

HUSSEY, GAY, BELL & DEYOUNG ENVIRONMENTAL, INC.

POST OFFICE BOX 14247
SAVANNAH, GEORGIA 31416
PHONE: (912) 354-4626 FAX: (912) 354-6754

June 2, 1998

RECEIVED

JUN 03 1998

HAZ. SITES RESPONSE PROG.

Georgia Environmental Protection Division
Hazardous Sites Response Program
205 Butler Street, S. E.
Suite 1462
Atlanta, Georgia 30334

Attention: HSI, Mr. Steve Woodall

RE: Listing the Site on the HSI
Reese & Co., Inc.
1000 East President Street
Chatham County, Georgia

Dear Sir/Madam:

This letter is in response to your April 8, 1998 certified letter indicating that a release exceeding a reportable quantity has occurred at the 1000 East President Street property in Chatham County, Georgia and the that the property will be included in the next publication of the Hazardous Site Inventory (HSI). The reason for this action was the numerical value computed using the Reportable Quantities Screening Method (RQSM), in which the distance to a down gradient well was considered to be from ½ to one mile. It is our position that the distance to a down gradient well is more than three miles, which will result in a RQSM numerical score below the threshold value necessary to place the property on the HSI. The following is our rationale justifying our well distance conclusion.

First, the groundwater surface is typically a subdued reflection of the ground surface topography. Both the ground and groundwater surfaces slope away from the water wells northward toward the Savannah River. Figure 1 is from the USGS 7.5' Savannah quadrangle illustrating the ground surface topography, and Figures 1 and 2 show the locations of the City's potable water wells in the area. To reinforce this groundwater flow direction assertion, three sites within the region of the subject property also have groundwater flow patterns consistent with the topography. These sites, shown on Figure 1, are:

- Atlanta Gas Light Company - Savannah MGP Site, East Bay Street and General McIntosh Boulevard (HSI Site Number 10128).
- Southern States Phosphate & Fertilizer Co., 1600 East President Street (HSI Site Number 10371).
- Stevens Oil Co./CSX, Wheaton Street south of Hitch Drive (LUST No. 9250009*1)

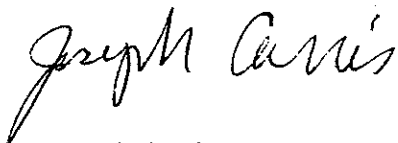
All three sites have groundwater flow northward away from the wells and toward the river. The Stevens Oil Co. site is on the LUST list and a copy of the site potentiometric contour map is attached for your review. Atlanta Gas Light Company and Southern States Phosphate & Fertilizer Co. sites are on the HSI, which are in your files.

Second, the Savannah River tide does not significantly affect the groundwater to the degree that the groundwater flow will be redirected toward the wells. All canals, ditches and pipe outfalls into the river have been fitted with tide control gates or devices, which prevent tidal flow beyond the southern river bank. HGBD has been directly involved in the design of many tidal gates and devices within the region of the subject property. Figure 3, illustrates a typical tidal gate design for a canal. The gates and devices contain the tidal water within the river banks. The mean tide level for Savannah is 4.2 feet (1.28 meters) as indicated in the 1990 Tide Tables for the East Coast of North and South America prepared by the U. S. Department of Commerce, National oceanic and Atmospheric Administration, National Ocean Service (see attachment). A 1.28 meter hydraulic head, confined to the river for only 12 hours at a time, will not redirect the groundwater uphill toward the wells, which are over one mile away and at elevations greater than 7.5 meters mean low water datum (see Figure 1). Note that the ground surface elevation at the Reese property is approximately at 2.4 meters.

Lead, the contaminate of concern for the subject property, can be assumed to move very slowly relative to the velocity of the groundwater due to factors, which include adsorption and precipitation reactions. Therefore, the lead contaminate is believed to moving very slowly away from the wells.

As requested in your letter, we have enclosed a copy of the Chatham County tax map and warranty deed for the subject property. If you have any questions concerning this letter, please do not hesitate to call us.

