HYDE PARK

PROCEDURES MANUAL

January 2003

Hyde Park Procedures

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Procedure #1
Start-up Process

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses

Step One – Preparation

Note: A minimum airline pressure of **60 psi** is required for system operation.

- Start air compressor (refer to Procedure #8).
- Start Process Water Pump (P-282).
- Open effluent tank valve and effluent tank discharge valve.
- **Acknowledge all HMI alarms.**
- Set flow control valve, FV-712, to Automatic mode.
- Select Leachate Feed Pump No. 1 or Leachate Feed Pump No. 2 for operation by opening suction and discharge valves.
- Check Sand Filtration System for proper sequencing.
- Check Sacrificial Carbon Bed interconnecting valving for proper sequencing.
- Check Main Carbon Bed interconnecting piping for proper sequencing.

Note: All pumps must be in " auto" mode on HMI screen.

Step Two – Start-up

- Start Effluent Pump (P-223) by turning HOA switch to Automatic mode.
- Start Backwash Pump (P-222) by turning HOA switch to Automatic mode.
- Start Backwash Transfer Pump (P-215) by turning HOA switch to Automatic mode.
- Start Leachate Feed Pump selected in Step One by turning HOA switch to Automatic mode.
- Start Diamond Filter Pump (P-293R-1) (local switch at Diamond control panel).
- Start Diamond Backwash Pump (P-293R-2) (local switch at Diamond control panel).

Step Three – Set Valving

- Set influent flow control valve, FV-712, to desired influent flow setpoint.
- Set Effluent Tank (HP-07) level control valve, LV-807, to desired tank level setpoint.
- Monitor system pressures at Diamond Sand Filtration System, Sacrificial Carbon Beds, and Main Carbon Beds.

Procedure #2
Shut-down Process

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses

Step One – Pumps

Note: Pumps may be turned off using the HMI by switching them from Automatic mode to Manual mode. They may also be turned off using the local HOA switch.

- Turn off Leachate Feed Pump No. 1 (P-224) or Leachate Feed Pump No. 2 (P-264).
- Turn off Diamond Filter Pump (P-293R-1) (local switch at Diamond control panel).
- Turn off Diamond Backwash Pump (P-293R-2) (local switch at Diamond control panel).
- Turn off Effluent Pump (P-223).
- Turn off Backwash Pump (P-222).
- Turn off Backwash Transfer Pump (P-215).
- Turn off Process Water Pump (P-282).

Step Two – Automatic Control Valves

- Set influent flow control valve, FV-712, to Manual 0%.
- Set Effluent Tank (HP-07) level control valve, LV-807, to Manual 0%.

Step Three – Manual Valves

Note: Apply if the system will remain down overnight.

- Close Leachate Feed Pump No. 1 (P-224) inlet valves.
- Close Leachate Feed Pump No. 2 (P-264) inlet valves.
- Close effluent discharge valve.

Note: Refer to the Shutdown Checklist (see attached) for a thorough listing of process valves to be closed for long-term shutdown.

Step Four – Utilities

- Shutdown air compressor (refer to Procedure #8).
- Shutdown boiler (refer to Procedure #9).

Procedure #3

Backwash Sacrificial Carbon Beds

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Face Shield
- Rain Suit

Step One – Preparation

- Check Effluent Tank (HP-07) level to verify adequate supply for backwashing. Effluent Tank (HP-07) level should be >40%.
- Verify Effluent Pump (P-223) is running in automatic mode.

Step Two – Isolate Vessel for Backwash

- Verify that the vessel is off-line. The other Sacrificial Carbon Bed may be run during backwash.
- Close vessel feed valve.
- Close any related jumper valves.
- Open vent valve of vessel to be backwashed.
- Open backwash valve of vessel being backwashed.

Note: Refer to attached diagrams for valving details.

Step Three – Attach Air Hose

- Attach 1-inch air hose to camlock fitting on the discharge line of the bed being backwashed.
- Adjust air regulator to 5 – 8 psi and pad the line with air.
- Do NOT open valve yet.

Step Four – Start Backwash

- Effluent valve to sewer, LV-807, may need to be cut back to provide adequate flow (~600 GPM) for backwashing.
- Open treated water supply valve (effluent) slowly to the bed valved in for backwash.
- Open valve on discharge line where padded air line is connected. Leave open 10 – 20 seconds to sparge bed with air.
- Continue feed air every 10 minutes.

Step Five – Monitoring

- Walk piping to double check proper valving.
- Continuously check pressure on the carbon bed.

Step Six – Stop Backwash

- 10 minutes or Effluent Tank (HP-07) level is less than 10%, discontinue backwash.

