

SEABOARD GROUP II AND CITY OF HIGH POINT

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July 3, 2011

Mr. Vance P. Jackson, P.G. – Unit Supervisor, Mail Service Center 1646
North Carolina Department of Environment and Natural Resources
Division of Waste Management
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605-1350

Reference: Quarterly Remedial Action Construction Progress Report
Remedial Action Settlement Agreement Scope of Work
Seaboard Chemical Corp. and Riverdale Drive Landfill Site
Jamestown, North Carolina.

Dear Mr. Jackson:

Seaboard Group II and the City of High Point (herein the Parties) are providing this Second Quarter 2011 Remedial Action Construction Progress Report for the former Seaboard Chemical Corporation and closed Riverdale Drive Landfill Site (herein the Site). The Remedial Action Pre-Construction Report for the mechanical treatment systems was submitted to North Carolina Department of Environment and Natural Resources (NCDENR) on December 28, 2009 in accordance with the requirements of the Scope of Work contained in the Remedial Action Settlement Agreement (RASA) executed by the Parties in December 2009. The Pre-construction Report was subsequently approved by NCDENR, Division of Waste Management (NCDWM) on March 22, 2010.

Although the Natural Treatment Systems Remedial Action Pre-Construction Report has not been approved by NCDWM, it was submitted on October 25, 2010, and the Parties have elected to undertake certain activities included in that report, and include comments on those activities with this Progress Report.

Summary of Remedial Construction Work Performed Second Quarter 2010

The activities conducted in the second quarter of 2011 involved planning and preparation for remedial construction, as well as several field construction activities. The following construction-related activities were performed:

NIS Relocation work

- Completed design of NIS leachate collection sump.
- Awarded contracts for NIS sump installation and associated pumps and piping.

- Redesigned a portion of the piping connecting the NIS sump to LS-2 to avoid potential for freezing and to ensure the unit will not be floated after it is installed.
- Redesigned the NIS collection sump to better serve the intended purpose and provide overflow alarm.
- Prepared sealed drawings as required.

Concrete Pad Foundations

- Reviewed the structures and concrete design to ensure compliance with the North Carolina Modular Building (NCMB) Code.
- Revised drawings and specifications for concrete pad in accordance with the updated requirements of the structural engineer to comply with the NCMB Code.
- Structural Engineer reviewed and certified concrete pad design, and sealed drawings were submitted along with the permit applications to the City of High Point and Guilford County, as required for all structures and concrete pads.
- Issued order for installation contract and selected engineering firm to oversee concrete pad installation.
- Completed clearing activities for pad areas.
- Tested and certified pad area for compaction prior to installation.
- Building Permits obtained from Guilford County and the City of High Point for all pads and structures in accordance with the local requirements and the NCMB Code.
- Graded, formed and framed all pad areas, installed all reinforcement steel and prepared areas for concrete pour.
- Ready to pour LS-2 and mechanical treatment system pad in accordance with structural engineer's design. Waiting due to weather.
- Ready to pour LS-1 pad in accordance with structural engineer's design. Waiting due to weather.

Main Electrical Distribution

- Engaged the services of an electrical professional engineer.
- Completed modified electrical design of distribution system to feed LS-1, LS-2, Mechanical Treatment System and the east and west nodes of the landfill lobes. Split feed into four separate feeds to comply with all electrical codes, and allow load isolation and "fault to source" electrical load interruption protection.

- Completed sealed design drawings and submitted them to Guilford County and City of High Point to support building permit applications in accordance with the requirements of the NCMB Code.
- Awarded contract for electrical installation. Began procuring components and fabricating the distribution main circuit panels.
- Installed most trenching and conduits needed for electrical distribution with pull wires.

