers • Pinch from window • Slips on steel walkway • Emotional Stress from scale operation tasks • Unknown public entering scale office • Back strain • Repetitive Motion 	Applies To: (Department/Division/Branch/Section) Water and waste/ Solid Waste/ Disposal/ Operating the Scale	Training Requirements: <ul style="list-style-type: none"> • Weighmaster training 	
Tools/Equipment Required <ul style="list-style-type: none"> • Two forms of functional telecommunication 	Materials Required <ul style="list-style-type: none"> • Sand for ice • Salt for ice 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • Appropriate clothing for weather conditions • CSA approved steel toe footwear 	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Walk from transport vehicle/ main office to scale office.	-Slipping on stairs or steel scale weigh area. -Being struck by vehicle traffic. -Frostbite from exposure to cold weather.	-Ensure a high visibility vest is worn. -Sand/ salt ground frequently where workers may walk. -Wear proper clothing for weather conditions.
2	Collect fees from public through payment window. *Continued on next page	-Back strain from bending out of window -Exposure to weather elements (wind, rain, cold) -Verbal abuse or threats from irate public -Physical violence from public through window or coming through main office door.	-Advise public to exit vehicle and come up to window if they park too far from window, DON'T REACH for them. -Wear proper clothing for weather conditions -If public becomes irate, close and lock both windows then contact foreman to notify them of the situation. -Push the red button hard and slowly to open the window


		<ul style="list-style-type: none"> -Window snapping back and pinching fingers or arm. -Unknown persons entering scale office through access door. -Muscle strain from extending left arm through window frequently. -Restricted line of sight towards road. 	<ul style="list-style-type: none"> -Ensure the door to the scale office is locked at all times -Alternate arms when collecting fees through the window. -Suggest engineering controls such as surveillance cameras or mirrors to allow for better line of sight towards incoming vehicles.
3	<p>Return receipt and give instruction to public through window.</p>	<ul style="list-style-type: none"> -Back strain from bending out of window -Exposure to weather elements (wind, rain, cold) -Verbal abuse or threats from irate public -Window snapping back and pinching fingers or arm 	<ul style="list-style-type: none"> -DON'T REACH for public, let them get out of their car or reach for you. -If public becomes irate, close and lock both windows then contact foreman to notify them of the situation -Push the red button hard and slowly to close the window
4	<p>Exit scale office to direct traffic off scale or into alternate payment lanes.</p>	<ul style="list-style-type: none"> -Freezing temperatures in winter -Slipping on ice or steel ground in winter -Being struck by vehicular traffic 	<ul style="list-style-type: none"> -Use intercom to explain usage of payment lane when possible. -Ensure a high visibility vest is worn -Wear proper clothing for weather conditions -Lock the door to the scale office after leaving scale office. - Sand and salt the ground in winter. -Ensure a second weighmaster is in the scale office to allow access through door, and to supervise in case of emergency.
5	<p>Walk across payment lanes to instruct public how to use automated payment method.</p>	<ul style="list-style-type: none"> -Falling under the wheel of a moving vehicle -Tripping on curbs that separate lanes -Slipping on steel from the scale -Injury from falling at different heights when walking over lanes 	<ul style="list-style-type: none"> -Walk to the end of the payment lanes to enter from opening of the lane. -Salt and sand payment lanes prior to shift and occasionally throughout the day.
6	<p>Walk back into scale office from directing traffic or giving instruction to public</p>	<ul style="list-style-type: none"> -Being struck by vehicular traffic -Slips on ice or steel steps 	<ul style="list-style-type: none"> -Walk on salted/ sanded path -Ensure that drivers of vehicle see you before crossing lanes




7	Exit scale office to transport vehicle or walk back to main office.	<ul style="list-style-type: none"> -Slipping on stairs or steel scale weigh area. -Being struck by vehicle traffic. -Frostbite from exposure to cold weather. 	<ul style="list-style-type: none"> -Ensure a high visibility vest is worn. -Wear proper clothing for weather conditions. -Sand/ salt ground frequently where workers may walk.
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Developed By:	Brian Roach	Doug Reid	Jim Carter
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Operating Front-End Loader	Task ID:
Job:		Date Developed: Aug 7, 2009	
		Date Revised:	
Hazards Present Slips off machine's ladder Machine malfunction Tipping machine	Applies To: (Department/Division/Branch/Section) Water and waste/ Solid Waste/ Disposal/ Operating Front-end Loader		Training Requirements: <ul style="list-style-type: none"> • Front-end Loader Operator Certification
Tools/Equipment Required Front-end Loader	Materials Required •	Personal Protective Equipment High Visibility Vest CSA Approved Steel Toe Footwear	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Perform pre-trip inspection on the machine. 	-Machine malfunction if inspection isn't done properly.	-Locate master cut-off switch near the engine bay and ensure it is on, check all fluid levels, inspect for wear and tear in fluid lines, tires, and joints of the machine.
2	Mount the front-end loader	-Slipping off the machine's ladder	-Maintain a three point contact when climbing ladder.


			<p>-Mount the ladder slowly, avoid from using jerky/ abrupt movements.</p>
3	<p>Start the machine and then travel to the load area</p> 	<ul style="list-style-type: none"> -Bucket catching on something on the ground and abruptly stopping the machine. -Operator being thrown around the cab of the machine from bumps or abrupt stops. -Striking objects or structures in path -Machine rocking back and forth severely in travel. 	<ul style="list-style-type: none"> -Raise the bucket to at least 18-24" off the ground and curl the bucket up prior to travelling. -Wear seatbelt. -Ensure objects are clear of travel path and motion range of the machine. -Don't travel with the bucket lifted higher than the front of the machine.
4	<p>Advance the machine towards the material and scoop a load with the bucket.</p> 	<ul style="list-style-type: none"> -Machine falling into holes or ditches from driving up parallel to the side or at an angle. -Machine impacting the load pile from approaching too quickly 	<ul style="list-style-type: none"> -Approach holes/ ditches/ dips head on -Use the bucket to help stabilize the machine if it seems unsteady, lower and press the bucket to the ground. -Advance into the load pile slowly, and raise the bucket out of the load pile slowly.
5	<p>Transport the load to the dumping area.</p>		<p>-Transport load 18-24" above the ground.</p>

		<ul style="list-style-type: none"> -Machine tipping forwards from the load in the bucket lifted too high. -Machine tipping from an abrupt stop while carrying load. 	<ul style="list-style-type: none"> -Avoid abrupt stops, or sharp turns in travel. -Begin to slow down well before the dumping area.
6	<p>Raise the bucket to desired dumping height and dump the load from the bucket in a designated dumping area. Continue the loading and dumping process until job is complete.</p>	<ul style="list-style-type: none"> -Machine tipping forward from lifting and stopping machine at the same time. -Striking other equipment with the bucket in lift. -Other people being buried by the load. -Vibration from machine/ long periods of sitting causing vascular/ musculoskeletal disorders. 	<ul style="list-style-type: none"> -Lift the bucket when the machine has slowed down or stopped. -Ensure that personnel are clear of the dumping area. -Take small breaks and walk around to circulate blood flow and move body parts.
7	<p>Drive the front-end loader to its parking area, lower bucket to the ground, shut down the machine, then dismount.</p>	<ul style="list-style-type: none"> -Bucket catching on something on the ground and abruptly stopping the machine. -Machine rocking back and forth severely in travel. -Slipping off the machine's ladder 	<ul style="list-style-type: none"> -Raise the bucket to at least 18-24" off the ground prior to travelling the front-end loader. -Don't travel with the bucket lifted higher than the front of the machine. -Maintain a three point contact when climbing ladder. -Dismount the ladder slowly, avoid from using jerky/ abrupt movements.
8	<p>Perform post-trip inspection and lock out the machine.</p> 	<ul style="list-style-type: none"> -Fatal/ serious injury to other workers if machine isn't locked out properly. -Machine malfunction from wear and tear that goes undetected. 	<ul style="list-style-type: none"> -Locate the master cut-off switch near the engine bay and turn it off. -Engage the hydraulic lever in the cab, on the right side of the seat.  <ul style="list-style-type: none"> -Perform a full post-trip inspection and report any questionable or suspicious looking defects on the machine to the landfill foreman.

Developed By:	Brian Roach	Jim Rose	Ken Taylor
Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.


JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Finding and Cutting Fire Wood	Task ID:
Job:		Date Developed: August 17, 2009	
Date Revised:			
Hazards Present <ul style="list-style-type: none"> • Sharp tools • Flying wood • Splinters • Nails in wood • Hepatitis or Tetanus 	Applies To: (Department/Division/Branch/Section) Water and Waste/ Solid Waste/ Disposal/ Finding and Cutting Fire Wood.	Training Requirements: Landfill helper training Chain saw training	
Tools/Equipment Required Full size axe Swede Saw Chain saw	Materials Required	Personal Protective Equipment High Visibility Vest CSA approved ankle-high steel toe footwear Leather Gloves Safety Glasses Long denim pants	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Walk to nearby area and look for wood	-Twisting ankle/ slips/ trips from uneven walking ground. -Being struck by vehicle/ large mobile equipment traffic.	-If patrons are dumping wood, direct them to dump it next to the shelter hut. -If wood has run out completely, call foremen to request aid in locating more wood for immediate burning.
2	Grab and carry wood back to shelter hut (handling wood)	-Puncture to skin from nails or sharps while sorting in the refuse area. -Slivers/ cuts from sharp edges of wood. -Muscle/ Back strain from lifting heavy wood	-Wear all personal protective equipment (gloves, etc.) -Avoid from venturing into the refuse, grab wood that is in the open and easily accessible. -Survey the wood for any nails/ staples before picking it up,

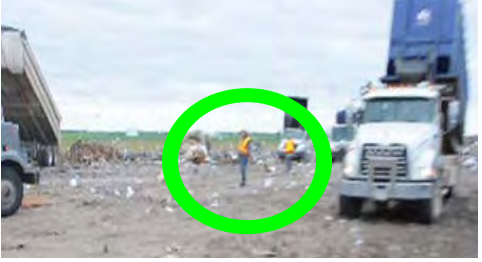
		<p>(pallets, wet wood).</p>	<p>then flip the wood over from it's edge to look for nails/ staples. -Avoid using pallets or large pieces of wood, but if necessary, request assistance when lifting them.</p>
<p>3</p>	<p>Chopping wood with axe</p>	<ul style="list-style-type: none"> -Back/ Muscle strain from lifting/ swinging axe. -Swinging axe and missing the target, resulting in hitting legs/ feet. -Flying pieces of wood hitting legs/ abdominal area. -Wood chips flying into eyes. 	<ul style="list-style-type: none"> -Keep focused when cutting wood, do not look away when in the downswing of the cut. -Keep feet parallel to the outside of the wood piece, and keep a wide stance. -Place wood on another log piece for better stability. -Avoid hyper extending the spine when raising the axe overhead and contract abdominal muscles.
<p>4</p>	<p>Sawing wood</p>	<ul style="list-style-type: none"> -Severe laceration/ cut to skin. -Cut to legs from the saw coming through the wood after the cut. -Severe injury occurring from attempting to force a stuck saw blade. 	<ul style="list-style-type: none"> -If cut severely, apply pressure to wound, apply emergency first aid, and call an ambulance or have foreman transport injured worker to hospital. -Hold wood about 12" away from the saw blade. -Do not attempt to force the blade to cut if it gets stuck, lift the wood up from the bottom with your free hand, and keep cutting slowly.
<p>5</p>	<p>Removing nails from refuse wood</p>	<ul style="list-style-type: none"> -Punctures/ cuts to skin -Possibly contracting hepatitis or tetanus from being cut by nails. 	<ul style="list-style-type: none"> -Survey the wood for any nails/ staples before picking it up, then flip the wood over from its edge to look for nails/ staples. -Wear leather gloves. -Hammer the pointy side of the nail (hammer the nail "out"), then pry the nail out from the other side with the hammer.
<p>6</p>	<p>Handling wood once cut</p>	<ul style="list-style-type: none"> -Back/ muscle strain from handling wood. -Slivers/ cuts from sharp wood. -Other people injuring themselves from nails still stuck in wood. 	<ul style="list-style-type: none"> -Lift with legs, hold wood close to the body, bend knees to release load. -Discard wood with nails, if nails couldn't be removed.

Developed By:	Brian Roach	James Carter	
Mgmt Co-Chair Approval:	Original Signed By:		Worker Co-Chair Approval: Original Signed By:

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JOB HAZARD ANALYSIS (J.H.A.)		Task Name: : Directing traffic in commercial and residential dumping cells	Task ID:
Job:		Date Developed: July 15, 2009	
		Date Revised:	
Hazards Present <ul style="list-style-type: none"> • Extreme Hot/ Cold Weather exposure • Wind • Dust particulates • Uneven/ Unstable Ground • Being Struck by Large Mobile Equipment (Garbage Trucks) • Potential low visibility • Trip hazards 	Applies To: (Department/Division/Branch/Section) Water and waste/ Solid Waste/ Disposal/ Directing Traffic in Commercial and Residential Dumping Cells	Training Requirements: <ul style="list-style-type: none"> • Traffic director training 	
Tools/Equipment Required <ul style="list-style-type: none"> • Shelter Hut • Half ton truck for shelter (truck with air conditioning on hot day) • Sand 	Materials Required <ul style="list-style-type: none"> • Two-way radio 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • CSA approved ankle high steel toe footwear • CSA approved safety glasses • Appropriate clothing for weather conditions 	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Drive up to dumping cell(s)	-Serious vehicular accident from loss of control on gravel road. -Collision with other traffic -Vehicle sliding into ditch	-Do not exceed the speed limit of 50Km/H -Drive slower than speed limit in winter conditions -Don't hug the middle of the road, stay on your side. -Don't try to avoid potholes or large puddles, drive through them slowly.


2	Park in dumping cell(s)	<ul style="list-style-type: none"> -Being struck by large mobile equipment -Collision with other vehicles from low visibility 	<ul style="list-style-type: none"> -Drive uphill to the cell slowly; remain on one side of the road, not in the middle. -Ensure headlights are on in low visibility conditions.
3	Exit vehicle to enter shelter hut	<ul style="list-style-type: none"> -Twisting ankle or slipping on the unstable, slippery, uneven walking ground -Tripping on articles protruding from ground 	<ul style="list-style-type: none"> - Walk slowly. - Ensure you are visible to others by wearing a high visibility vest. - Limit walking distance from transport vehicle to shelter hut. - Stay clear of other machinery and other vehicular traffic.
4	Exit vehicle or shelter hut to direct traffic 	<ul style="list-style-type: none"> -Twisting ankle or slipping on the unstable, slippery, uneven walking ground -Tripping on articles protruding from ground -Being struck by large mobile equipment 	<ul style="list-style-type: none"> -Walk slowly -Sand steps of shelter hut to reduce slippery surface -Ensure there is at least one other landfill helper available on site to watch the traffic director in the field, in case of emergency.
5	Direct dumping vehicles to designated dumping area(s).	<ul style="list-style-type: none"> -Being struck by large mobile equipment -Freezing/ frostbite in cold weather temperatures -Dust blowing into eyes -Breathing in dust and other particulate matter -Heat stroke or exhaustion from exposure to high UV rays and hot/ humid temperature 	<ul style="list-style-type: none"> -Wear high visibility vest -Use large movements when directing traffic to appear more visible to traffic. -Wear clothing that will protect against the elements of rain, wind, extreme cold. -Hydrate regularly by drinking water -Wear a hat and sunscreen in hot/ humid weather conditions -Wear safety glasses.
6	Venture throughout cell area to direct traffic. *Picture on next page	<ul style="list-style-type: none"> -Being struck by large mobile equipment -Being dumped on from disposal trucks 	<ul style="list-style-type: none"> -Stay 20 meters back when walking behind large mobile equipment. -Make visual contact with drivers before proceeding to walk beside or behind large mobile equipment (if you can't see them, they can't see you). -Avoid the need for venturing close to disposal trucks



			
7	Walking back to shelter hut or shelter vehicle.	<ul style="list-style-type: none"> -Twisting ankle or slipping on the unstable, slippery, uneven walking ground -Tripping on articles protruding from ground -Being struck by large mobile equipment 	<ul style="list-style-type: none"> -Walk slowly -Sand steps of shelter hut to reduce slippery surface -Avoid the need for venturing close to disposal trucks
8	Drive back to main office at break or end of shift.	<ul style="list-style-type: none"> -Serious vehicular accident from loss of control on gravel road. -Collision with other traffic -Vehicle sliding into ditch 	<ul style="list-style-type: none"> -Do not exceed speed of 15KmH on the roads to the dumping cells. -Do not exceed the speed limit of 50Km/H on main gravel road. -Drive slower than speed limit in winter conditions -Don't hug the middle of the road, stay on your side. -Don't try to avoid potholes or large puddles, drive through them slowly.