- Close treated water supply valve (effluent).
- Close backwash valve.
- Bleed and disconnect air line and replace camlock fitting.

Step Seven – Put HP-26 and HP-27 On-line

- Re-set LV-807 to normal operation setpoint.
- Re-set manual valving for normal operation.

Note: Refer to attached diagrams for valving details.

Step Eight – Follow-up

- Drain water from the Backwash Tank as necessary.

Procedure #4

Backwash Main Carbon Beds

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Face Shield
- Rain Suit

Step One – Preparation

- Check Effluent Tank (HP-07) level to verify adequate supply for backwashing. Effluent Tank (HP-07) level should be >40%.
- Verify Effluent Pump (P-223) is running in automatic mode.

Step Two – Isolate Vessel for Backwash

- Verify that the vessel is off-line.
- Close feed valve of vessel being backwashed.
- Close discharge valve of vessel being backwashed.
- Open vent valve of vessel to be backwashed.
- Open treated water supply valve of vessel being backwashed.
- Open backwash valve of vessel being backwashed.

Note: Refer to attached table and diagram for valving details.

Step Three – Attach Air Hose

- Attach 1-inch air hose to camlock fitting on the discharge line of the bed being backwashed.
- Adjust air regulator to 5 – 8 psi and pad the line with air.
- Do NOT open valve yet.

Step Four – Start Backwash

- Effluent valve to sewer, LV-807, may need to be cut back to provide adequate flow (~600 GPM) for backwashing.
- Open treated water supply valve (effluent) slowly to the bed valved in for backwash.
- Open valve on discharge line where padded air line is connected. Leave open 10 – 20 seconds to sparge bed with air.
- Continue feed air every 10 minutes.

Step Five – Monitoring

- Walk piping to double check proper valving.
- Continuously check pressure on the carbon bed.

Step Six – Stop Backwash

- 10 minutes or Effluent Tank (HP-07) level is less than 10%.

- Close treated water supply valve (effluent).
- Close backwash valves.
- Bleed and disconnect air line and replace camlock fitting.

Step Seven – Put Vessel Back On-line

- Re-set LV-807 to normal operation setpoint.
- Re-set valving for normal operation.

Note: Refer to attached table and diagram for valving details.

Step Eight – Follow-up

- Drain water from the Backwash Tank as necessary.

Procedure #5
Backwash Sand Filters

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses

Step One – Preparation

- Diamond Filter Pump (P-293R-1) and Diamond Backwash Pump (P-293R-2) should be on at the local control panel.
- Valves should be open to send the backwash water to the Backwash Tank (HP-08).

Note: If adequate effluent supply is not available, close effluent supply valve and open recirculation valve to use processed water for backwash.

Step Two – Backwash

- Start the Backwash Pump (P-222) by turning the HOA switch to Automatic mode.
- On either sand filter control panel or HMI screen, push the Backwash button.
- When backwash cycle has begun, a red backwash light on the sand filter control panel and on the HMI screen will light, indicating that the Diamond Backwash Pump (P-293R-2) is running.
- Monitor sand filter Aquamatic valves during backwash. Valve stems should fully rise while valves are open. "Stuck" valves can be helped open using vice-grips and may be repaired after backwash. Ensuring that the valves are opening properly will prevent possible blow-through on pressure relief valves.

Step Three – Follow-up

- When the backwash cycle is over, red backwash light on the sand filter control panel and on the HMI will no longer be lit.
- Drain water from the Backwash Tank as necessary.

Procedure #6
Main Carbon Bed Change

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Face Shield
- Rain Suit

Part 1 – Transfer New Carbon to Carbon Bed

Note: Level in the Effluent Tank (HP-07) should be greater than 60% to verify and adequate water supply for carbon loading.

Step One – Verify valving on Carbon Bed

- Close feed valve of vessel being emptied.
- Close effluent valve of vessel being emptied.
- Close all valves associated with U-connections.
- Disconnect all U-connections of vessel being emptied.
- Close water-spray valves.
- Close vent valve of vessel to be emptied.
- Close treated water supply valve of vessel being emptied.
- Close backwash valve of vessel being emptied.
- Close carbon bed drain valves.
- Close carbon bed unloading valves.
- Close unloading water-chase valves.
- Close carbon bed charge valves.

Step Two – Prepare Transfer Bed and Fill Trailer for Carbon Transfer

Note: Transfer bed should be pre-filled with 1,000 gallons of effluent water.

Note: Driver will connect hoses and operate valves on trailer. Technician will connect hoses and operate valves on process equipment.