Physical Treatment System

- Vendor of the AO+ system (Purifics ES, Inc. of London, Ontario, Canada (herein Purifics)) initially notified the Parties of construction delays during the 4th quarter of 2010. The main system was ordered on April 28, 2010 (free organic removal, metals removal, air stripper and advanced oxidation system (herein AO+)) as specified in the bid documents, and delivery was initially estimated to be 26 weeks from approval of drawings. This would have placed the delivery date in December of 2010. Due to equipment vendor delays in shipping components to Purifics, the final delivery date was delayed until the end of July 2011 for all the treatment system components. The Parties have monitored this closely to determine if it was necessary to request an additional extension of the construction completion date. The Parties prepared and submitted a Technical Memorandum (TM-E4) with the new estimated completion schedule in early June 2011.
- Purifics continued in-shop fabrication of the integrated treatment system as specified in the bid documents (approximately 95% complete as of June 30, 2011, see attached report dated June 1, 2011).
- Completed the electrical distribution design and certification by a professional engineer of the main electrical system from the power feed and transformer (supplied by the City of High Point) through the main switchgear and feeds to the various load components.
- Arranged for on-site electrical certification of the system through QPS (performed before shipment) and retained electrical engineer (after delivery) per NCMB Code.
- Applied for the Guilford County and City of High Point permits needed to install the pads and treatment systems (LS-1, LS-2 and the PhotoCat system). Guilford County has issued the three needed permits for LS-2 and the PhotoCat, and City of High Point has issues the necessary permits for LS-1 and the two node panel enclosures.

Lift Stations (LS-1, LS-2 and LS-3)

- Lift Stations 1 and 2 were ordered on August 18, 2010. Fabrication is approximately 95+% complete as of the date of this report. Delivery is planned for the July 2011 (See attached June 1, 2011 report from Purifics).

- Purifics continued construction of LS-1 and LS-2 as specified in the bid documents (approximately 95+% complete at end of period).
- Lift Station 3 will be eliminated from the treatment process when the elimination of the constructed treatment wetlands (CTW) is approved. Therefore, construction of this unit has been postponed at this time.

Groundwater and Leachate Recovery Pumps

- Contractor purchased groundwater and leachate pneumatic recovery pumps as specified in the bid documents. The purchased order was issued on September 8, 2010, and the work completed in December 2010, with the exception of installing the NIS leachate collection sump and final installation of the recovery pumps. The pumps will be installed after the system is setup to avoid the possibility of damage prior to completion of construction activities.
- The Parties submitted a Technical Memorandum dated January 4, 2011 identifying the monitoring wells located at the Site that are no longer necessary, and requested permission to plug and abandon them. DENR verbally approved the well abandonment in March 2011, and unless notified otherwise will perform that work in the third quarter of 2011 in conjunction with the annual groundwater monitoring event. The potable water well in the front area of the landfill will also be abandoned and plugged at this time.
- The Parties began design of freeze protection for the exposed piping at the wells and leachate collection boxes. This is complicated at the leachate collection boxes by the need to avoid accumulation of an explosive environment due to the potential presence of methane in the leachate.

Natural Treatment Systems

- On October 25, 2010, the Parties submitted the Pre-construction Report for the natural treatment system, as required in the RASA Scope of Work, which included a report on the results of the 2009 - 2010 1,4-Dioxane pilot study. The Parties are awaiting the approval of that report. As a result of the data collected during that 2009-2010 study, it was determined that the phytoremediation system was capable of degrading the chlorinated volatile organic compounds (herein cVOC) contained in the groundwater and leachate at a rate sufficient to avoid chlorinated solvent and mineral (particularly iron and manganese) buildup in the soils to levels that may become phytotoxic. The Parties examined the feasibility of eliminating the CTW from the natural treatment system as a result of those findings, and determined that it was feasible if air stripping was used to pretreat the influent. They also determined that the system was probably capable of handling some portion of the flow from the metals removal system before it is air stripped, but were unable to quantify what volume might be possible. As a result, they submitted a Technical Memorandum with supporting data requesting that NCDENR approve the elimination of the CTW from the

initial construction phase of the project, and allow effluent from the air stripper to be directed to the phytoremediation system.

