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**Sent by Certified Mail # 7009 1680 0000 7663 7992 and Electronic copy**

**May 30, 2014**

**Mr. Gerald Ruopp**
**Techalloy Company, Inc.**
**6509 Olson Road**
**Union, Illinois 60180**

**United State Environmental Protection Agency's Comments on the 2012 RCRA Corrective Measures Implementation Status Report Revision 1 April 2014,**
**EPA ID # ILD 005 178 975, Administrative Order on Consent (AOC),**
**Docket No. R8H-5-99-008**

**Dear Mr. Ruopp,**

This letter provides the United States Environmental Protection Agency (EPA) comments on the 2012 RCRA Corrective Measures Implementation Status Report, Revision 1, April 2014, for the Techalloy facility in Union, Illinois prepared by Autumwood ESH Consultants, LLC (Autumnwood) dated March 31, 2014. EPA's comments are:

**General Comment**: Whenever a synonym is used in a figure, provide a key of synonyms used. A figure or chart is a stand-alone document. All figures and charts require a title and legend.

**RESPONSE TO COMMENTS DOCUMENT**

**Comment 1.** It appears EPA was miss interpreted with this comment. The original version of the report contained incorrect information on how the residential wells were sampled. EPA's comment was meant to require that Autumwood delete the inaccurate information and REPLACE IT with accurate information on the residential well sampling. It appears that all Autumwood did was delete the inaccurate information. As a result, there is no mention of specifics of the residential well sampling, and only an oblique mention that residential well sampling even occurred. Discussion of the residential well sampling is necessary to assessing site conditions.

EPA suggests the report be revised to include something like the following:
"Residential-well samples were typically collected form spigots outside the home that were not in-line with treatment systems. Residential wells were purged for approximately 5 minutes at an unrecorded flow rate prior to sample collection. Field parameters were measured at the time of sample collection using a (name and model of field parameter measuring device)".

Techalloy should verify the correctness of this statement before adding it to the text.

**Comment 2**. Figure 5-7.

1. Minor points, but protocol usually requires cross-sections be done this way: y-axis should range from 720-840 feet (ft.). X-axis should start at zero (0) and A, and not have an offset to the left. X-axis should end at A' and 8,000, and not have an offset to the right of 7,500 ft.
2. There are no values given for the concentration contours. Every contour should have an assigned value shown on the figure.
3. There needs to be a legend describing what is being contoured--total concentration of volatile organic compounds (VOCs)? Concentration of some specific compound(s)? What compound(s)?
4. In a related vein, what constitutes the "Extent(s)" of the plume? Non-detect (ND)? 1 part per billion (ppb)? Maximum contaminate level (MCL) exceedences? If so, which MCL? This lowest value needs to be defined in the appropriate figures because depending on the value the contouring may need to be revised.
5. Suggest "Extent" of plume, not "Extents".
6. Add a Legend/expand General Notes explaining what the various symbols used in the report are--depth of well boring, elevation of water table, geologic contact, location of well screen, line of equal concentration of total volatile organic compounds with identification of contour interval, concentration of compounds at well in micrograms per liter, trichloroethene (TCE), etc. Much of what Autumwood presents in Figure 5-6 could be applied to update this figure.
7. It's likely the bottom of the plume corresponds to the top of the silty clay layer. Suggest the figure be revised accordingly.
8. Autumwood should examine the Weston cross sections they submitted as a partial guide for what is being requested.
9. The data for the two Geoprobe locations near the Kiswaukee River should be included in this and all other figures showing contaminant distribution in map view. Omitting these data point's results in a depiction of the plume that is erroneously small.

**Comment 3**. Will comment on the individual figures as mentioned.
Figure 5-1.

1. Suggest contouring go to either 1 ppb or non-detect. Stopping at 50 ppb leaves a fair amount of room for MCL exceedences to be left out of the contouring, which gives an underestimation of the extent of the problem. For example, the area of MCL exceedences for tetrachloroethylene (PCE) at MW-4 isn't in the "plume" when it should be.
2. Concentration values for the contours are reasonably easy to determine in this figure for the most part, but the General Notes should include a mention of the contour interval (50 ppb) for ease of analysis. EPA suggest something like "---50--- Line of equal

concentration of total volatile organic compounds. Contour interval 50 micrograms per liter."

3. The contour around DGW1 should be 500 ppb. The contouring currently on the figure suggests it is 450 ppb.
4. Fully describe in the General Notes the water-level contours, including the date the water levels were taken. Something along the lines of "---820--- Water table altitude, in feet above Mean Sea Level, December 2012. Contour interval 1 ft."

Figure 5-5.

1. Comments on Figure 5-1 apply here and the appropriate changes should be made to this figure. By not contouring to ND, this figure more or less ignores the trichloroethane (TCA) near the plant, which is important to understanding the plume even if concentrations are low.
2. As near as EPA can tell from the two contours that are actually defined (20 and 100) the contour interval is 20 ppb. This interval puts the contours at DGW1 (shows 120-140, should be 140-160) and GP3 (shows less than 200, should be 200-220) in the wrong places. Either the contouring is off in the vicinity of DGW1 and GP3 or the contour intervals are inconsistent. In any event, the contours need to be labelled and the contouring needs to be accurate.

Figure 5-6.

1. Autumwood needs to decide what they wish to show on this figure. Much of what is presented isn't necessary for this figure to convey the location of the lines of cross section. EPA dose not object to Autumwood adding plumes and groundwater contours to the figure, but they aren't necessary.
2. Much, not all, of the information in the upper left corner and in the General Notes is not pertinent to this figure. Depending on what it ultimately shown on this figure, Autumwood should retain the pertinent information (at least the well and Geoprobe symbols and the line of section) and consolidate the explanation in either the upper left side of the figure or in the General Notes. All extraneous information (Geology, VOC abbreviations, etc.) should be deleted.
3. Comments on Figure 5-1 may be pertinent, depending on the final content of the figure.

Figure 5-7 and Figure 5-8.

1. Comments on Figure 5-7, except for comment 2, apply here.
2. Title in uninformative and should be revised.
3. Contouring REMAINS incorrect in section B-B'. Depending on how the extent of the plume is defined, contouring may be incorrect on section C-C'.

**Comment 4.** Table 2-1. There appears to be a decrease in the average daily flow since September 2012. Why is the average flow rare decreasing? How does this change effect the size of the capture zone relative to the plume? Provide a capture zone analysis to support your conclusion.

Techalloy has answered EPA's comments.

**Comment 5.**

1. Actually adding a title that enables the reader to determine that this document is Appendix 3 would make this document more useful.
2. Most of what EPA asked for has not been added to the table. We can discuss data gaps, but Autumwood should already know things like well diameter and depth of screened interval.

**Comment 6.**

EPA asked for the dates of measurements for ALL water levels in every well, not just the most recent. Presumably Techalloy has this information somewhere in one of their files. If not, this information needs to be compiled to ensure we can assess if flow directions change through time.

**REVISED PAGES 11 AND 12 OF THE REVISED STATUS REPORT**

See response to comment 1.

Please provide a hard copy and electronic copy response to comments in 30-days. Should you have any questions, regarding this letter, need any additional information, or wish to discuss this matter further, please contact me at (312) 353-1243 or contact me by letter or by email at [ HYPERLINK "mailto:nordine.john@epa.gov" ].

Sincerely,

John Nordine, CPG, LPG
Project Manager
Corrective Action Section 2

Cc: Karen Peaceman, U.S. EPA
Jack Thorsen, Autumnwood ESH Consultants
Bob Kay, USGS