- Connect loading hose from trailer to carbon bed charge line.
- Connect hose to trailer vent line. Place other end of hose in HP-5 floor trench.
- [Driver] Open trailer vent valve.
- Connect trailer water supply line and fill trailer until water flows out vent line and into trench.
- Shut-off water supply valve.
- [Driver] Close trailer vent valve.
- Open carbon bed loading valve.
- Open carbon bed charge valve.

- Open carbon bed vent valve.
- Close and secure trailer dome.
- Connect trailer air-supply line. (Set at 15 psi.)
- Open air-supply valve and pad trailer to 15 psi.

Step Three – Transfer Carbon from Trailer to Bed

- Check air supply, carbon bed, and trailer pressure gauges before transferring carbon. Trailer and air supply should be at 15 psi. Carbon bed should be < 5 psi.
- Re-check valving on transfer bed.
- [Driver] Open trailer unloading valves to start carbon transfer. Listen for carbon moving through the lines.
- Open loading water-chase valve 25%.
- Monitor pressure gauge on carbon bed during transfer. Pressure should remain < 5 psi.
- When transfer is complete, trailer pressure will drop to < 5 psi and the air will be heard going through the loading lines.

Step Four – Stop Carbon Transfer

- Close air-supply valves.
- [Driver] Close trailer unloading valves.
- Close loading water-chase valve.
- Close carbon bed loading valve.
- Close carbon bed charge valve.
- Disconnect loading and air hoses and cap lines.

Step Five – Backwash Fresh Carbon Before Operation

- Backwash Carbon Bed (refer to Procedure #4).

Step Six – Valve Carbon Treatment for Normal Operation

- Verify Effluent Tank (HP-07) level is above 40% for water-chase.
- Verify Effluent Pump (P-223) is turned to Automatic mode.
- Effluent valve to sewer, LV-807, may need to be cut back to provide adequate flow for water-chase.

Part 2 – Transfer of Spent Carbon to Trailer

Step One – Check Valves on Carbon Beds

- Close feed valve of vessel being emptied.
- Close effluent valve of vessel being emptied.
- Close water-spray valves.
- Close vent valve of vessel being emptied.
- Close treated water supply valve of vessel being emptied.
- Close backwash valve of vessel being emptied.
- Close carbon bed drain valves.
- Close carbon bed unloading valves.
- Close unloading water-chase valves.

- Close carbon bed loading valves
- Close loading-water chase valves.
- Close carbon bed charge valves.

Step Two – Prepare Trailer and Spent Carbon Bed for Transfer

Note: Driver will connect hoses and operate valves on trailer. Technician will connect hoses and operate valves on process equipment.

- Connect loading hose from trailer to spent carbon bed unloading line.
- Connect vent hose from trailer to Process Collection Tank (HP-17) drain header.
- Open air-supply valve to carbon bed and pad bed to 30 psi.

Step Three – Transfer Spent Carbon from Bed to Trailer

- Check air supply and carbon bed pressure gauges before transferring carbon. Pressure gauges should read 30 psi.
- [Driver] Open trailer loading and vent valves.
- Open drain valve to Process Collection Tank (HP-17) drain header.
- Open spent carbon bed unloading valve.
- Open spent carbon bed drain valve. Listen for carbon moving through the line and watch the sightglass during the transfer.
- Open water chase valve 25%.
- Monitor the pressure gauge on the carbon bed during transfer. Pressure should remain at 30 psi.
- When transfer is complete, bed pressure will drop below 10 psi and air can be heard blowing through the lines.
- Open spent bed water spray valve and wash bed for 5 minutes or until clear water flows through the sightglass.
- Close water chase valve.

Step Four – Stop Carbon Transfer

- Close bed air supply valve.
- Close bed unloading valve.
- Close bed drain valve.
- [Driver] Close trailer loading and vent lines.
- Disconnect loading hose and cap lines.

Note: Driver must de-water spent carbon load before leaving the Site. This may be done in building HP-5 (via the Process Collection Tank (HP-17) drain header) or on the Leachate Trailer Loading Pad.

Step Five – Compete Pennsylvania Department of Environmental Resources Hazardous Waste Manifest. Keep a Xerox copy of the manifest.

Step Six – Charge Empty Carbon Bed with Effluent Water

- Open carbon bed vent valve on empty vessel.
- Open treated water supply valve to empty vessel.

- Open backwash valve to empty vessel.
- Fill bed with 1,000 gallons of effluent water.
- Close treated water supply valve to vessel.
- Close backwash valve to vessel.

Procedure #7
Sacrificial Carbon Beds Carbon Change

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Face Shield
- Rain Suit

Part 1 – Transfer New Carbon to Carbon Bed

Note: Level in the Effluent Tank (HP-07) should be greater than 60% to verify and adequate water supply for carbon loading.

