

September 1, 2006

Mr. Paul Patel
Environmental Engineer
NYSDEC – Division of Solid and Hazardous Materials
625 Broadway
Albany, New York 12233

RE: Dyno Nobel Port Ewen
Revisions to CMS Soil Screening Criteria

Dear Mr. Patel:

In a July 7, 2006 meeting attended by representatives of the New York State Department of Environmental Conservation (NYSDEC), Hercules Inc., Dyno Nobel, HydroQual Inc., and New York State Department of Health (DOH, via teleconference), discussions were held regarding the Unrestricted Use and Industrial Use Soil Screening Criteria used in the Corrective Measures Study (CMS), Brown and Caldwell, December 2000. Based on these discussions, the NYSDOH indicated that the applicable cleanup criteria for arsenic, lead, and mercury would be as follows:

Arsenic – 16 ppm
Lead – 1,000 ppm
Mercury – 220 ppm

The NYSDOH indicated that these criteria would remain applicable only to the extent that a deed notice is in place and use of the facility remains for manufacturing (i.e., industrial)

The remaining Unrestricted Use and Industrial Use Soil Screening Criteria proposed in the CMS were acceptable to the Department. These values are summarized in Table 1 for reference.

In response to the change in the arsenic and mercury industrial use cleanup criteria, the maps presented in both the December 2000 CMS and the Supplement to the CMS (HydroQual, Inc., October 2005), have been revised to reflect these new criteria. For the purpose of completeness, all of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) addressed in both the CMS and Supplement to the CMS, are attached, and have been updated as applicable. Figure numbers are consistent with those

presented in the original documents for ease of reference. The proposed remedial actions at each of the SWMU's/AOC's, and any changes from the original documents necessitated by the changed arsenic and mercury values are summarized on Table 2.

As summarized in Table 2, application of the changed arsenic and mercury Industrial Use Soil Screening Criteria results in an estimated 10,375 cubic feet (384 cubic yards) of additional excavation and 3,425 square feet of additional permeable cover, over that originally projected in the CMS and Supplement to the CMS. These additional volumes represent estimates only and the final volumes of soil excavated or permeable capping applied will be further refined with additional sampling and analytical data as part of a pre-design investigation or post excavation sampling.

In addition, Table 3 attached summarizes the soil consolidation program that would be performed to implement the remedial program described in the CMS and Supplement to the CMS.

Last, at the July 7, 2006 meeting NYSDEC requested further evaluation of remedial options relative to groundwater underlying the Shell Plant area and additional soil gas/indoor air sampling within the Shell Plant building. These topics will be addressed under separate cover.

Hercules and Dyno Nobel are prepared to move forward with the recommendations presented in the CMS and Supplement to the CMS, with the modifications presented herein, upon approval from the NYSDEC and NYSDOH.

Please do not hesitate to contact us with any questions you may have.

Very truly yours;
HydroQual Inc.

Timothy R. Roeper, P.G.
Associate

Cc: K. Gronwald (NYSDEC – Albany)
K. Grzyb (NYSDEC – Region 3)
J. Hoffman (Hercules Inc.)
F. Jardinico (Dyno Nobel)
N. Olsen (Dyno Nobel)

TABLE 1
UNRESTRICTED AND INDUSTRIAL USE
SOIL SCREENING CRITERIA

Constituent	Unrestricted Use Criteria (mg/kg)	Industrial Use Criteria (mg/kg)
Aluminum	19,265	100,000
Antimony	5	820
Arsenic	16*	16*
Barium	1,600	100,000
Cadmium	8	810
Chromium	38	100,000
Cobalt	30	100,000
Copper	600	76,000
Lead	400	1,000
Mercury	10	220*
Potassium	1,900	--
Selenium	5	10,000
Silver	34	10,000
Zinc	12,000	100,000
TPH	100	100

* Unrestricted and Industrial Use Criteria for Arsenic was changed from 29 to 16 mg/kg and the Industrial Use Criteria for Mercury was changed from 610 to 220 mg/kg as compared to values originally proposed in the CMS.