Sincerely,



Joseph Carris
Project Manager

Enclosures

CC: Mr. John Reese

HUSSEY, GAY, BELL & DEYOUNG ENVIRONMENTAL, INC.

POST OFFICE BOX 14247
SAVANNAH, GEORGIA 31416
PHONE: (912) 354-4626 FAX: (912) 354-6754

January 8, 1999

Georgia Environmental Protection Division
Hazardous Sites Response Program
205 Butler Street, S. E.
Suite 1462
Atlanta, Georgia 30334

Attention: HSI, Ms. Merrill Frazer

RE: Listing the Site on the HSI
Reese & Co., Inc.
1000 East President Street
Chatham County, Georgia

RECEIVED
JAN 12 1999
HAZ. SITES RESPONSE PROG.

Dear Sir/Madam:

Pursuant to a September 11, 1998 telephone conversation with Ms. Alexandra Cleary, we are submitting herein additional data supporting our position, stated in our June 2, 1998 letter, that the Reportable Quantities Screening Method (RQSM) numerical score is below the threshold for placing the subject property on the Hazardous Site Inventory (HSI) list. For your convenience, a copy of our June 2, 1998 letter is enclosed.

The point in question is the distance to the down gradient well. Our position is that this distance is more than three miles, thus resulting in a RQSM scoring below that required to place the subject property on the HSI list. Our rationale justifying this position as presented the June 2, 1998 letter includes discussion of:

1. The ground surface topography, which slopes away from the City groundwater extraction wells toward the Savannah River implying that the groundwater also slopes in that direction.
2. Measured groundwater flow direction at three other sites surrounding the natural drainage basin in which the subject site is located. These surrounding sites also show the groundwater to flow away from the City groundwater extraction wells toward the Savannah River.
3. The Savannah River tide, which will not have a significant effect on the groundwater flow direction such that the City groundwater extraction wells would be impacted.

Ms. Merrill Frazer
January 8, 1999
Page 2

In addition to this data and rationale, Ms. Cleary recommended in the telephone conversation that the groundwater flow direction also be determined on the subject property. On this recommendation, the elevations at the tops of the existing monitoring wells were surveyed by a licensed professional surveyor. The depth to the groundwater in each of the monitoring wells was measured and the groundwater elevations were determined (Table I). A potentiometric map of the surficial aquifer was prepared and is presented herein on Figure A. Based on this information, the groundwater flow direction is not directly north to the Savannah River, but to the west toward the Lamar Canal, which flows north into the River as can be seen on the enclosed aerial photograph. The Lamar Canal and Kayton Canal, respectively to west and east of the subject property, are both north flowing, major drainage features of the large natural basin. Note that the swale along President Street appears to be influencing the groundwater potentiometric surface; distorting the surface to the southwest, where groundwater flow can enter the swale and be discharged into the Lamar Canal (see Figure A and the vegetation delineating the swale on the aerial photograph). Therefore, the groundwater flows to the River and away from the City groundwater extraction wells.

The conclusion is that the distance to down gradient well is more than three miles and the RQSM scoring indicates that the subject property should not be on the HSI list.

If you have any questions concerning this letter or our June 2, 1998 letter, please do not hesitate to call us. The owners of the subject property are anxious to learn of your HSI ruling.

Sincerely,



Joseph Carris
Project Manager

Enclosures

CC: Mr. John Reese

TABLE I**MONITORING WELL DATA FROM DECEMBER 17, 1998
REESE PROPERTY**

Piezometer #	Depth to Water (feet)	Top of Casing Elevation (feet)	Ground Water Elevation (feet)
B-1	Destroyed	--	--
B-2	3.81	3.46	-0.35
B-3	Destroyed	--	--
B-4	3.23	3.26	0.03
B-5	Destroyed	--	--
B-6	2.67	3.66	0.99
B-7	2.43	3.69	1.26
B-8	Destroyed	--	
B-9	1.38	3.16	1.78
B-11	dry (approx 2.2' deep)	3.93	--
B-12	3.85	4.19	0.34
B-13	3.22	3.74	0.52
B-14	2.18	3.76	1.58