Step One – Verify valving on Carbon Bed

- Close feed valve of vessel being emptied.
- Close any related jumper valves.
- Close associated effluent valve.
- Close water-spray valves.
- Close vent valve of vessel to be emptied.
- Close backwash valve of vessel being emptied.
- Close carbon bed drain valves.
- Close carbon bed unloading valves.
- Close unloading water-chase valves.
- Close carbon bed charge valves.

Step Two – Prepare Transfer Bed and Fill Trailer for Carbon Transfer

Note: Transfer bed should be pre-filled with 1,000 gallons of effluent water.

Note: Driver will connect hoses and operate valves on trailer. Technician will connect hoses and operate valves on process equipment.

- Connect loading hose from trailer to carbon bed charge line.
- Connect hose to trailer vent line. Place other end of hose in HP-5 floor trench.
- [Driver] Open trailer vent valve.
- Connect trailer water supply line and fill trailer until water flows out vent line and into trench.
- Shut-off water supply valve.
- [Driver] Close trailer vent valve.
- Open carbon bed loading valve.
- Open carbon bed charge valve.
- Open carbon bed vent valve.

- Close and secure trailer dome.
- Connect trailer air-supply line. (Set at 15 psi.)
- Open air-supply valve and pad trailer to 15 psi.

Step Three – Transfer Carbon from Trailer to Bed

- Check air supply, carbon bed, and trailer pressure gauges before transferring carbon. Trailer and air supply should be at 15 psi. Carbon bed should be < 5 psi.
- Re-check valving on transfer bed.
- [Driver] Open trailer unloading valves to start carbon transfer. Listen for carbon moving through the lines.
- Open loading water-chase valve 25%.
- Monitor pressure gauge on carbon bed during transfer. Pressure should remain < 5 psi.
- When transfer is complete, trailer pressure will drop to < 5 psi and the air will be heard going through the loading lines.

Step Four – Stop Carbon Transfer

- Close air-supply valves.
- [Driver] Close trailer unloading valves.
- Close loading water-chase valve.
- Close carbon bed loading valve.
- Close carbon bed charge valve.
- Disconnect loading and air hoses and cap lines.

Step Five – Backwash Fresh Carbon Before Operation

- Backwash Carbon Bed (refer to Procedure #3).

Step Six – Valve Carbon Treatment for Normal Operation

- Verify Effluent Tank (HP-07) level is above 40% for water-chase.
- Verify Effluent Pump (P-223) is turned to Automatic mode.
- Effluent valve to sewer, LV-807, may need to be cut back to provide adequate flow for water-chase.

Part 2 – Transfer of Spent Carbon to Rolloff Box

Note: SAC beds spent carbon goes into a 20yd rolloff and sent offsite for incineration.

Step One – Check Valves on Carbon Beds

- Close feed valve of vessel being emptied.
- Close any related jumper valves.
- Close associated effluent valve.
- Close water-spray valves.
- Close vent valve of vessel to be emptied.
- Close backwash valve of vessel to be emptied.
- Close carbon bed drain valves.
- Close carbon bed unloading valves.

- Close unloading water-chase valves.
- Close carbon bed loading valves
- Close loading-water chase valves.
- Close carbon bed charge valves.

Step Two – Prepare Spent Carbon Bed for Transfer

- Connect loading hose from spent carbon bed unloading line place inside rolloff box.
- Open air-supply valve to carbon bed and pad bed to 30 psi.

Step Three – Transfer Spent Carbon from Bed to Rolloff Box

- Check air supply and carbon bed pressure gauges before transferring carbon. Pressure gauges should read 30 psi.
- Open spent carbon bed unloading valve.
- Open spent carbon bed drain valve. Listen for carbon moving through the line and fill rolloff box evenly.
- Open water chase valve 25%.
- Monitor the pressure gauge on the carbon bed during transfer. Pressure should remain at 30 psi.
- When transfer is complete, bed pressure will drop below 10 psi and air can be heard blowing through the lines.
- Open spent bed water spray valve and wash bed for 5 minutes or until clear water flows through the sightglass.
- Close water chase valve.

Step Four – Stop Carbon Transfer

- Close bed air supply valve.
- Close bed unloading valve.
- Close bed drain valve.
- Disconnect loading hose and cap lines.
- Move rolloff box to trailer loading pad.

Step Five – Charge Empty Carbon Bed with Effluent Water

- Open carbon bed vent valve.
- Open treated water supply valve.
- Open backwash valve to empty vessel.
- Fill bed with 1,000 gallons of effluent water.
- Close treated water supply valve.
- Close backwash valve.

Procedure #8

Compressor Start-up and Shut-down

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Hearing Protection

Step One – Check Oil and Alarms

- Open back panel on compressor and check oil level in the sightglass. Sightglass should be ½ full.
- Test alarm lights by pressing the test button on the compressor control panel. Observe that all lights are working.