Developed By:	Brian Roach	Ryan Tuck	James Carter
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Digging and filling the animal waste pit		Task ID:	
Job:				Date Developed: August 4, 2009	
				Date Revised:	
Hazards Present		Applies To: (Department/Division/Branch/Section)		Training Requirements:	
<ul style="list-style-type: none"> • Machine/ operator falling into hole • Heavy machinery striking operator • Constant vibration from machine 		Water and waste/ Solid Waste/ Disposal/ Digging and Filling the Animal Waste Pit		<ul style="list-style-type: none"> • Excavator operator training • Traffic director training • WHMIS training 	
Tools/Equipment Required		Materials Required		Personal Protective Equipment	
<ul style="list-style-type: none"> • Functional two-way radio or cell phone • Metal bar for scraping mud off tracks • Shovel • Excavator machinery 		<ul style="list-style-type: none"> • Sand for traction when mounting/ dismounting machine. 		<ul style="list-style-type: none"> • High visibility vest • Ankle high CSA approved steel toe footwear • Clothing for extreme cold weather. • Rubber/ latex gloves 	
Step #	Sequence of Steps	Potential Accidents or Hazards		Recommended Safe Job Procedure	
1	Mount the excavator 	<ul style="list-style-type: none"> -Slipping off steps/ tracks from mud/ ice. -Falling from height onto protruding objects in ground. -Muscle strain while mounting excavator. 		<ul style="list-style-type: none"> -Mount machine from the step in between the tracks, then step on tracks, all while grasping the handle next to the door of the excavator. -Sand the step/ tracks prior to mounting machine for better traction (winter). -Mount machinery slowly; refrain from using quick jerky movements. -Ensure good footing on steps when mounting. 	

<p>2</p>	<p>Drive to the desired area to begin excavation for an animal waste pit</p> 	<ul style="list-style-type: none"> -Excavator falling/tipping into previously dug hole (s). -Striking other large mobile equipment. -Objects in path causing a more hazardous travel path. 	<ul style="list-style-type: none"> -Survey driving path prior to travelling to the pit area, to ensure for a clear path. -Ensure any surrounding large machinery know of your position from visual and radio contact. -Approach holes or dips in the ground with the tracks facing their direction.
<p>3</p>	<p>Begin digging a hole 10-15' deep, 10' wide and 30' long. Add to the length of the hole in increments.</p> 	<ul style="list-style-type: none"> -Unknown objects (cables, pipes, tanks) in ground being punctured/ snapping, causing projectile to hit cabin on excavator. -Excavator tipping/ falling into hole. 	<ul style="list-style-type: none"> -Always face the machine's tracks towards the pit for easy escape if it collapses. -Call for help on the radio or cell phone if excavator falls/ tips in hole: -Do not attempt to climb out of excavator or hole if you have fallen in, call for help and wait until it arrives.
<p>4</p>	<p>Drive excavator out of animal pit area, park and turn machine off, then dismount excavator to direct dumping vehicle.</p>	<ul style="list-style-type: none"> -Slipping and falling off tracks from mud/ ice. -Machine tipping into hole 	<ul style="list-style-type: none"> -Sand the steps prior to dismounting the machine (winter) -Dismount machinery slowly; refrain from using quick jerky movements.
<p>5</p>	<p>Direct dumping vehicle towards animal pit.</p>	<ul style="list-style-type: none"> -Slipping/ falling into animal pit. -Being hit by reversing vehicle. -Being buried by the load being dumped. -Frostbite from extreme cold. 	<ul style="list-style-type: none"> -Stand at least three meters from the pit at all times. -Ensure eye contact with the driver of the dumping vehicle at all times. -Never stand directly behind the dumping vehicle. -Wear warm insulating clothes/ gloves/ hat etc (winter).


6	<p>Mount excavator after dumping vehicle leaves the area, then drive to animal pit to begin burying waste in the hole.</p>	<ul style="list-style-type: none"> -Slipping off steps/ tracks from mud/ ice. -Falling from height onto protruding objects in ground. -Muscle strain while mounting excavator. 	<ul style="list-style-type: none"> -Mount machinery slowly; refrain from using quick jerky movements. -Ensure good footing on steps when mounting.
7	<p>Approach the pit from its long side, and begin to bury the exposed animal waste.</p>	<ul style="list-style-type: none"> -Excavator falling into hole from the hole collapsing. 	<ul style="list-style-type: none"> -Always face the machine's tracks towards the pit for easy escape if it collapses.
8	<p>Drive to the desired excavator parking area, and dismount excavator.</p>	<ul style="list-style-type: none"> -Slipping off steps/ tracks from mud/ ice. -Falling from height onto protruding objects in ground. -Machine tipping into hole 	<ul style="list-style-type: none"> -Sand the steps prior to dismounting the machine (winter) -Dismount machinery slowly; refrain from using quick jerky movements.
9	<p>Clean tracks of excavator.</p> 	<ul style="list-style-type: none"> -Extreme weather conditions (cold, heat, rain) -Slipping and striking the tracks with body. -Muscle/ back strain. -Excavator storage door swinging back and hitting/ crushing operator's hands. 	<ul style="list-style-type: none"> -Wear warm insulating clothes/ gloves/ hat etc. -Wear leather gloves in summer. -Avoid jerky movements when scraping the tracks. -Ensure a solid footing when scraping the tracks. -Hold excavator storage door open with one hand when it is windy.
10	<p>Clean boots/ tools, parts of machinery with SRM disinfectant liquid.</p> 	<ul style="list-style-type: none"> -Spraying liquid into eyes -Getting liquid into mouth or onto skin 	<ul style="list-style-type: none"> -Ensure the Material Safety Data Sheet is easily accessible incase of exposure to disinfectant liquid. -Flush eyes with water for 15 minutes if liquid splashes into eyes. -Wear safety glasses and rubber/ latex gloves.


Developed By:	Brian Roach	Denis _____ (Rothesay Employee)	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Covering Fires in the Dumping Cells with a Bulldozer/ Compactor	Task ID:
Job:		Date Developed: August 10, 2009	
		Date Revised:	
Hazards Present <ul style="list-style-type: none"> • Hazardous fumes/ gases from burning garbage. • Explosion from fire • Burns to skin • Equipment catching fire • Subsurface fire potential 	Applies To: (Department/Division/Branch/Section) Water and waste/ Solid Waste/ Disposal/ Covering Small Fires in the Dumping Cells with a Bulldozer-Compactor	Training Requirements: <ul style="list-style-type: none"> • Bulldozer/ Compactor Operator Certification 	
Tools/Equipment Required <ul style="list-style-type: none"> • Bulldozer with blade • Compactor with blade • Scraper 	Materials Required <ul style="list-style-type: none"> • Mud/ Clean fill • Fire extinguisher 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • Leather gloves • CSA approved steel toe footwear 	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Begin the following process immediately and then notify the foreman of the situation.	-Extremely hazardous fire situation resulting in landfill employee's seriously/ fatally injured. -Foreman ending up in a collision or running car off the road by rushing to the fire site.	-Foreman should visually inspect the situation. -Do not continue with this process if you feel your health/ safety might be jeopardized by attempting to douse the fire. -Call the fire department (911) if there is ANY suspicion of danger for fighting the fire. -Do not attempt to fight fire in an area that is inaccessible to the bulldozer/ scraper.

			<ul style="list-style-type: none"> -Foreman should drive to the fire site at the speed limit to avoid a collision with traffic or ditch.
2	<p>Isolate the fire by building a clean-fill “wall” downwind from the fire.</p>	<ul style="list-style-type: none"> -Equipment tipping downhill or getting stuck near the fire area. -Machinery catching fire from driving over the fire. -Fire immediately engulfing the surrounding area 	<ul style="list-style-type: none"> -Build the isolation wall at a distance from the fire to allow quick escape if the fire becomes large. -Asses the situation depending on wind direction and speed (the faster the wind speed, the faster and more large the fire might become). -Do not attempt to fight fire in an area that is inaccessible to the bulldozer/ scraper. -Survey the area of the fire for holes or dips in the ground before commencing this process. -Evacuate the area immediately if fire begins to surround machinery.
3	<p>Have the scraper collect and dump clean-fill next to the fire area.</p> 	<ul style="list-style-type: none"> -Tipping the scraper from rushing, or from pulling it diagonally on steep inclines. -Scrapers wheels burning from pulling it over the fire. 	<ul style="list-style-type: none"> -Transport the scraper to the fire as safe as possible. -Dump clean fill from the scraper next to the fire, not on top of it. -Do not dump the clean fill downwind from the fire at this point, dump at a distance of at least 15 feet upwind of the fire.
4	<p>Push the clean-fill dumped by the scraper onto the fire area. Continue this process until fire has been extinguished.</p>	<ul style="list-style-type: none"> -Machinery catching fire from driving over the fire. -Collision with other large mobile equipment 	<ul style="list-style-type: none"> -Push material ONTO the fire then reverse the machine, do not drive over the fire area. -Wait until other machinery is clear of the area before continuing to cover fire.

			
5	Inspect all equipment involved in this process for defects or damage caused by heat from the fire.	-Machine malfunction if inspection isn't done properly.	-Inspect for burns on fluid lines, tires, and joints of the machine.
6	Inspect the fire area the next day by moving clean fill with the bulldozer blade or excavator bucket.	-Falling into a sinkhole caused by the fire burning underground (subsurface). -Future catastrophic fire from undetected subsurface fire.	-Do not walk to, or around the fire area, inspect the area with the machinery. -If the area is still smoldering, report to the foreman. -Wait until further instruction from foreman before proceeding to address the fire.