FILE COPY

Georgia Department of Natural Resources

205 Butler Street, S.E., Suite 1462, Atlanta, Georgia 30334

Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
404/657-8600

March 5, 1999

Mr. John S. Reese
Reese & Company, Inc.
703 Louisville Road, Suite D
Savannah, Georgia 31401

RE: Delisting Request
Reese & Company, Inc.
HSI # 10503

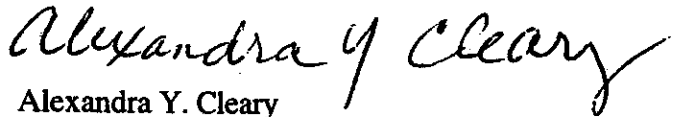
Dear Mr. Reese:

The Georgia Environmental Protection Division received Mr. Carris' request dated January 1, 1999 for delisting of the above referenced site from the Hazardous Site Inventory (HSI). While the information demonstrates a portion of the groundwater flow is to the west towards the Lamar Canal, it is not sufficient to demonstrate wells located to the west are not within the down-gradient flow path. Based on this information, the request for delisting of the Reese & Company, Inc. site, HSI # 10503 is not approved.

In the event you wish to provide additional information regarding the site, please submit that information in a compliance Status Report as outlined in §391-3-19-.06 of the Rules for Hazardous Site Response.

If you have questions regarding this matter, please contact Julie Byrd at 404-657-8600.

Sincerely,



Alexandra Y. Cleary
Unit Coordinator
Hazardous Sites Response Program

cc: Mr. Joseph Carris
Larry Rogers, S.E. Regional Office

File: HSI# 10503
R:\JULIE\SITES\REESE&CO\DELSTRQ2.LTR

BOUHAN, WILLIAMS & LEVY LLP

ATTORNEYS AND COUNSELORS AT LAW

THE ARMSTRONG HOUSE

BULL & GASTON STREETS

POST OFFICE BOX 2139

SAVANNAH, GEORGIA 31402-2139

912/236-2491

FAX 912/233-0811

April 12, 2000

RECEIVED

APR 14 2000

HAZ. SITES RESPONSE PROG.

FILE COPY

Ms. Alexandra Y. Cleary
Georgia Department of Natural Resources
Hazardous Sites Response Program
205 Butler Street, SE
Suite 1462
Atlanta, Georgia 30334

Re: Reese & Company Site
HSI # 10503
Chatham County

Dear Ms. Cleary:

This letter and accompanying consultant report are being submitted to the Georgia Environmental Protection Division (EPD) on behalf of Reese & Company, Inc., (hereinafter "Reese") owner of the property referenced above (hereinafter "the property"). Based on the information presented in S&ME's hydrogeologic investigation report, it is clear that, according to EPD's Reportable Quantity Screening Method (RQSM) guidance, there is no drinking water well within .5 to 1 mile of the site, as presumed by EPD when it scored the site using the RQSM. The correct distance to a drinking water well for purposes of scoring the site should be "greater than 3 miles". Using the correlating value to calculate the groundwater pathway score, the highest score for the site is 8.13, which is below the groundwater pathway score threshold value for listing on the Hazardous Site Inventory (HSI).

A short summary as background and in order to refresh your memory regarding this particular site may be helpful. In May of 1997, Reese's consultants at that time, Hussey, Gay, Bell & Deyoung Environmental, Inc. (HGB&D), on behalf of Reese, notified EPD that groundwater contamination, above background levels and thus requiring notification to EPD under the Georgia Hazardous Site Response Act (HSRA), had been found on the property during an environmental assessment. HGB&D performed a "ghost scoring" for the site and concluded that the site did not exceed the groundwater exposure pathway threshold for listing on the HSI.