Step Two – Start-up Compressor

- Don hearing protection.
- Make sure line switch is in unload position.
- Press compressor start button.
- Make sure switch is set in modulate mode.
- Make sure gauge switch is set to line pressure.
- When oil temperature gauge reads 110°, switch from unload to normal.
- Monitor pressure and temperature regularly.

Step Three – Shut-down Compressor

- Switch compressor to unload.
- Wait one minute.
- Press stop button

Note: For maintenance on compressor and air lines, air pressure must be bled off. Shut-down compressor (refer to Step Three) and open bleed-off valves on wet and dry air receivers until pressure reaches 0 psi. Close both bleed valves.

Procedure #9

Boiler Start-up and Shut-down

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses
- Hearing Protection

Step One – Preparation

- Verify that all water feed valves are open.
- Verify that the steam stop-valve at the top of the boiler is open.
- Verify that the water gauge valves are open.
- Verify that the blowdown valves on the boiler are closed.
- Start the Process Water Pump (P-282).
- Level of water softener salt should be at ½ tank. Add water and salt as needed.
- Mix boiler chemicals as needed. (Use 3 lbs of dry Enerlink BW9375 to 3 gallons Liquid Enerlink BW9340. Fill mix tank to black mark with water.)

Step Two – Boiler Start-up

- Check sightglass for adequate water supply.
- Set the circuit breaker to on.
- Start the Chemical Feed Pump Agitator.
- Start the Chemical Feed Pump (P-293L-1).

Step Three – Blowdown Boiler

Note: Boiler should be blown down once per day when in use to prevent scale buildup inside the boiler.

- Turn power switch to off.
- Open water quench valve.
- Clear sightglass by closing bottom valve of sightglass until water level drops and glass is empty.
- Open valve and watch for level to rise in sightglass. Repeat until the water in the sightglass no longer appears rust-colored or scaly.
- Fully open the blowdown valve nearest the boiler (75%). Then close immediately.
- Close blowdown valve farthest from the boiler.
- Close water quench valve.
- Turn power switch back to on.

Step Four – Boiler Shutdown

- Turn off Chemical Feed Pump (P-293L-1).
- Turn off Chemical Feed Pump Agitator.
- Turn hand switch to off.

- Turn circuit breaker to off.

Procedure #10

Loading Residue Drums Onto Box Van

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses

Step One – Preparation

- Obtain Manifest Document Number before loading the van.
- Verify that all drums have correct labels, waste codes, and manifest document numbers.

Step Two – Forklift Operation

- Forklift operator's license is required.
- Perform forklift inspection, making sure that the Mobile Equipment Checklist has been completed.

Step Three – Connect Loading Ramp

- Move ramp into position over rear of trailer, lower.
- Secure double ramp safety chains to trailer frame.

Step Four – Load Residue Drums onto Box Van

- Before loading drums, write down quantity of each code to keep a running total.
- Double-check each drum for proper waste codes, manifest numbers, etc.
- Check the condition of each drum before loading. Damaged or leaking drums, or drums with loose rings and / or lids can not be loaded and must be addressed.
- Check and tighten all rings.
- Using forklift, load each pallet to the front of the van. Make sure enough room is allotted for loading pallets "two-wide".
- During loading, periodically check the drums that have been loaded against the running total sheet to make sure that the count is accurate.

Step Five – After Loading

- Re-check total of drums loaded.
- Remove ramp.
- Close back door of box van when all is secure and driver has inspected the load.
- Record the totals and codes of all loaded drums in the Control Room logbook.

Step Six – Ship Residue Drum Van

- Make sure manifest is in order (signed, dated, proper codes, etc.)
- Obtain appropriate copies of manifest and other shipping forms.

Procedure #11

Loading NAPL from Decanters 1, 2 & 3

NOTE: Loading of Non-Aqueous Phase Leachate (NAPL) is to be performed via vacuum truck by contract personnel, and overseen by Miller Springs Remediation Management Inc. (MSRM) employees.

General PPE:

- Hard hat
- Nitrile Gloves
- Rubber overshoes
- Face Shield

Required PPE During Open Line or Open Dome Work:

- Saranex Suit
- Air Purifying Respirator with Organic Vapor Canister
- Nitrile Gloves
- Rubber Boots.

Step One: Initial Connection.

(For valve and fitting locations, refer to attached diagram D-1.)