- The parties modified the physical treatment system to add the capability to modulate flow from the air stripper and metals removal system to allow a mixed flow to the phytoremediation system. This will allow the capability to proportion that flow to optimize the phytoremediation influent concentrations to maximize the efficiency and minimize the air stripper demand. This capability will be tested and evaluated after system startup. The parties are awaiting approval of that Technical Memorandum, however, are proceeding with the assumption that the request will be approved.
- Completed the design and specifications for the phytoremediation control and instrumentation system. The modified system will provide for hard wiring of data transmission using fiber optics cables from the lobe nodes to the programmable logic controllers (PLC)¹. SDI-12² cabling will connect the probes to the junction boxes and the junction boxes to the lobe nodes. The probes were redesigned to use a single upgraded probe design for all probes in the system. The Decagon^{®3} 5TE probes will generate SDI-12 data of soil moisture, conductivity and soil temperature at three horizons, at 23 locations, in each of the 16 sections of the irrigation system, and the main control Siemens^{®4} PLCs will use Profibus⁵ control language to control irrigation flow. Translation will occur at the lobe nodes and nodes will communicate with the PLCs via fiber optic cabling.
- Ordered the lobe node junction boxes for the East and West lobes of the landfill to translate, process and transfer data to the PLC Profibus system feeding the LS-1, LS-2 and main PLCs.
- Received and installed the 32 junction boxes and SDI-12 conduit and cable to interconnect the probes with the nodes.
- Received, installed and addressed all of the necessary Decagon[®] 5TE probes for soil moisture, salinity and temperature detection at three elevations (herein horizons, located at the upper 12", middle level of cap, and soil-waste interface) at 23 selected locations (total of 69 probes, all Decagon[®] 5TE devices).

¹ PLC, as used in this document, refers to Siemens AG manufactured programmable logic controllers.

² SDI-12 as used in this document refers to a standard for interfacing data recorders with microprocessor-based sensors. SDI-12 stands for serial-digital interface at 1200 bits per second baud rate.

³ Decagon, as used in this document, refers to Decagon Devices, Inc., 2365 NE Hopkins Ct., Pullman, WA 99163.

⁴ Siemens, as used in this document, refers to Siemens, AG (NYSE: SI) located at Wittelsbacherplatz 280333 Munich, Germany

⁵ Profibus, as used in this document, refers to a smart field-bus operating system. It is a vendor-independent, open field bus standard compliant with international standards IEC 61158 and IEC 61784, and allows communication between devices of different manufacturers without any special interface adjustment. Profibus is suitable for use for both high-speed time critical applications and complex communication tasks.

- Received, but have not installed, the wind speed and direction instrument, the temperature and relative humidity instrument, the rain gauge, and the solar radiation instrumentation for the weather station used for the calculation of evapotranspiration used in the phytoremediation control system.
- Installed the mast to mount the weather station instruments.
- Retained the services of a software design engineer to write the programming logic for the translation of the weather station data signals into the Penman-Marteith evapotranspiration calculation to provide the system programmer the information needed to complete the irrigation control programming.
- Wrote the programming logic truth table and programming narrative to describe the phytoremediation control logic. The phytoremediation control system logic has been modified from that contained in the Pre-construction Report. In addition to eliminating the spread-spectrum radio communications the system now is designed to be more robust in tracking trends in soil moisture. In addition to basic soil moisture determinations, the system will monitor soil moisture trends and evapotranspiration ratio to help improve system anticipation of changing conditions.
- Ordered and received the junction box to transfer the data signals to the LS-2 PLC from the weather station.

Soil Residue Mound

- The soil residue mound was reshaped, graded and covered with the required geosynthetic containment barrier. This work was begun in May and completed in early June 2011. All work was done in accordance with the site safety plan and exclusion zones and protective measures for surrounding areas were employed.
- The final completion report and certification will be forwarded to NCDENR (including a copy to Geoffrey H. Little, Solid Waste Section NCDWM as soon as it is available. This portion of the remedy should now be complete.
- Final closure certification will be included, along with the testing and as built drawings, in the final closure completion report to be submitted at the completion of the construction phase of the project.