Ms. Alexandra Y. Cleary

April 12, 2000

Page 2

When EPD later scored the site, unlike HGB&D, it did not take into account the groundwater flow direction from the site. It assumed that the nearest drinking water well was in the downgradient flow path. When the site was placed on the HSI, HGB&D called EPD regarding the value EPD had used for "distance to the nearest well or spring". EPD stated that it did not have enough data to show groundwater was not moving toward this closest drinking water well. EPD invited HGB&D to provide data to EPD to show the groundwater flow direction, and EPD stated that if the data indicated that groundwater did not flow toward the closest drinking water wells, then the site would be rescored accordingly. EPD also stated that if the correct scoring of the site resulted in a groundwater pathway score below the threshold, the site would be removed from the HSI.

Accordingly, HGB&D submitted additional data showing that groundwater was not moving toward drinking water wells by letters dated June 2, 1998 and January 8, 1999. (These letters are enclosed for your easy reference). Environmental consultants S&ME performed an additional hydrogeologic investigation (report enclosed), which clearly shows that the Lamar canal located west of the site and which runs parallel to the property boundary and toward the Savannah River is the groundwater receptor and provides a hydrogeologic divide between the site and any drinking water wells. To prove this fact, S&ME went to the other side of the canal (western bank) and took groundwater measurements. The data is conclusive that groundwater on the western side of the canal flows east and is received by the canal, just as groundwater on the eastern side of the canal flows to the west and is received by the canal. The Lamar Canal and other groundwater features of the downtown Savannah area explained in S&ME's report (including the fact that the surficial aquifer at the site is at 6.5 to 7.5 feet above mean sea level, while the drinking water wells in question are up a significant bluff with the surficial aquifer at 26 to 27 feet above mean sea level) have been in existence for many years, and these features and the groundwater flow direction is the same as it was at the time of listing the site on the HSI.

EPD's 1) invitation to provide correct data regarding the groundwater flow direction, and 2) statement that the site would be taken off the HSI if the data resulted in the site not scoring high enough to be placed on the HSI in the first place, are in accordance with EPD's RQSM guidance and the direct language of the regulations promulgated under HSRA. The RQSM guidance states that "If the groundwater flow direction is known, as determined by ground water investigations conducted at the site, upgradient wells or springs should not be considered receptors". EPD's invitation to HGB&D to provide such data, indicates that EPD would use this RQSM guidance to disregard wells not in the downgradient flow path and would rescore the site accordingly.

Ms. Alexandra Y. Cleary
April 12, 2000
Page 3

Further, Ga. Rules and Regs. 391-3-19-.05 (4) entitled Removal of sites from the Hazardous Site Inventory, reads

“The Director **shall** remove a site or an individual property at a site from the Hazardous Site Inventory if **any** of the following apply:

(a) The Director determines that it had not had a release which either exceeded a reportable quantity¹ or posed a danger to human health or the environment at the time of listing the site on the Hazardous Site Inventory.

(b) The Director determines that the site or individual property meets Type 1, Type 2, Type 3, or Type 4 risk reduction standards of Rule 391-3-19-. 07, and, when required, the property owner has complied with Rule 391-3-19.08(4). [Emphasis and footnote added].

While EPD would certainly agree that, in accordance with 391-3-19-.05(4)(b) set forth above, sites can be delisted after a party undertakes a CSR by delineating to background and showing that the site is in compliance with applicable Risk Reduction Standards (i.e. a “delisting CSR”), it is clear that the regulations contemplate a second scenario for delisting sites as set forth in 391-3-19-.05(4)(a). Section (a) clearly provides for HSI delistings where no circumstances have changed since the site was initially scored, but the scoring was performed using incomplete or inaccurate data. It is clear that this section could not be used to delist a site, for example, where a party went out and fenced a site after scoring, thereby decreasing its on-site exposure pathway score below the threshold. But section (a) is clearly meant to address situations where additional data indicates the true properties of the site at the time of scoring. This section recognizes that it is EPD’s role and goal in utilizing HSRA and its regulations to base its actions regarding a site on the most accurate data available.