Note: A plastic bucket should be placed on the dike floor under the 2-inch camlock fitting before the cap is removed. This will prevent any material in the line or cap from contaminating the dike floor

- **With the vacuum truck properly spotted and chocked, MSRM personnel will open the NAPL transfer line camlock cap at the outlet of the decanter header.**
- Once fitting is open, vacuum truck personnel will connect the vacuum truck hose.
- When hose is in place and secure, MSRM personnel will open the decanter bottom-valve from the decanter to be drawn from.
- Vacuum truck personnel will begin drawing the desired amount of NAPL from the decanter.

Step Two: Loading the NAPL Trailer.

Note: A maximum of 4000 gallons of NAPL is shipped per trailer. There is no minimum.

- MSRM personnel are responsible for completing a Tank Trailer Inspection Report. (See attached form F-1)

- Ensure that the residue trailer that will be receiving the NAPL is properly spotted, tongue-jack is in place, wheels are chocked and the trailer inspected for damage, defects, or evidence of prior leaks, empty, and is accompanied by the appropriate paperwork. Ensure that ground wire is attached.

- When the vacuum truck has either reached capacity or the desired amount of NAPL has been drawn from the decanter, MSRM or contract personnel will open the loading dome and assist vacuum truck personnel in securing the vacuum truck discharge hose to the dome.

- MSRM personnel will close the decanter valve, and cap the camlock fitting. Contaminated plastic will be drummed and coded with the appropriate hazardous waste drum markings.

- MSRM personnel will determine the appropriate depth of NAPL equivalent to the desired amount and relay that depth to the vacuum truck personnel.

- Vacuum truck personnel will commence to load the trailer, measuring the NAPL depth at regular intervals. MSRM employees will observe the loading and measuring.

Step Three: Disconnect and Follow-Up

- When the desired measurement of NAPL has been obtained and verified by MSRM personnel, MSRM personnel will close the decanter bottom valve and vacuum truck personnel will disconnect and plug discharge hose.

- MSRM or contract personnel will secure the trailer-loading dome.

- All PPE will be placed into hazardous waste drums and coded with the appropriate hazardous waste drum markings.

- Vacuum truck personnel will be responsible for on-site decontamination of trucks, hoses and related equipment.

- If any non-NAPL water or leachate is visible on the NAPL load, contract personnel must pump it off with a portable submersible pump.

- MSRM personnel will complete a Hazardous Waste Manifest and any other associated documentation, and make a note in the Control Room Operations Log Book regarding the amount of NAPL shipped and the date.

Procedure #12
Facility Inspection

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses

General

- Inspection of the Hyde Park Treatment Facility is performed once per business day.
- Referring to the attached inspection forms (Figures 3, 4, and 5), check all appropriate items.
- Any problems should be promptly addressed, with notification to the Supervisor of problems requiring maintenance work.

Procedure #13

Take Hnu Reading on Ventsorb Canisters

Required PPE

- Safety Shoes
- Hard Hat
- Leather Work Gloves
- Safety Glasses

Step One – Battery Check

- On the Hnu meter, turn the function switch to batt. The needle should be within the green indication. If not, recharge the battery.

Step Two – Zero Check

- Turn the function switch to stand by.
- Turn the zero dial until a zero reading is obtained.

Step Three – 0-200 ppm Range Calibration

- Connect span gas standard bottle to meter.
- Turn the function switch to the 0 – 200 ppm range position and note the meter reading.
- Adjust the span control dial to the ppm concentration noted on the standard bottle.
- Re-check the zero setting. If adjustment is needed, also re-check the span.

Step Four – Take Hnu Readings

- Obtain a copy of the carbon adsorber monitoring form.
- Insert probe into the vent elbow located above the carbon vent adsorber drum housing.
- Start readings with the range switch set to the 0 – 20 range setting.
- If needle "pegs" to the top of the meter, set range setting to the 0 – 200 range setting.
- If needle "pegs" again, adjust to the 0 – 2000 range setting.
- Record readings (in ppm) on the monitoring sheet.

Step Five – Follow Up

- Any vent adsorber drum that shows a high reading (> 50 ppm) should be changed. Notify supervisor.
- Return Hnu meter to storage. If unit needs cleaning or isn't operating properly, refer to the operating manual in the Hyde Park Equipment File. Spare parts and span gas can be ordered from this manual.

Procedure #14

Daily / Weekly Process Sampling

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Rubber Overshoes
- Face Shield
- Nitrile Gloves

Sample Requirements

Hyde Park daily/weekly process sampling requirements are as follows:

Note: pH analysis is performed on site at the Hyde Park facility. See below.