Developed By:	Brian Roach	Ken Taylor	Jeff Atto
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JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Packing garbage with Compactor	Task ID:
Job:		Date Developed: July 15, 2009	
		Date Revised:	
Hazards Present <ul style="list-style-type: none"> • Steep slopes(30 degrees or more) • Large mobile equipment traffic • Slippery stepping surfaces • Unstable/ uneven walking ground • Extreme cold/ hot temperatures • Vibration from bulldozer • Continuous neck and back twisting • Potential low visibility (snow, dust) • Neck/ Back strain when reversing • Hazardous Waste- Chemicals/ Propane Tanks • Logs, Rolls of Plastic 		Applies To: (Department/Division/Branch/Section) Water and Waste/ Solid Waste/ Disposal/ Packing Garbage with Compactor	Training Requirements: <ul style="list-style-type: none"> • Compactor – Landfill • Mechanics of equipment
Tools/Equipment Required <ul style="list-style-type: none"> • Compactor • Shovel/ metal bar 		Materials Required <ul style="list-style-type: none"> • Fire extinguisher (as per Manitoba Fire Code) • Two-way radio • Sand for ice buildup 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • CSA approved footwear • Hearing Protection • Appropriate clothing for temperature • Seatbelt or restraint device • Bump had (recommended)
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Walk from vehicle to Compactor	-Twisting ankle, slipping, on the unstable,	- Walk slowly

		<ul style="list-style-type: none"> slippery, uneven walking ground. -Tripping on articles protruding from ground. -Being struck by large mobile equipment traffic. 	<ul style="list-style-type: none"> - Ensure you are visible to others by wearing a high visibility vest. - Limit walking distance from transport vehicle to compactor - Stay clear of other machinery and other vehicular traffic.
2	Mount machinery (compactor)	<ul style="list-style-type: none"> -Slipping on mud, ice, steel. -Back injury or muscle strain from a fall. -Being cut or impaled by hard/sharp/ protruding objects when falling. -Falling from high level. 	<ul style="list-style-type: none"> - Clear mud off of ladder steps (summer). - Use sand on ladder steps (winter). - Mount machinery slowly; refrain from using quick jerky movements. - Ensure footing is solid before proceeding to next mounting step. - Grip handles tight, with full fist.
3	Conduct Compactor pre-shift inspection.	<ul style="list-style-type: none"> -Falling from high level. -Slipping on mud, ice, steel. -Burns to skin from hot surfaces on machine. 	<ul style="list-style-type: none"> - Ensure footing and body placement is solid. - Only do inspections and maintenance from where it was recommended in training. - Keep hands/skin away from engine and areas that may have been heated from the engine.
4	Drive Compactor to task area	<ul style="list-style-type: none"> -Fluids and engine overheating causing leaks/ other hot fluids to leak. -Blade catching on solid ground causing the dozer to stop abruptly. -Being struck by large mobile equipment traffic. -Compactor sliding downhill, or tipping from unstable/ un-solid ground. -Compactor falling into camouflaged, pre-dug holes. 	<ul style="list-style-type: none"> -Ensure the "Murphy Switch" is on before starting the machine. -Raise machine blade enough to clear any obstructions. -Wear seatbelt or restraint device. -Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors). -Survey surrounding area for previously dug holes before shift.
5	Push garbage to designated area, and then reverse Compactor (Continue this step until task is complete)	<ul style="list-style-type: none"> -Risk of striking a garbage truck dumping behind work area. -Being struck by large mobile equipment traffic. -Compactor sliding downhill, or tipping from unstable/ un-solid ground. -Compactor falling into camouflaged, pre-dug 	<ul style="list-style-type: none"> -Constantly check surrounding area for traffic and radio the Traffic Director if garbage trucks need proper dumping instruction. - Do not drive up or down inclines more than 30 degrees without supervision. Never drive on inclines that exceed 40 degrees. - Use evasive driving when a hole is encountered.

		<p>holes.</p> <ul style="list-style-type: none"> -Tipping from steep drop off in ground (30 degrees or more). -Machine sliding on frozen ground on the slightest of angles. 	<ul style="list-style-type: none"> - Alternate looking over shoulders when reversing, or use mirrors. -Contact refuse loads straight on and keep work area level. -Avoid sharp turns on slopes. -Always face machine towards inclines, do not drive diagonally up or downhill.
6	<p>Drive Compactor to designated parking area, park compactor, and lower the blade to the ground.</p>	<ul style="list-style-type: none"> -Blade hydraulics failing, resulting in severe/fatal injury if someone is under the blade. -Being struck by large mobile equipment traffic. -Compactor sliding downhill, or tipping from unstable/ un-solid ground. -Compactor falling into camouflaged pre-dug holes. 	<ul style="list-style-type: none"> -Ensure the blade/ bucket is resting on the ground before shutting machinery off. - Constantly check surrounding area for traffic and people (use shoulder checks, and machinery mirrors).
7	<p>Shut machine off, then dismount compactor.</p>	<ul style="list-style-type: none"> -Slipping on mud, ice, steel. -Back injury or muscle strain from a fall. -Being cut or impaled by hard/sharp/ protruding landing surfaces when falling. 	<ul style="list-style-type: none"> - Throttle engine down all the way to kill the engine. - Engage Parking Break and steering lock. - Idle the engine for 3-5 minutes then drain air tank. -Clear mud off ladder steps (summer). - Use sand on machine ladder steps (winter). - Dismount machinery slowly; refrain from using quick jerky movements. - Ensure footing is solid before proceeding to next mounting step. - Grip handles tight, with full fist.
8	<p>Perform Post-trip inspection and lock-out machine.</p>	<ul style="list-style-type: none"> -Fatal/ serious injury to other workers if machine isn't locked out properly. -Machine malfunction from wear and tear that goes undetected. 	<ul style="list-style-type: none"> -Locate the master cut-off switch near the engine bay and turn it off. -Engage the hydraulic lever in the cab, on the right side of the seat. -Perform a full post-trip inspection and report any questionable or suspicious looking defects on the machine to the landfill foreman.


			
9	Clean Wheels	<ul style="list-style-type: none"> -Muscle strain from scraping wheels. -Slipping/ falling off wheels. -Machinery shifting and crushing worker. -Extreme weather conditions (cold, heat, rain) -Slipping and striking the tracks with body. 	<ul style="list-style-type: none"> -Ensure breaks are locked/ machine is off/ and lock-out to both the blade and machine has been performed prior to cleaning tracks. -Clean tracks while standing on the ground, avoid standing on tracks to clean. -If ground is ice, option to use boot grip attachments. -Ensure a solid footing when scraping the wheels. -Use a shovel or a light metal bar to scrape wheels. -Wear warm insulating clothes/ gloves/ hat etc. -Wear leather gloves in summer.
9	Walking from Compactor to vehicle	<ul style="list-style-type: none"> -Twisting ankle from unstable, slippery, uneven walking ground. -Tripping on articles protruding from ground. -Being struck by large mobile equipment traffic. 	<ul style="list-style-type: none"> - Walk slowly. - Ensure you are visible to others by wearing a high visibility vest. - Limit walking distance from compactor to transport vehicle. - Stay clear of other machinery and vehicular traffic.


Developed By:	Brian Roach	Jeff Atto	Ken Taylor
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JOB HAZARD ANALYSIS (J.H.A.)		Task Name: Pushing and placing garbage with Bulldozer	Task ID:
Job:		Date Developed: July 15, 2009	
		Date Revised:	
Hazards Present: -Steep slopes(30 degrees or more) -Large mobile equipment traffic -Slippery stepping surfaces -Unstable/ uneven walking ground -Extreme cold/ hot temperatures -Vibration from bulldozer -Continuous neck and back twisting -Potential low visibility (snow, dust) -Neck/ Back strain when reversing -Hazardous Waste- Chemicals/ Propane Tanks -Logs/ rolls of plastic.	Applies To: (Department/Division/Branch/Section) Water and waste/ Solid Waste/ Disposal/ Pushing and Placing Garbage with Bulldozer	Training Requirements: <ul style="list-style-type: none"> • Bulldozer training • Mechanics of equipment 	
Tools/Equipment Required <ul style="list-style-type: none"> • Bulldozer • Pulling chain • Shovel/ metal bar 	Materials Required <ul style="list-style-type: none"> • Fire extinguisher (as per Manitoba Fire Code) • Functional Two-way radio • Sand for ice buildup 	Personal Protective Equipment <ul style="list-style-type: none"> • High visibility vest • CSA approved footwear • Hearing Protection • Appropriate clothing for temperature • Seatbelt or restraint device 	
Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Walk from vehicle to bulldozer	-Twisting ankle or slipping on the unstable, slippery, uneven walking ground	- Walk slowly - Ensure you are visible to others by wearing a high visibility