Further, 391-3-19-.05(4)(a) does not state a time period beyond which delisting can not occur. Neither the HSRA statute nor the HSRA regulations state a “statute of limitations” on presenting data which more accurately portrays the site at the time of listing in order to have a site delisted, nor do either state that a site can not be delisted after a certain time period from listing. Even if some time period was involved, in this

¹ As EPD is aware, “reportable quantity” is defined as “the amount of any released substance which causes a site to meet the criteria for listing on the Hazardous Site Inventory pursuant to the screening method provided in Appendix II of this Chapter.” Ga. Rules & Regs. 391-3-19-. 02(2)(p), and is clearly not the notification criteria set forth at 391-3-19-. 04(13).

Ms. Alexandra Y. Cleary
April 12, 2000
Page 4


case, Reese began discussions regarding EPD's wrong assumption regarding groundwater flow direction almost immediately after the site was listed. The site still has not received a CSR call-in letter, and therefore is only in the initial stages of HSRA's regulatory scheme.

Clearly, 391-3-19-.05(4)(a) provides for equitable, just and appropriate treatment of sites that should never have been listed on the HSI in the first place, and mandates that EPD's interests and resources are to be spent on sites that are legitimately on the HSI. The removal of such sites that do not score above the threshold is mandatory (ie. "The Director shall remove"), not discretionary. If a site does not meet the HSI threshold, then the property owner should not be forced to expend resources to perform a CSR. In the present case, the property in question is near downtown Savannah in a previously industrial area which is now on the verge of being vastly improved, and becoming an "extension" of the downtown tourist area. However, the property's inclusion on the HSI is hindering this property from its best use. If indeed this property should be listed, then this hindrance would be warranted, but the data comprised by HGB&D (and previously provided to EPD), and the additional data comprised by S&ME and being provided to EPD herewith,² indicate that delisting is appropriate. We believe that once EPD has had the opportunity to review S&ME's report, it will agree that the site's score did not exceed the threshold at the time of listing and, therefore, the site should be delisted.

Thank you for your attention to this matter. We look forward to hearing from EPD regarding delisting.

Very truly yours,

BOUHAN, WILLIAMS & LEVY LLP



ANN MARIE STACK

AMS:pc
Enclosures
CC: Tim Cash
John S. Reese
Michael E. Bart, CPA

² Both consultants groups have informed Reese that the data now in EPD's possession leaves little doubt regarding groundwater flow direction, and both believe that this data should be more than sufficient to satisfy EPD's request for technical data regarding the groundwater flow direction path.

BOUHAN, WILLIAMS & LEVY LLP

ATTORNEYS AND COUNSELORS AT LAW

THE ARMSTRONG HOUSE

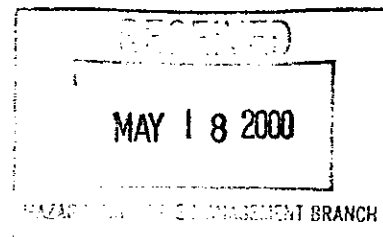
BULL & GASTON STREETS

POST OFFICE BOX 2139

SAVANNAH, GEORGIA 31402-2139

912/236-2491

FAX 912/233-0811



May 17, 2000

Via Federal Express

Ms. Jennifer Kaduck
Branch Chief
GA. Environmental Protection Division
Hazardous Waste Branch
205 Butler Street, Suite 1154
East Tower
Atlanta, Georgia 30334-4910

Mr. Tim Cash
Program Manager
GA. Environmental Protection Division
Hazardous Sites Response Program
205 Butler Street, Suite 1154
East Tower
Atlanta, Georgia 30334-4910

Re: Reese & Company Property
HSI Site No. 10503
Savannah, Georgia
Chatham County
Delisting Issue
Request for written legal opinion

FILE COPY

Dear Ms. Kaduck and Mr. Cash:

This letter addresses issues regarding the Reese & Company property, HSI Site Number 10503, located in Savannah, Georgia. To provide you with some general background, this site was listed on the HSI in April 1998. The property owners and their consultants immediately challenged the listing on the basis that the site was not scored correctly because EPD incorrectly presumed that groundwater at the site was moving toward public drinking water wells. (Reese's consultant had provided a "ghost scoring" with notification that correctly scored the site, but had not provided groundwater flow direction data). When Reese's consultants discussed this issue with EPD, EPD stated that if Reese could show that groundwater was not moving toward the drinking water wells, then the site would be appropriately rescored. (Based on the characteristics of this site, this change of the "distance to well or spring" factor of the RQSM equation results in the site scoring below the Ground Water Pathway Threshold). Reese's consultants discussed the data it would collect and provide with EPD.

Ms. Jennifer Kaduck
Mr. Tim Cash
May 17, 2000
Page 2

Reese's consultants have submitted extensive data conclusively showing that groundwater from the site is not moving toward the public drinking water wells. Accordingly, Reese requested that EPD accurately score the site and remove it from the HSI. Reese's latest letter to EPD which was dated April 12, 2000, sets forth more details of the consultants' groundwater investigation, and sets forth the regulatory language upon which the request for delisting and EPD's obligation to delist the site are based. We have enclosed a copy of this letter for your easy reference. As stated in this previous letter, Ga. Rules and Regs. 391-3-19-.05(4), clearly mandates that EPD remove the site from the HSI if the site did not exceed the listing threshold at the time of listing. Our April 12, 2000 letter more fully discusses this legal requirement.

In response to our April 12, 2000, letter, Reese received a letter from EPD dated April 17, 2000 (attached) which very succinctly states that the only data which EPD would consider in a decision to delist the site is data which was collected prior to the listing. (This position apparently even includes data regarding ongoing groundwater flow direction which commonly, by its nature, does not change drastically during a given time period). The conclusion derived from the letter is that Reese must now incur, in addition to the costs already incurred for the groundwater studies, an additional \$30,000 to \$50,000 or more for a CSR on a site that should not even be on the HSI.

In response to EPD's April 17, 2000 letter, we called Ms. Cleary to discuss this matter further. Given that we were unable to find any statute, regulation, or guidance that suggests that Ga. Rules and Regs. 391-3-19-.05 (4) was limited by only allowing consideration of data collected prior to listing in a delisting situation, we asked Ms. Cleary whether this was just informal EPD policy or whether it written somewhere. She stated that it was not informal policy, that it is written somewhere, but she just did not know where. We were told that she did not have time to find where it was written for us. We understand that EPD personnel are extremely busy and have to deal with many sites at one time. However, this issue is extremely important to Reese, and they have a right to know upon what authority EPD is making decisions that so drastically affect them on a personal basis.

Therefore, we are hereby requesting a written opinion on the delisting issue, including EPD's statement that data collected subsequent to a site's listing on the HSI cannot be considered.

Ms. Jennifer Kaduck
Mr. Tim Cash
May 17, 2000
Page 3

My client also requests to schedule a meeting to discuss this matter with EPD in the near future. Thank you for your attention to this matter. We look forward to hearing from you regarding the written opinion and scheduling of the meeting.

Very truly yours,

A handwritten signature in cursive script that reads "Ann Marie Stack".

Ann Marie Stack

AMS:pc
Enclosures

cc. Mr. Jack Reese (w/enc.)
Mr. Michael Bart (w/enc.)
Mr. Tim Ritzka (w/enc.)

BOUHAN, WILLIAMS & LEVY LLP

ATTORNEYS AND COUNSELORS AT LAW

THE ARMSTRONG HOUSE

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Direct Dial (912) 644-5747

Ann Marie Stack, Esq.

amstack@bouhan.com

July 10, 2000

VIA FACSIMILE and US MAIL

Mr. Tim Cash

Georgia Environmental Protection Division

Hazardous Sites Response Program

205 Butler Street, Suite 1154

East Tower

Atlanta, Georgia 30334-4910

REC'D

JUL 13 2000

HAZ. SITES RESPONSE PROG.