Second Quarter Construction Delays

The Parties continue to monitor for the possibility that there may be an additional delay in the fabrication of the Mechanical Treatment System and Lift Stations, and anything else that might significantly delay construction. The mechanical treatment system vendor (Purifics) indicated earlier there had been a delay in acquiring all the necessary parts for the system. As a result, the Parties submitted a Technical Memorandum requesting an extension of the March 22, 2011 mechanical system construction. The extension requested that the deadline for completion of the construction of the mechanical treatment system be extended until July 31, 2011. The extension was verbally approved by DENR in March 2011.

The Parties have been notified that additional delays in shipment of the equipment have occurred, and certain other factors beyond their control, including delays in the issue of the required building permits and weather delays in pouring the concrete pads, have resulted in additional delays in the estimated date of completion of construction. As a result, the Parties submitted Technical Memorandum Number E-4 to NCDENR in June 2011 requesting that the completion date be extended to September 30, 2011, and the startup date extended to March 31, 2012. The Parties are awaiting the approval of that Technical Memorandum at this time.

Remedial Construction Work Remaining

The following construction activities remain to complete the implementation of the remedy:

NIS Relocation

- Prepare as-built drawings documenting work performed. (Q3 - Q34 2011)
- Final performance testing (Q3 – Q4 2011, Q1 2012)

Concrete Pad Foundations

- Concrete pads have been formed and prepared in accordance with the structural engineer's specifications.
- Awaiting favorable weather conditions to pour the pads (Q3 2011)

Physical Treatment System

- Purifics to continue in-shop fabrication of the integrated treatment system as specified in the bid documents. (Q3 2011)
- Shop testing of treatment system for factory acceptance scheduled for 7/6/2011 and 7/7/2011. (Q3 2011)
- Shipment scheduled to start week of 7/11/2011 and be completed by 7/31/2011. (Q3 2011)
- On-site electrical and mechanical hook-ups (Q3 2011)
- On-site final hookup and testing of treatment system (Q3 Q4 2011 and Q1 2012)

Lift Stations (LS-1, LS-2)

- Purifics to build LS-1, and LS-2 as specified in the bid documents (Q3 2011)
- Shop testing and delivery of treatment system to site scheduled for 7/6/2011 and 7/7/2011. (Q3 2011)
- Delivery of all containers to be complete by 7/31/2011 (Q3 2011)
- On-site electrical and mechanical hook-ups for LS-1 and LS-2 (Q3 2011)
- On-site testing of LS-1 and LS-2 (Q3 Q4 2011 and Q1 2012)

Groundwater and Leachate Recovery Pumps

- On-site electrical and mechanical hook-ups (Q3 2011)
- On-site testing of pumps (Q3 and Q4 2011)

NIS Leachate Collection System

- Install Leachate Collection Sump. (Q3 2011)
- On-site electrical and mechanical hook-ups (Q3 2011)
- On-site testing (Q3 and Q4 2011)

Soil Residue Mound

- Install cover liner and geotextile on soil residue mound completed.
- Sampled down-gradient monitoring well after cap installation completed (completed Q2 2011). Report pending (Q3 2011)
- Preparing final as-built drawings and report. (Q3 – Q4 2011, Q1 2012 2011)

Natural Treatment Systems

- Install final connection between SDI-12 system and lobe nodes and fiber optic cabling from nodes to the PLCs (Q3 2011)
- On-site testing of soil moisture control system (Q3 - Q4 2011, Q1 2012)

Cedrow Park Buffer Impact Mitigation Project

- All work complete.
- No further action required other than monitoring and reporting.