		<ul style="list-style-type: none"> -Tripping on articles protruding from ground -Being struck by large mobile equipment traffic 	<ul style="list-style-type: none"> vest. - Limit walking distance from transport vehicle to bulldozer - Stay clear of other machinery and other vehicular traffic.
2	<p>Mount machinery (bulldozer) from the step on the blade arm and the remaining handles/ steps.</p> 	<ul style="list-style-type: none"> -Slipping on mud, ice, steel -Back injury or muscle strain from a fall -Being cut or impaled by hard/sharp/ protruding objects when falling 	<ul style="list-style-type: none"> - Clear mud off machine tracks to be used as a step (summer). - Use sand on machine tracks to be used as a step (winter). - Mount machinery slowly; refrain from using quick jerky movements. - Ensure footing is solid before proceeding to next mounting step. - Grip handles tight, with full fist.
3	<p>Conduct bulldozer pre-trip inspection</p>	<ul style="list-style-type: none"> -Falling from high level -Slipping on mud, ice, steel -Burns to skin from hot surfaces on machine. 	<ul style="list-style-type: none"> - Ensure footing and body placement is solid. - Only do inspections and maintenance from where it was recommended in training. - Keep hands/skin away from engine and areas that may have been heated from the engine.
4	<p>Drive bulldozer to task area</p>	<ul style="list-style-type: none"> -Fluids and engine overheating causing leaks/ other hot fluids to leak. -Blade catching on solid ground causing the dozer to stop abruptly. -Being struck by large mobile equipment traffic -Dozer sliding downhill, or tipping from unstable/ un-solid ground. -Dozer falling into camouflaged, pre-dug holes 	<ul style="list-style-type: none"> -Ensure the "Murphy Switch" is on before starting the machine. -Raise machine blade enough to clear any obstructions. -Wear seatbelt or restraint device. -Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors). -Survey surrounding area for previously dug holes before shift.
5	<p>Push garbage to designated area then reverse (Continue this step until task is complete).</p>	<ul style="list-style-type: none"> -Becoming trapped by garbage trucks dumping behind work area -Being struck by large mobile equipment traffic -Dozer sliding downhill, or tipping from 	<ul style="list-style-type: none"> - Constantly check surrounding area for traffic and radio the Traffic Director if garbage trucks need proper dumping instruction. - Do not drive up or down inclines more than 30 degrees. - Use evasive driving when a hole is encountered.

	<p>*Picture on next page</p> 	<p>unstable/ un-solid ground.</p> <ul style="list-style-type: none"> -Dozer falling into camouflaged, pre-dug holes -Tipping from steep drop off in ground (30 degrees or more) -Machine sliding on frozen ground on the slightest of angles. 	<ul style="list-style-type: none"> -Contact refuse loads straight on and keep work area level. -Avoid sharp turns on slopes. -Always face machine towards inclines, do not drive diagonally up or downhill.
6	<p>Drive bulldozer to designated bulldozer parking area, park dozer, and lower the blade to the ground.</p>	<ul style="list-style-type: none"> -Blade hydraulics failing, resulting in severe/ fatal injury if someone is under the blade. -Being struck by large mobile equipment traffic -Dozer sliding downhill, or tipping from unstable/ un-solid ground. -Dozer falling into camouflaged, pre-dug holes 	<ul style="list-style-type: none"> -Ensure the blade/ bucket is resting on the ground before shutting machinery off. - Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors).
7	<p>Shut machine off, then dismount bulldozer.</p>	<ul style="list-style-type: none"> -Slipping on mud, ice, steel -Back injury or muscle strain from a fall -Being cut or impaled by hard/sharp/ protruding landing surfaces when falling 	<ul style="list-style-type: none"> -Throttle down engine before shutting off. -Engage Parking Break. -Use sand on machine tracks to be used as a step (winter). -Dismount machinery slowly; refrain from using quick jerky movements. -Ensure footing is solid before proceeding to next mounting step. -Grip handles tight, with full fist.
8	<p>Perform Post-trip inspection and lock-out machine.</p>	<ul style="list-style-type: none"> -Fatal/ serious injury to other workers if machine isn't locked out properly. -Machine malfunction from wear and tear that goes undetected. 	<ul style="list-style-type: none"> -Locate the master cut-off switch near the engine bay and turn it off. -Engage the hydraulic lever in the cab, on the right side of the seat. -Perform a full post-trip inspection and report any questionable or suspicious looking defects on the machine to the landfill foreman.

			
9	<p>Clean Tracks</p>	<ul style="list-style-type: none"> -Muscle strain from scraping tracks. -Slipping/ falling off tracks -Machinery shifting and crushing worker -Extreme weather conditions (cold, heat, rain) -Slipping and striking the tracks with body. 	<ul style="list-style-type: none"> -Ensure brakes are locked/ machine is off/ and lock-out to both the blade and machine has been performed prior to cleaning tracks. -Clean tracks while standing on the ground, avoid from standing on tracks to clean. -Ensure a solid footing when scraping the wheels. -Use a shovel or a light metal bar to scrape tracks. -Wear warm insulating clothes/ gloves/ hat etc. -Wear leather gloves in summer.
10	<p>Walk from bulldozer to vehicle.</p>	<ul style="list-style-type: none"> -Twisting ankle from unstable, slippery, uneven walking ground -Tripping on articles protruding from ground -Being struck by large mobile equipment traffic 	<ul style="list-style-type: none"> - Walk slowly. - Ensure you are visible to others by wearing a high visibility vest. - Limit walking distance from bulldozer to transport vehicle. - Stay clear of other machinery and vehicular traffic.

Developed By:	Brian Roach	Ken Taylor	Jeff Atto
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APPENDIX B

ASBESTOS RESPONSE GUIDE

Water & Waste Department

Response Guide
Safe Work Procedure Checklist
Suspected/Confirmed Asbestos Incident

1) Person Observing Suspected Damaged Asbestos

- Stop Work Immediately and leave vicinity of (suspected) asbestos disturbance**
- Secure Area – allow no access
- Leave all tools & equipment on site
- Lock doors to area (if possible)
- Inform Supervisor
- Contact Plant – Facility Supervisor
- Contact Operations Asbestos Contact Person
- Post warning sign at all entrances to area, warning of situation (Suspected Asbestos Containing Material release in the area)
- If after hours and neither Facility Supervisor or Operations Asbestos Contact Person can be reached, Call McPhillips Operator at 986-4781
- Do not proceed or disturb until clearance is given by an authorized person (Operations Asbestos Contact Person or Facility Supervisor or)

2) Immediate Supervisor

- Ensure that Work Stops Immediately
- Ensure that Area is Secure– allow no access
- Ensure that all tools & equipment are left on site
- Ensure that doors to area are locked (if possible)
- Ensure that Plant – Facility Supervisor is contacted
- Ensure that Operations Asbestos Contact Person is contacted
- Ensure Sign is posted at all entrances to area, warning of situation (Suspected Asbestos Containing Material release in the area)
- If after hours and neither Facility Supervisor or Operations Asbestos Contact Person can be reached, Call McPhillips Operator at 986-4781
- Do not proceed or disturb area until clearance is given by an authorized person (Operations Asbestos Contact Person or Facility Supervisor or Corporate Occupational Hygienist)
- Prepare draft of/Submit Accident Investigation report (City Website has a template to use as a guide for report preparation; must consult Operational Asbestos Contact Person & Departmental Safety Officer to review and advise on drafting Accident Investigation Report) to:
 - your Immediate Supervisor
 - the Facility Supervisor
 - the Departmental Safety Officer
 - the Operational Asbestos Contact Person

3) Facility Supervisor

- Ensure that Work Stops Immediately
- Ensure that Area is Secure– allow no access
- Ensure that Operations Asbestos Contact Person is contacted
- If experienced and properly trained, Facility Supervisor can assess situation for remedial action (e.g. consult WWD ACM Inventory database)
- If member of staff, contractor or public may have been exposed to airborne ACM – Discuss follow up options/advise individuals
 - Inform person(s) (suspected of being) exposed to airborne ACM of health risk (i.e. Asbestos is a known Carcinogen, etc.)
 - Inform person(s) (suspected of being) exposed to airborne ACM of right to file a ‘green card’ (Workers Compensation Board of Manitoba – Notice of Injury form)
 - Inform person(s) (suspected of being) exposed to airborne ACM of right to access the Occupational Health Nurse
- If member of staff, contractor or public are confirmed to have been exposed to airborne ACM – the incident is classified as a ‘reportable incident’ under the Workplace Health and Safety Legislation of Manitoba. The incident must be reported to WH&S immediately. This report is a phone call and is responsibility of Facility Supervisor: Must contact WH&S Officer at (204) 945-3446 or after hours call (204) 945-0581 to report facts of situation and follow direction provided by the WH&S Officer
- Also, if member of public is confirmed to have been exposed to airborne ACM – the incident must be reported to the Province’s Public Health Department immediately. This report is a phone call and is responsibility of Facility Supervisor: Must contact Public Health at (204) 788-6701 to report facts of situation and follow direction provided by the Public Health Officer
- If situation is deemed suspected or confirmed as airborne ACM, confirm that ACM remedial action is complete prior to authorizing access to area. Do not proceed or disturb area until clearance is given by an authorized person (Operations Asbestos Contact Person or Corporate Occupational Hygienist)
- If there have been personnel exposed to airborne ACM, forward prepared Accident Investigation report to your Immediate Supervisor
- (If required) Prepare draft of /Submit Incident Investigation report for submission to WH&S. (Note: Operational Asbestos Contact Person & Departmental Safety Officer must be consulted to review and advise on drafting Incident Investigation Report)