RE: Reese & Company, Inc.
HSI Site No. 10503

Dear Tim:

On May 17, 2000, we sent EPD correspondence, copied to the State Attorney General's Office (attached), which requested clarification of EPD's statement that there is language in EPD's HSRA regulations or guidance that states EPD can not consider, for delisting purposes, groundwater flow direction data collected after a site has been listed on the HSI. (We have not been able to locate such language.) Reese is awaiting EPD's response in this regard. As we stated earlier, the groundwater data Reese provided to EPD indicates that the wrong factor for "distance to well" was used in scoring the site, and the site should not be on the HSI. As a result of the wrongful listing, Reese is unable to market this property and, therefore, is suffering substantial fiscal damage.

We would like to meet with Ga. EPD to discuss this site further and to resolve this delisting issue. We are available to meet with EPD anytime July 24-27, or August 31-4th.

We look forward to hearing from EPD.

Very truly yours,

BOUHAN, WILLIAMS & LEVY LLP



ANN MARIE STACK

AMS/shm

cc: Tim Ritzka, GA State Attorney General's Office

13

Georgia Department of Natural Resources

205 Butler Street, S.E., Suite 1462, Atlanta, Georgia 30334

Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
Hazardous Waste Management Branch
404/657-8600

September 14, 2000

FACSIMILE: 912-236-4234

Mr. John S. Reese
Reese and Company, Inc.
703 Louisville Road, Suite D
Savannah, GA 31401

FILE COPY

RE: Reese and Company
1000 President Street
Savannah, Georgia, Chatham County 31401
HSI # 10503

Dear Mr. Reese:

The Environmental Protection Division (EPD) has received Ms. Ann Marie Stack's letter dated July 10, 2000 requesting consideration of the latest direction of groundwater flow at the Reese and Company site. My staff has reviewed the information submitted with her letter, the original notification, and our files to provide the following summary concerning this site.

In May 1997, Hussey, Gay, Bell & Deyoung Environmental, Inc. (HGB&D), on behalf of Reese and Company, notified EPD under the Georgia Hazardous Site Response Act (HSRA) that groundwater contamination had occurred above background levels. This notification did not include information concerning the direction of groundwater flow. Therefore, according to the information provided to EPD and the subsequent site investigation, the nearest down-gradient well was found to be within ½ - 1 mile. This distance, along with the information provided in the notification, was used to determine the appropriate values for completing the Reportable Quantities Screening Method (RSQM). The notified release exceeded a reportable quantity and was listed on the Hazardous Site Inventory (HSI) on April 8, 1998.

On June 2, 1998, Mr. Joseph Carris, the project manager for Hussey, Gay, Bell & Deyoung, stated in a letter to EPD that groundwater flowed north from the site toward the Savannah River but did not provide field data supporting this statement. Mr. Carris again wrote to EPD on January 8, 1999 stating that groundwater flowed west from the site toward the Lamar Canal based on groundwater elevations provided as supporting documentation. EPD's response dated March 5, 1999 stated that the information included with Mr. Carris' January 8, 1999 letter was not sufficient to demonstrate that the public drinking water wells located within three miles to the west of the site were not within the down-gradient flow path and, therefore, the delisting request was not approved. EPD's March 5, 1999 letter stated that any further information should be submitted in the form of a Compliance Status Report (CSR) as outlined in §391-3-19-.06(3) of the Rules for Hazardous Site Response (Rules).

Ms. Ann Marie Stack's letter dated April 12, 2000 did not include the information in the form of a CSR as specified in EPD's March 5, 1999 letter, but did include a hydrogeologic investigation by S & ME Environmental Services dated April 10, 2000. Her April 12, 2000 letter requested that this hydrogeologic investigation be considered in the original RQSM score for purposes of delisting

14

Mr. John S. Reese
September 14, 2000
Page 2

the site from the HSI. EPD's April 17, 2000 letter emphasized, once again, that additional information regarding the site must be submitted in the form of a CSR and that public notices must be provided as outlined in §§391-3-19-.06(3), (4), and (5) of the Rules respectively. EPD's April 17, 2000 letter also stated *if* the attached analytical data is the basis of your request for a change in a Reportable Quantity Screening Method Value, the data must have been collected prior to your receipt of the Director's April 8, 1998 letter to affect the listing of your site on the HSI. It further states that, as appropriate, the information submitted by Ms. Stack should be included in the CSR.