TABLE 2

SUMMARY OF PROPOSED/REVISED CORRECTIVE ACTIONS FOR SWMU'S AND AOC'S

SWMU/ AOC Number	Description	Corrective Action Proposed in CMS	Changes to Proposed Corrective Action Based on Revised Arsenic and Mercury Industrial Use Soil Criteria
1	Shooting Pond	Subsurface Barrier and Cap	No Change
21	Lead Recycling Unit Area	Excavation On Site Consolidation	No Change
26D	Burnable Waste Satellite Accumulation Area	Excavation On Site Consolidation	No Change
40	Pilot Line Condensate Collection Sump	Excavation On Site Consolidation	No Change
G	Former Drying House	Excavation On Site Consolidation	Add 225 cubic feet excavation/On Site Consolidation
H	Former Drying House	Excavation On Site Consolidation	No Change
I	Roof Drainage from Deto Building	Excavation On Site Consolidation	No Change
J	Former Drying House	Excavation On Site Consolidation	No Change
M	Former Drying House	Excavation On Site Consolidation	No Change
N	Former Drying House	Excavation On Site Consolidation	Add 2600 cubic feet of Excavation/On Site Consolidation
O	Former Drying House	Excavation On Site Consolidation	No Change
1/22	Wetlands around SWMUs 1 and 22	Excavation On Site Consolidation	No Change
10	Waste Powder Catch Basins – Building 2048	Excavation and Off-Site Disposal	Add 4000 cubic feet of Excavation (0-1 foot)
26G	Burnable Waste Satellite Accumulation Area	Excavation and Off-Site Disposal	Add 3000 cubic feet of excavation (0-1 foot depth)
C	Open Detonation Pit (Grouped with 26G)	Excavation and Off-Site Disposal	Add 1000 sq feet of Permeable Cover/400 cf of excavation Included with 26G
D	Detonation Test Building (Grouped with 26G)	Excavation and Off-Site Disposal	Included with 26G
33	Mercury Fulminate Tanks Area	Excavation and Off-Site Disposal	No Change
54	Former Historical Production Area	Excavation and Off-Site Disposal	No Change
2	Burning Cage/Incinerator	Permeable Cover	No Change
3	Copper Wire Burning Area	Permeable Cover	No Change
4	Iron Wire Burning Area	Permeable Cover	Add 1225 sq feet of Permeable Cover
5	Wire Burning Area III	Permeable Cover	No Change
6	Open Burning Pads	Permeable Cover	No Change
7	Open Burning Pads	Permeable Cover	No Change
8	Former Burning Area	Permeable Cover	No Change
22	Former Landfill	Permeable Cover	No Change
23	Former Dump	Permeable Cover	No Change

Note: List includes SWMUs and AOC's addressed in Corrective Measures Study, Brown and Caldwell, December 2000 and Supplement to Corrective Measures Study, HydroQual, October 2005. SWMUs/AOCs not listed were identified for no further action.

TABLE 2

SUMMARY OF PROPOSED/REVISED CORRECTIVE ACTIONS FOR SWMU'S AND AOC'S

SWMU/ AOC Number	Description	Corrective Action Proposed in CMS	Changes to Proposed Corrective Action Based on Revised Arsenic and Mercury Industrial Use Soil Criteria
32	Old Dump (near water tower)	Permeable Cover	No Change
35	Stone Fence Dump	Permeable Cover	No Change
48	Mercury Fulminate Area	Permeable Cover	No Change
52	Former Commercial Lab Shooting Area	Permeable Cover	Add 1200 sq feet of Permeable Cover
A	Kerosene Tank Leak	Permeable Cover	No Change
B	Open Burning Pads Area	Permeable Cover	No Change
24	Former Wastewater Treatment Facility	Groundwater (MNA)	No Change
30	Drainage Ditch (Downgrade of Building 2036)	Groundwater (MNA)	No Change
37	Former Shell Plant Drum Storage Area	Groundwater (MNA)	No Change
11	Waste Powder Catch Basins – Building 2049	No Remedial Action	Add 150 cubic feet, Excavation Off Site Disposal

Note: List includes SWMUs and AOC's addressed in Corrective Measures Study, Brown and Caldwell, December 2000 and Supplement to Corrective Measures Study, HydroQual, October 2005. SWMUs/AOCs not listed were identified for no further action.

TABLE 3

SWMU's/AOC's IDENTIFIED FOR EXCAVATION AND ON SITE CONSOLIDATION

SWMU/ AOC Number	Description	Corrective Action Proposed in CMS	SWMU at Which Excavated Soils Will be Consolidated
21	Lead Recycling Unit Area	Excavation On Site Consolidation	SWMU 23 - Former Dump
26D	Burnable Waste Satellite Accumulation Area	Excavation On Site Consolidation	SWMU 23 - Former Dump
40	Pilot Line Condensate Collection Sump	Excavation On Site Consolidation	SWMU 23 - Former Dump
G	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
H	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
I	Roof Drainage from Deto Building	Excavation On Site Consolidation	SWMU 23 - Former Dump
J	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
M	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
N	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
O	Former Drying House	Excavation On Site Consolidation	SWMU 23 - Former Dump
1/22	Wetlands around SWMUs 1 and 22	Excavation On Site Consolidation	SWMU 22 - Former Landfill

Both SWMU 22 and 23 are identified for permeable cover. Consolidated soils from other SWMUs will be used for gradi