4) Operations Asbestos Contact Person (Wastewater Services: Steve Kussy; Water Services: Dan Wiwchar)

- Ensure that Work Stops Immediately
- Ensure that Area is Secure– allow no access
- Assess situation for remedial action (e.g. consult WWD ACM Inventory database) (if beyond experience or training do not proceed or disturb until clearance is given by an authorized person - contact Corporate Occupational Hygienist)
- If situation is deemed suspected or confirmed airborne ACM, arrange for testing of material and/or finish remedial action prior to authorizing access to area
- (If required) Ensure that the Facility Supervisor contacts WH&S. In the event that the Facility Supervisor can not contact the WH&S Officer this responsibility becomes the Operations Asbestos Contact Person: Must contact at the WH&S Officer. (see Facility Supervisor responsibilities for details)
- (If required) Ensure that the Facility Supervisor contacts the Public Health Officer. In the event that the Facility Supervisor can not contact the Public Health Officer this responsibility is the Operations Asbestos Contact Person: Must contact Public Health (see Facility Supervisor responsibilities for details)
- (If required) Assist Facility Supervisor in drafting Incident Investigation report to WH&S
- Forward Accident Investigation and Incident Report to Departmental Asbestos Contact Person

5) Departmental Asbestos Contact Person (Geoffrey Patton)

- Oversee Departmental Asbestos Containing Materials Operations & Maintenance Program
- Record incident report(s) for inclusion in annual report to Corporate Safety and Hygiene

6) Departmental Safety Person

- (As required) Advise persons preparing incident and accident reports

7) McPhillips Operator (After Hours Call Center) 986-4781

- Complete Asbestos Incident Report while on phone with person reporting the incident (see Asbestos Incident Notification Report attached)
- Carry out call out actions as listed on report form (Notify required supervisors)
- Forward copy of Asbestos Incident Notification Report to Departmental Asbestos Contact Person next business day (Geoffrey Patton)

**City of Winnipeg
Water and Waste Department
Winnipeg Manitoba**

**Work Procedures
for
Misplaced Asbestos**

O H G
Consulting





Practical Occupational Hygiene Solutions for your Business

John Elias, MPH, CIH, ROH, CRSP • (204) 261-1770
Doug Wylie, CIH, ROH, CRSP, C.I.M. • (204) 668-3141
108 Turnbull Dr. Winnipeg MB R3V 1X2
Fax: (204) 261-1171 e-mail john_elias@ohgconsulting.com

DATE November 5, 2009

Project 09-J-742

Terry Miller
Safety Officer
Water and Waste Department
109-1199 Pacific Ave.
Winnipeg MB R3E 3S8

Dear Mr. Miller:

Re: Work Procedures for Misplaced Asbestos

OHG Consulting Inc. is pleased to submit our Occupational Hygiene Report work procedures when asbestos or materials labeled as asbestos are found in unauthorized areas. Should you have any questions or require additional assistance please contact Mr. John Elias.

Yours truly,

For OHG Consulting Inc.

A handwritten signature in black ink, appearing to read 'J. Elias', is written over a light grey rectangular background.

John Elias, MPH, CIH, ROH, CRSP
Occupational Hygienist

Occupational Hygiene Report

Work Procedures for Misplaced Asbestos

**City of Winnipeg
Water and Waste Department**

OHG Project Number 09-J-742

Date of Report: November 25, 2009

Survey Performed by:

**John Elias, MPH, CIH, ROH, CRSP
OHG Consulting Inc.
121 Keedian Drive
East St. Paul MB
R2E 0K3**

City of Winnipeg Water and Waste Department Winnipeg Manitoba

Work Procedures for Misplaced Asbestos

Background

The current *Asbestos Disposal Procedure for Brady Landfill Staff* will continue in use as written. The following procedures are to address conditions when a waste hauler fails to identify asbestos containing materials and disposes of it in an unapproved location, or where a hauler misidentifies waste by using an asbestos bag for non-asbestos containing materials.

The following guidelines are for friable asbestos. Friable asbestos is a material that is easily crushed to form particulates that can become airborne. Non-friable materials such as floor tiles do not present a significant risk if not crushed. These materials if identified should be covered as soon as possible by any means that will minimize breakage.

Procedure for Misplaced Asbestos

The Problem: If asbestos containing materials are not properly identified to the weighmaster and is unloaded as general waste it could result in unnecessary asbestos exposure to the public, city staff, and other workers at the site or downwind of the site.

The Solution

1. As soon as suspected asbestos containing materials (ACM) are found, the Foreman or other staff will be notified immediately, and the immediate area quarantined until the problem has been resolved.
2. If the material can become airborne it should be covered with a tarpaulin until the
3. The waste should be inspected to determine if the waste is in fact asbestos.
 - All personnel shall be cleared from downwind of the site.
 - The Foreman or Supervisor will then remove all traffic from the area and continue the regular disposal operation in an area up-wind from the ACM.
 - Staff will approach the site from upwind to minimize the potential for exposure and secure the area. The suspected material will be visually inspected by consultant. If the material is identified as ACM, proceed to the next step. If the material is identified as not being ACM, treat it as regular waste.
 - If the material cannot be readily identified a sample will be collected for analysis by a consultant.
 - The area should be posted "Warning Asbestos" until the area has been declared safe.

4. If the waste has been identified as ACM, it should be covered using methods similar to the existing procedures.
 - A disposal pit should be prepared to receive the material. The pit should be located as close to the ACM as possible, downwind of the material. The excavator should be positioned so that fugitive dusts will not blow on the operator.
 - The ACM should be pushed into the prepared pit. To reduce bag breakage, the bags themselves should not be pushed. The pushing blade should be positioned so that it will include a layer of soil underneath of the ACM. The same method should be used if the ACM is not bagged, but is loose.
 - The remainder of the cover should then be placed over the ACM
5. The location of the ACM should be surveyed and logged for future reference.
6. At anytime during the process, become disturbed or airborne, the Foreman or Supervisor will suspend the operation immediately, and take preventive steps such as wetting the ACM.
7. If assistance is needed to identify risks and hazards or develop a remediation plan for any of the above steps call OHG Consulting at:
261-1770 or
291-5789
8. If assistance is required to handle suspected ACM materials call Powervac at:
632-4433

Procedure Misidentified asbestos

The Problem: If non-asbestos containing waste is disposed of in asbestos waste bags it creates an unknown condition that may create an unknown risk to anyone at the site.

The Solution

1. When bags marked as containing asbestos are found, they must be treated as though they do contain asbestos until proven otherwise.
2. As soon as asbestos bags are found, the Foreman or Supervisor will be notified immediately, and the immediate area quarantined until the problem has been resolved.
3. The bags should be inspected to determine if they contain asbestos or some nonhazardous building wastes.
 - All personnel shall be cleared from downwind of the site.
 - The Foreman or Supervisor will then remove all traffic from the area and continue the regular disposal operation in an area up-wind from the ACM.
 - Staff shall wear protective clothing (suits and respirator) during the inspection.
 - Staff will approach the site from upwind to minimize the potential for exposure.
 - The suspected material will be visually inspected by consultant. If the material is identified as ACM, treat as misplaced asbestos waste.
 - If the material cannot be readily identified a sample can be collected for analysis by consultant.

- The area should be posted “Warning Asbestos” until the area has been declared safe.
4. If the material is identified as not being ACM:
 - The bags marked as containing asbestos waste should be placed in asbestos pit..
 - The bags should be covered as soon as possible so that they will not be seen by uninformed persons and the issue revisited.
 5. The location of the ACM should be logged for future reference.
 6. for assistance and to identify risks and hazards or develop a remediation plan for any of the above steps call OHG Consulting at:
261-1770 or
291-5789
 7. If assistance is required to handle suspected ACM materials call Powervac at:
632-4433

The following are the draft text portions that could be used in a poster for onsite workers.



Water and Waste Department

Asbestos Response Guide

What should I do if I suspect that unmarked asbestos has been inappropriately dumped at the landfill site?