Daily (Only if Discharging):

For TOC, Phenol, and pH:

Name	# of Bottles	Analysis
First Interstage	1 – LGM, 1 – 4 oz.	Phenol
Second Interstage	1 – LGM, 1 – 4 oz.	Phenol
Daily Effluent Comp.	1 – LGM, 1 – 4 oz.	Phenol, TOC

For Organics:

Weekly Effluent Comp.	3 – 40 mlv.	Organics

Weekly:

For Organics:

First Carbon Bed Inter.	2 – 40 mlv.	Organics
Second Carbon Bed Inter.	2 – 40 mlv.	Organics

Monthly:

For TOC, Phenol, and pH:

Carbon Bed Feed	1 – LGM, 1 – 4 oz.	Phenol, TOC

Step One – Prepare Sample Documentation

- In the control room, fill out the Sample Logbook. Sample numbers for Chain-of-Custody and sample labels will originate from the page number of the Sample Logbook used for any given day" samples.
- Fill out Chain of Custody (see attachment) form.
- Make sample labels and label sample bottles.

Step Two – Effluent Sampling

- In the effluent sample station, turn sample pump off.
- Record refrigerator temperature in notebook in sample station.

- Remove the city composite jug with the oldest date and empty into the Storage Dike Trench.

From the effluent sample jug,

- Obtain 16 oz. Bottle of effluent – set aside.
- Obtain 3 – 40 ml VOA samples, place in cooler.
- Obtain 1 – LGW sample (for phenols) and preserve with H_2SO_4 and to a pH of <2.
- Obtain 1 – 4 oz. sample (for TOC) and preserve with H_2SO_4 and to a pH of <2.
- Fill city composite jug and re-date with today's date.
- Return sample jug and city composite jug to effluent sample station.
- Restart sampler.

Step Three – Carbon Bed Samples

Note: For each of the following samples, allow the sample tap to run for one minute before drawing sample.

Phenols

- Obtain 1 – LGW sample for each of the following:
  - ⇒ Carbon Bed Feed
  - ⇒ First Carbon Bed Interstage
  - ⇒ Second Carbon Bed Interstage
- Preserve above samples with H_2SO_4 and to a pH of <2.
- Place samples in cooler.

TOC

- Obtain 1 – 4 oz. sample for each of the following:
  - ⇒ Carbon Bed Feed
- Preserve above samples with H_2SO_4 and to a pH of <2.
- Place samples in cooler.

Organics

- Each Monday, four additional 40 ml VOA samples must be taken. Two each of the First Carbon Bed Interstage, and the Second Carbon Bed Interstage.
- Place samples in cooler.

pH

- Calibrate pH meter according to manufacturer's instructions (see attached).

Note: pH meter must be calibrated daily. Record calibration data in the control room logbook.

- Obtain 1 – 16 oz. sample of each of the following:
  - ⇒ Carbon Bed Feed
  - ⇒ First Carbon Bed Interstage
  - ⇒ Second Carbon Bed Interstage
  - ⇒ Effluent (already drawn)
- Take pH readings from each sample, recording the results in the Sample Logbook.

Step Four – Follow-Up

- Place a seal on the sample cooler – record seal number in the Sample Logbook and on the Chain of Custody form.
- Clean and store pH meter.
- When the sample results come back from the lab, record the results in the Sample Logbook.

Procedure #15

Quarterly Process Sampling

Required PPE:

- Safety shoes
- Hard hat
- Safety glasses
- Nitrile gloves

Fill out all appropriate labels and chains before starting sampling.

Step One

- Fill 4, iL amber glass, jars, from interstage tap on sac beds

Step Two

- Package two jars each in separate coolers
  - Ship 1 cooler to Alta labs for Dioxin test
  - Ship 1 cooler to Triangle Labs for PCB test

Procedure #16

Standby Power – Start-up and Shut-down Generator

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Hearing Protection

Step One – ?

- Open back panel on compressor and check oil level in the sightglass. Sightglass should be ½ full.
- Test alarm lights by pressing the test button on the compressor control panel. Observe that all lights are working.
- Open gas line.

Step Two – Start-up Generator

- Don hearing protection.
- Open south door of generator cabinet.
- Set selector switch to run.

CAUTION: If the engine stalls or falters in starting, wait 3 or 4 seconds before re-engaging starter. This will prevent possible damage to the starter, flywheel, or engine.

The starter should not be operated for periods longer than 30 seconds at a time. An interval of at least 2 minutes should be observed between such cranking periods to protect the starter from overheating.

- Check engine oil pressure gauge for satisfactory indication – a minimum of 20 PSI.
- After successful start of engine, adjust volt rheostat for generator output to 480 V.
- Close door of generator cabinet.
- Proceed to load center building.
- Identify correct MCC/Gen. transfer switch (Wet Well C, motor 101A, or Wet Well D, motor 102A) to be operated. Operate handle to Gen. position.
- Identify correct starter (Wet Well C, motor 101A, or Wet Well D, motor 102A). Operate switch handle of starter to on position. Depress start button. Red pilot light on starter unit is now illuminated (pump motor is running).