Crutchfield Land Use Restrictions

- The landowners across the river from the site (the Crutchfields) have notified the Parties that they will not allow the filing of land use restrictions on their property. The Parties have notified NCDENR of this refusal and proposed that, with the restrictions placed on the land use by the Piedmont Triad Water Authority buffer rules and Guilford County Health Department rules, the land use restrictions may be unnecessary and mostly redundant. As a result, the Parties submitted a Technical Memorandum (TM-E3) requesting that the requirement be eliminated from the Scope of Work in the RASA. That request is being evaluated by NCDENR.
- The Parties notified the Guilford County Health Department, in writing, on February 16, 2011 of the groundwater conditions in the immediate vicinity of the Crutchfield property, and the presence of an active potable well on the property. A copy of this correspondence was provided to NCDWM.
- Based on recent discussions with the property owner, the Parties have obtained permission to enter the Crutchfield property to access the groundwater monitoring wells on the north side of the Randleman Reservoir for the purpose of collecting samples during the routine monitoring event.

cc Mr. Chris Thompson, Director of Public Services City of High Point, NC
Randy Smith, SGII Financial Trustee
Jackie Drummond, NCDENR, Division of Solid Waste
Dave Roberson SGII Technical Committee Chairman
Frank Brown, SGII Executive Committee Chairman
Amos Dawson, SGII Group Council
Steve Earp, City of High Point, NC Council

PROPOSAL NO. 8P1205-REV 5 & 10P0705

JUNE 20, 2011 PROGRESS REPORT

SEABOARD SITE MOBILE GROUNDWATER TREATMENT SYSTEM

Submitted to:

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1 PROGRESS FOR THE MONTH OF JUNE

All components are in house, with the exception of 3 racks & some minor parts. Programming, wiring, and assembly are progressing rapidly. No change on schedule at this time.

Details are as follows:

1.1 Water Treatment Plant

1.1.1 Entrance Enclosure #1

Completed

1.1.2 Photo-Cat Enclosure #2

The last 3 racks to be installed upon arrive this week. 50% of the quartz tubes are installed.





Installation has begun on the catalyst recovery unit.

1.1.3 Access Enclosure #3

Essentially complete

1.1.4 Chemical Enclosure #4

Miscellaneous wiring and piping to be completed





- ADX tank is being completed.



1.1.5 Pre-treatment Enclosure #5

Completed except for the installation of a float switch



1.2 LS1

Camera installation may be a problem that has not been solved yet. The current SCADA software does not support the camera. Looking at other camera options.

Additional fan ventilation installed to ensure adequate cooling in summer. Fan modes are configurable by duty per hour and on a temperature set point and off at temperature set point.

Float switches to be installed.

1.3 LS2 Enclosures #6 & 7

Enclosures essentially complete. Still completing some control wiring. Tanks wetted.

- Note change in position of power conduit inlet.



- Additional ventilation in compressor area installed and configurable
- System software being installed

1.4 System Integration

All PLCs and SCADAs wired and on network; network operating.

SCADA can now be accessed remotely by client via PC Anywhere software. At this time remote access will be limited to when Purifics personnel are also online for safety reasons. At all other times PC Anywhere will be disabled.

Software installation started.

Cameras are a problem at this time and may not be installed due to embedded software in SCADAs at time of purchase which does not support them. Looking at alternative option and will know by weeks end.

Field nodes cabinets assembled and online and installed in LS2 for shipping.



2 SCHEDULE

2.1 Factory Acceptance (FA)

In July as per customer requirements and most likely the week of July 4

2.2 Shipping

First week after FA for enclosures LS1 & LS2 (enclosure #8 & 7) including Field Nodes

Second week after FA for enclosures #5, 4 & 3

Third week after FA for enclosures #2 & 1

2.3 Enclosure Assembly

By others and restraints to pad

2.4 Purifics Onsite Support

TBD as per customer requirement to complete control wire terminations and power up for LS1, LS2 and Field Nodes

TBD as per customer requirement for the week to complete control wire terminations and power up

TBD as per customer requirement for Start up and Training

3 GENERAL STATUS

Basically the work that remains is minor wiring and pipe connections across the entire plant and by the end of this week none of it will have any impact on critical path. There is still the odd instrument, or fan or exit sign to be wired in.

Time Critical Tasks:

- Programming
- Electrical Certification
- Manual

Unresolved issues are:

- Remote cameras
- Suitable exterior 277 Volt lighting. Assistance requested.
- Are 110 volt outlets required?