- ✓ Notify your Foreman or Supervisor and quarantine the area.
- ✓ Cover with a tarpaulin if the material can be spread by the wind.
- ✓ Determine if it is in fact asbestos. Follow safe work procedures.
- ✓ If it is asbestos, do not move unnecessarily and bury where it is.
- ✓ Log the location of the site.
- ✓ If assistance is needed to identify risks and hazards or develop a remediation plan for any of the above steps call OHG Consulting at:
261-1770 or
291-5789
- ✓ If assistance is required to handle suspected ACM materials call Powervac at:
632-4433



Water and Waste Department

Asbestos Response Guide

What should I do if I find asbestos waste bags in an inappropriate location?

- ✓ Notify your Foreman or Supervisor and quarantine the area.
- ✓ Determine if it is in fact asbestos. Follow safe work procedures.
- ✓ If the bags contain asbestos follow instructions for inappropriately dumped asbestos.
- ✓ If the bags do not contain asbestos, handle as normal waste.
- ✓ Log the location of the site.
- ✓ If assistance is needed to identify risks and hazards or develop a remediation plan for any of the above steps call OHG Consulting at:
261-1770 or
291-5789
- ✓ If assistance is required to handle suspected ACM materials call Powervac at:
632-4433

APPENDIX C

VECTOR AND WILDLIFE CONTROL RECORD FORM

APPENDIX D

SURFACE WATER TEST PARAMETERS

TABLE 12-1 Surface Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
<i>Dissolved Metals</i>			
Aluminum (Al)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Antimony (Sb)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Arsenic (As)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Barium (Ba)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Beryllium (Be)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Bismuth (Bi)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Boron (B)-Dissolved	U.S. EPA 200.8-DL	0.01	mg/L
Cadmium (Cd)-Dissolved	U.S. EPA 200.8-DL	0.00001	mg/L
Calcium (Ca)-Dissolved	U.S. EPA 200.8-DL	0.05	mg/L
Cesium (Cs)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Chromium (Cr)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Cobalt (Co)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Copper (Cu)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Iron (Fe)-Dissolved	U.S. EPA 200.8-DL	0.1	mg/L
Lead (Pb)-Dissolved	U.S. EPA 200.8-DL	0.00009	mg/L
Lithium (Li)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Magnesium (Mg)-Dissolved	U.S. EPA 200.8-DL	0.01	mg/L
Manganese (Mn)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Mercury (Hg)-Dissolved	EPA245.7 V2.0	0.00005	mg/L
Molybdenum (Mo)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Nickel (Ni)-Dissolved	U.S. EPA 200.8-DL	0.001	mg/L
Phosphorus (P)-Dissolved	U.S. EPA 200.8-DL	0.1	mg/L
Potassium (K)-Dissolved	U.S. EPA 200.8-DL	0.02	mg/L
Rubidium (Rb)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Selenium (Se)-Dissolved	U.S. EPA 200.8-DL	0.001	mg/L
Silicon (Si)-Dissolved	U.S. EPA 200.8-DL	0.05	mg/L
Silver (Ag)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Sodium (Na)-Dissolved	U.S. EPA 200.8-DL	0.02	mg/L
Strontium (Sr)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Tellurium (Te)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Thallium (Tl)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Thorium (Th)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Tin (Sn)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Titanium (Ti)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Tungsten (W)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Uranium (U)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Vanadium (V)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Zinc (Zn)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Zirconium (Zr)-Dissolved	U.S. EPA 200.8-DL	0.0004	mg/L
Chromium, Hexavalent	EPA 7199	0.01	mg/L
<i>Routine Parameters</i>			

TABLE 12-1 Surface Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
Chloride	EPA 300.1 IC	0.2	mg/L
Sulfate	EPA 300.1 IC	0.5	mg/L
Alkalinity, Total	titration to pH 4.5 endpoint		mg/L
Alkalinity, Bicarbonate	in water by titration		mg/L
Calcium Hardness,	calculated		mg/L
Total Hardness,	calculated		mg/L
Turbidity	by Nephelometer		ntu
pH	in water or wastewater by laboratory pH		pH Units
Nitrogen,	Total by High Temperature Oxidation		mg/L
Carbon, Total Organic	by High Temperature Oxidation		mg/L
Solids, Total Suspended			mg/L
Solids, Total Dissolved	at 180 C.		mg/L
Solids, Total			mg/L
Specific Conductance	at 25°C		µS/cm
Ammonia, Total,	Low Level by FIA, filtered		mg/L
Nitrate + Nitrite Nitrogen,	Flow Injection Analysis, filtered		mg/L
Phosphorus, Total	by Automated Ascorbic Acid Reduction		mg/L
Nitrogen, Total Kjeldahl	Nitrogen by CFA		mg/L
Microbiological Parameters			
Total Coliforms	APHA 9223	0	MPN/100mL
Escherichia Coli	APHA 9223 QT	0	MPN/100mL

APPENDIX E

GROUND WATER TEST PARAMETERS

TABLE 15-1 Ground Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
<i>Dissolved Metals</i>			
Aluminum (Al)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Antimony (Sb)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Arsenic (As)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Barium (Ba)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Beryllium (Be)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Bismuth (Bi)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Boron (B)-Dissolved	U.S. EPA 200.8-DL	0.01	mg/L
Cadmium (Cd)-Dissolved	U.S. EPA 200.8-DL	0.00001	mg/L
Calcium (Ca)-Dissolved	U.S. EPA 200.8-DL	0.05	mg/L
Cesium (Cs)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Chromium (Cr)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Cobalt (Co)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Copper (Cu)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Iron (Fe)-Dissolved	U.S. EPA 200.8-DL	0.1	mg/L
Lead (Pb)-Dissolved	U.S. EPA 200.8-DL	0.00009	mg/L
Lithium (Li)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Magnesium (Mg)-Dissolved	U.S. EPA 200.8-DL	0.01	mg/L
Manganese (Mn)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Mercury (Hg)-Dissolved	EPA245.7 V2.0	0.00005	mg/L
Molybdenum (Mo)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Nickel (Ni)-Dissolved	U.S. EPA 200.8-DL	0.001	mg/L
Phosphorus (P)-Dissolved	U.S. EPA 200.8-DL	0.1	mg/L
Potassium (K)-Dissolved	U.S. EPA 200.8-DL	0.02	mg/L
Rubidium (Rb)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Selenium (Se)-Dissolved	U.S. EPA 200.8-DL	0.001	mg/L
Silicon (Si)-Dissolved	U.S. EPA 200.8-DL	0.05	mg/L
Silver (Ag)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Sodium (Na)-Dissolved	U.S. EPA 200.8-DL	0.02	mg/L
Strontium (Sr)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Tellurium (Te)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Thallium (Tl)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Thorium (Th)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Tin (Sn)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Titanium (Ti)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Tungsten (W)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Uranium (U)-Dissolved	U.S. EPA 200.8-DL	0.0001	mg/L
Vanadium (V)-Dissolved	U.S. EPA 200.8-DL	0.0002	mg/L
Zinc (Zn)-Dissolved	U.S. EPA 200.8-DL	0.002	mg/L
Zirconium (Zr)-Dissolved	U.S. EPA 200.8-DL	0.0004	mg/L
Chromium, Hexavalent	EPA 7199	0.01	mg/L
<i>Volatile Organic Compounds</i>			

TABLE 15-1 Ground Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
1,1,1,2-Tetrachloroethane	SW846 8260	0.5	ug/L
1,1,1-Trichloroethane	SW846 8260	0.5	ug/L
1,1,2,2-Tetrachloroethane	SW846 8260	0.5	ug/L
1,1,2-Trichloroethane	SW846 8260	0.5	ug/L
1,1-Dichloroethane	SW846 8260	0.5	ug/L
1,1-Dichloroethylene	SW846 8260	0.5	ug/L
1,2-Dichlorobenzene	SW846 8260	0.5	ug/L
1,2-Dichloroethane	SW846 8260	0.5	ug/L
1,2-Dichloroethane d4	SW846 8260	1	%
1,2-Dichloropropane	SW846 8260	0.5	ug/L
1,3-Dichlorobenzene	SW846 8260	0.5	ug/L
1,4-Dichlorobenzene	SW846 8260	0.5	ug/L
2-Hexanone	SW846 8260	20	ug/L
4-Bromofluorobenzene	SW846 8260	1	%
Acetone	SW846 8260	20	ug/L
Benzene	SW846 8260	0.5	ug/L
Bromodichloromethane	SW846 8260	0.5	ug/L
Bromoform	SW846 8260	0.5	ug/L
Bromomethane	SW846 8260	1	ug/L
Carbon Disulfide	SW846 8260	0.5	ug/L
Carbon tetrachloride	SW846 8260	0.5	ug/L
Chlorobenzene	SW846 8260	0.5	ug/L
Dibromochloromethane	SW846 8260	0.5	ug/L
Chloroethane	SW846 8260	1	ug/L
Chloroform	SW846 8260	0.5	ug/L
Chloromethane	SW846 8260	1	ug/L
cis-1,2-Dichloroethylene	SW846 8260	0.5	ug/L
cis-1,3-Dichloropropene	SW846 8260	0.5	ug/L
Dichlorodifluoromethane	SW846 8260	1	ug/L
Ethyl Benzene	SW846 8260	0.5	ug/L
1,2-Dibromoethane	SW846 8260	0.5	ug/L
m+p-Xylenes	SW846 8260	1	ug/L
Methyl Ethyl Ketone	SW846 8260	20	ug/L
Methyl Isobutyl Ketone	SW846 8260	20	ug/L
MTBE	SW846 8260	0.5	ug/L
Dichloromethane	SW846 8260	0.5	ug/L
o-Xylene	SW846 8260	0.5	ug/L
Styrene	SW846 8260	0.5	ug/L
Tetrachloroethylene	SW846 8260	0.5	ug/L
Trihalomethanes (total)	SW846 8260	2	ug/L
Toluene	SW846 8260	0.5	ug/L
Toluene-d8	SW846 8260	1	%
trans-1,2-Dichloroethylene	SW846 8260	0.5	ug/L
trans-1,3-Dichloropropene	SW846 8260	0.5	ug/L
Trichloroethylene	SW846 8260	0.5	ug/L
Trichlorofluoromethane	SW846 8260	1	ug/L