Note: At this point operation of Wet Well C or Wet Well D pump motor is achieved. Operation will be continuous (no instrumentation to monitor or control operation in this mode) until stopped by depressing the appropriate starter "stop" button.

Step Three – Shut-down Generator

- Open south door of generator cabinet.
- Set selector switch to stop.
- Close door of generator cabinet.

Procedure #17

Reboot Control Room Computers

Step One – Shutdown Intellution

- Exit HMI screens.
- Shutdown the Intellution Startup Program.

Step Two – Shutdown All Programs

- Save any work in progress.
- Shutdown or exit any programs.

Step Three – Reboot Machine

- From the Start Menu, choose Shutdown.
- From Shutdown Menu, choose Restart the Computer.

Procedure #18

Peroxide Drum Change

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Face Shield
- Nitrile Gloves

Step One – Preparation

- Verify that the Peroxide Addition Pump is off.
- Verify that the peroxide feed valve is closed.

Step Two – Remove Equipment from Used Drum

- Remove pump suction line from used peroxide drum.
- Remove used drum for proper disposal.

Step Three – Place New Drum On-line

- Verify concentration of new peroxide drum.
- Relocate new peroxide drum for peroxide addition.
- If required, replace Peroxide Addition Pump suction line.
- Place Peroxide Addition Pump suction line in new peroxide drum.
- If last drum in storage is used, notify supervisor.

Procedure #19
Peroxide Addition

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses

Step One – Preparation

- Verify peroxide level in drum.
- Inspect drum, pump, tubing, and valving for any potential leakage.

Step Two – Start Peroxide Addition

- Open peroxide feed valve.
- Start Peroxide Addition Pump.

Step Three – Verify Addition

- Inspect pump, tubing, and valving for leakage.

Step Four – Stop Peroxide Addition

- Stop Peroxide Addition Pump.
- Close peroxide feed valve.

Procedure #20

Clear Process Collection Dike Sump

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Nitrile Gloves

Step One – Connect Air Line

- Ensure Dike Sump Pump is off.
- Ensure valve on blowout line is closed.
- Connect 1-inch hose from regulator to blowout line camlock fitting.
- Set air regulator to 5 – 10 psi.
- Pad line with air.
- Open blowout line valve to allow air into sump.

Step Two – Pump Down Sump

- Allow sump to agitate for 2 – 3 minutes.
- Turn pump on. If it appears to pump, turn air off at blowout line valve. If sump doesn't begin to pump down, turn off pump, and blow air for another 2 – 3 minutes.
- Repeat until sump pumps down.

Step Three – Disconnect Air Line

- When sump is clear, ensure blowout line inlet valve is closed.
- Turn air supply off at regulator and bleed off air line.
- Disconnect hose at blowout line camlock fitting and roll up.
- Cap blowout line fitting.

Procedure #21
Clean In-line Strainer

Required PPE

- Safety Shoes
- Hard Hat
- Safety Glasses
- Saranex Coveralls
- Nitrile Gloves
- Rubber Overshoes
- Full Face Canister Mask
- Pesco Hood

Step One – Lock Out Strainer

- Lock out valve on inlet side of strainer.
- Lock out valve on discharge side of strainer.
- Lock out pump on discharge side of strainer.

Step Two – Line Break

- Using crescent wrench, pull one of the drain valve plugs before the in-line strainer.
- Place pail under drain and open ½-inch drain valve to achieve 0 psi on strainer.
- Open strainer lid by turning yoke bolt counterclockwise. Swing lid free.
- Remove strainer and place into bucket.

Step Three – Clean Strainer

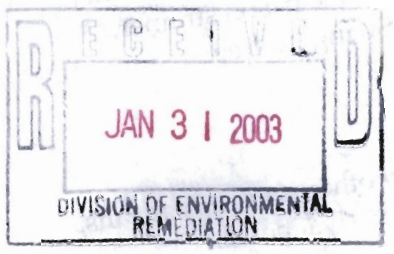
- Remove all solids from strainer by hosing, scrubbing, or any other necessary means. Strainer should be cleaned into a drum which should be properly labeled.

Step Four – Replace Strainer

- Replace strainer bucket back into strainer housing.
- Position lid and tighten yoke.
- Close drain valve.
- Re-install drain plugs.
- Clean and rinse buckets.

Step Five – Unlock Strainer

- Remove all above listed locks from valves and starter and open valves where appropriate.
- Replace locks and tags to lock box in control room.
- Check strainer lid and gasket for tightness and inspect for leaks.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