TABLE 15-1 Ground Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
Vinyl chloride	SW846 8260	0.5	ug/L
Xylenes (Total)	SW846 8260	1.5	ug/L
Polycyclic Aromatic Hydrocarbons			
1-Methyl Naphthalene	EPA SW 846/8270-GC/MS	0.00002	mg/L
2-Methyl Naphthalene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Acenaphthene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Acenaphthene d10	EPA SW 846/8270-GC/MS	1	%
Acenaphthylene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Acridine	EPA SW 846/8270-GC/MS	0.00002	mg/L
Acridine d9	EPA SW 846/8270-GC/MS	1	%
Anthracene	EPA SW 846/8270-GC/MS	0.00001	mg/L
B(a)P Total Potency Equivalent	EPA SW 846/8270-GC/MS	0.00003	mg/L
Benzo(a)anthracene	EPA SW 846/8270-GC/MS	0.00001	mg/L
Benzo(a)pyrene	EPA SW 846/8270-GC/MS	0.000005	mg/L
Benzo(b&j)fluoranthene	EPA SW 846/8270-GC/MS	0.00001	mg/L
Benzo(g,h,i)perylene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Benzo(k)fluoranthene	EPA SW 846/8270-GC/MS	0.00001	mg/L
Chrysene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Chrysene d12	EPA SW 846/8270-GC/MS	1	%
Dibenzo(a,h)anthracene	EPA SW 846/8270-GC/MS	0.000005	mg/L
Fluoranthene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Fluorene	EPA SW 846/8270-GC/MS	0.00002	mg/L
Indeno(1,2,3-cd)pyrene	EPA SW 846/8270-GC/MS	0.00001	mg/L
Naphthalene	EPA SW 846/8270-GC/MS	0.00005	mg/L
Naphthalene d8	EPA SW 846/8270-GC/MS	1	%
Phenanthrene	EPA SW 846/8270-GC/MS	0.00005	mg/L
Phenanthrene d10	EPA SW 846/8270-GC/MS	1	%
Pyrene	EPA SW 846/8270-GC/MS	0.00001	mg/L
Quinoline	EPA SW 846/8270-GC/MS	0.00002	mg/L
Polychlorinated Biphenyls			
Aroclor 1016	APHA 6410B	0.00005	mg/L
Aroclor 1221	APHA 6410B	0.00005	mg/L
Aroclor 1232	APHA 6410B	0.00005	mg/L
Aroclor 1242	APHA 6410B	0.00005	mg/L
Aroclor 1248	APHA 6410B	0.00005	mg/L
Aroclor 1254	APHA 6410B	0.00005	mg/L
Aroclor 1260	APHA 6410B	0.00005	mg/L
Aroclor 1262	APHA 6410B	0.00005	mg/L
Aroclor 1268	APHA 6410B	0.00005	mg/L
Decachlorobiphenyl	APHA 6410B	1	%
Total PCBs	APHA 6410B	0.00005	mg/L

TABLE 15-1 Ground Water Analytical Testing Parameters

Parameter	Method	D.L.	Units
Organochlorine Pesticides			
o,p-DDT	SW846 8270	0.1	ug/L
p,p-DDD	SW846 8270	0.1	ug/L
p,p-DDE	SW846 8270	0.1	ug/L
p,p-DDT	SW846 8270	0.1	ug/L
Aldrin	SW846 8270	0.02	ug/L
Aldrin + Dieldrin	SW846 8270	0.04	ug/L
alpha-Chlordane	SW846 8270	0.1	ug/L
Chlordane (Total)	SW846 8270	0.3	ug/L
DDT + metabolites	SW846 8270	0.4	ug/L
Dieldrin	SW846 8270	0.02	ug/L
Lindane	SW846 8270	0.1	ug/L
gamma-Chlordane	SW846 8270	0.1	ug/L
Heptachlor	SW846 8270	0.1	ug/L
Heptachlor + Heptachlor Epoxide	SW846 8270	0.2	ug/L
Heptachlor epoxide	SW846 8270	0.1	ug/L
Methoxychlor	SW846 8270	0.1	ug/L
Oxychlordane	SW846 8270	0.1	ug/
d14-Terphenyl	SW846 8270	1	
Routine Parameters			
Chloride	EPA 300.1 IC	0.2	mg/L
Sulfate	EPA 300.1 IC	0.5	mg/L
Alkalinity, Total	titration to pH 4.5 endpoint		mg/L
Alkalinity, Bicarbonate	in water by titration		mg/L
Calicum Hardness,	calculated		mg/L
Total Hardness,	calculated		mg/L
Turbidity	by Nephelometer		ntu
pH	in water or wastewater by laboratory pH		pH Units
Nitrogen,	Total by High Temperature Oxidation		mg/L
Carbon, Total Organic	by High Temperature Oxidation		mg/L
Solids, Total Suspended			mg/L
Solids, Total Dissolved	at 180 C.		mg/L
Solids, Total			mg/L
Specific Conductance	at 25°C		µS/cm
Ammonia, Total,	Low Level by FIA, filtered		mg/L
Nitrate + Nitrite Nitrogen,	Flow Injection Analysis, filtered		mg/L
Phosphorus, Total	by Automated Ascorbic Acid Reduction		mg/L
Nitrogen, Total Kjeldahl	Nitrogen by CFA		mg/L
Microbiological Parameters			

APPENDIX F

INFRASTRUCTURE DAMAGE REPORT

APPENDIX G

FIRE EXTINGUISHER INVENTORY AND MAINTENANCE

APPENDIX H

DAILY EQUIPMENT INSPECTION LOG

**Daily Inspection
Unit 373-8681**

Meter _____

Date _____

Sticker _____

Inspected By _____

OK	Requires Attention	
_____	_____	Check Coolant Level and Check for Leaks
_____	_____	Check Engine Oil Level and Check for Leaks
_____	_____	Check Transmission Oil Level and Check for Leaks
_____	_____	Check Hydraulic Oil Level and Check for Leaks
_____	_____	Inspect and Clean Engine air filter and pre cleaner
_____	_____	Walk around inspection, check for Damage
_____	_____	Check for fuel leaks
_____	_____	Check Final drives, clean debris from Seal Area
_____	_____	Inspect Seat Belt
_____	_____	Test Operation of all Indicators and Gauges
_____	_____	Check Back Up Alarm Operation
_____	_____	Test Horn
_____	_____	Check all Lights and Beacon Operation
_____	_____	Check all Glass, W/Wipers and Washers
_____	_____	Check Operation of Service and Park Brakes
_____	_____	Check First aid kit and fire extinguisher
_____	_____	Inspect fire suppression system
_____	_____	Check Steering Operation

Comments _____

Please Fax to 488-4172 Daily

**Daily Inspection
Unit 403-1202**

Meter _____

Date _____

Sticker _____

Inspected By _____

OK **Requires Attention**

_____	_____	Check Coolant Level and for Leaks
_____	_____	Check Engine Oil Level and for Leaks
_____	_____	Check Transmission Oil Level and for Leaks
_____	_____	Check Hydraulic Oil Level and for Leaks
_____	_____	Walk around inspection, check for Damage
_____	_____	Check Final drives, clean debris from Seal Area
_____	_____	Inspect Seat Belt
_____	_____	Test Operation of all Indicators and Gauges
_____	_____	Check Back Up Alarm Operation
_____	_____	Test Horn
_____	_____	Check all Lights
_____	_____	Check all Glass, W/Wipers and Washers
_____	_____	Check Operation of Service and Park Brakes
_____	_____	Check Steering Operation
_____	_____	Tighten all Wheel Cleaner Bolts

Comments _____

Please Fax to 488-4172 Daily