Ms. Stack's July 10, 2000 letter again requested that the direction of groundwater flow be reconsidered in the original RQSM score. EPD has considered the additional hydrogeologic investigational information provided by S & ME, which indicates that groundwater flows from the site to the west toward the Lamar Canal. However, EPD cannot concur that Lamar Canal limits the migration of the groundwater contamination plume as the Lamar Canal cuts into, but does not entirely transect the aquifer. Further, while the groundwater flow direction near the canal is influenced by the canal, the amount of influence depends upon the rate of water flow in the canal and the depth of contaminants within the groundwater, along with other hydrogeologic factors. In other words, it is not certain that contaminants within the groundwater will not pass or have not passed beneath the canal. Therefore, the value for the distance to the nearest drinking water well in the RQSM is appropriate and the site will not be delisted from the HSI on the basis of the information provided.

Ms. Stack's letter dated May 17, 2000 reiterated the information already provided, requested a written opinion on the delisting issue, and requested a meeting. Again, the information provided does not demonstrate the public drinking water wells located to the west of the site are not in the down-gradient flow path and, therefore, the notified release exceeds a reportable quantity. In regards to Ms. Stack's request for a written opinion, §391-3-19-.05(4) "Removal of Sites from the Hazardous Site Inventory" states the Director shall remove a site when the Director determines that it had not had a release exceeding a reportable quantity **at the time of listing the site on the HSI**. Based on the information provided to date, it remains EPD's determination that the notified release exceeds a reportable quantity. We will be available to discuss this determination with you and Ms. Stack on September 20, 2000 at our office.

To further clarify, EPD has not stated that they would not consider additional information. However, EPD has requested additional information be submitted in the form of a CSR and that public notices must be provided as outlined in §§391-3-19-.06(3), (4), and (5) of the Rules respectively. If analytical data is the basis of your request for a change in a Reportable Quantity Screening Method value, the data must have been collected prior to your receipt of the Director's April 8, 1998 letter to affect the listing of your site on the HSI.

If you have any questions regarding this matter, please call Ms. Jacki Scarbary of EPD's Hazardous Sites Response Program at (404) 657-8600.

Sincerely,



Alexandra Y. Cleary
Unit Coordinator
Hazardous Sites Response Program

c: Ann Marie Stack
HSI file # 10503

HunterMaclean

ATTORNEYS AT LAW

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February 28, 2002

VIA FAX AND U.S. REGULAR MAIL

Alexandra Y. Cleary, Unit Coordinator
Hazardous Sites Response Program
Georgia Department of Natural Resources
205 Jesse Hill Jr. Drive, SE
Suite 1462
Atlanta, Georgia 30334

RECEIVED
MAR 04 2002
HAZ. SITES RESPONSE PROG.

**RE: Compliance Status Report Call-In
Reese & Co., Inc. Tract
1000 East President Street
Savannah, Chatham County, Georgia 31401
HSI #10503**

Dear Ms. Cleary:

This firm has been retained on behalf of Michael E. Bart and John S. Reese/Reese & Company, Inc. to assist in connection with the above matter. Please direct all future communications in regard to this matter to the undersigned at the letterhead address shown above with a copy to Michael E. Bart and John Reese.

Although my clients are more than willing to work with the EPD in this matter, they are unwilling to perform a Compliance Status Report ("CSR"). Not only has Reese & Company previously demonstrated that the property should have been delisted based on faulty RQSM scoring, but there is no source of lead on the property.

Groundwater beneath the property has apparently been impacted by an offsite source. Numerous properties in the area, including several HSI sites have likewise been impacted by lead in groundwater. Pursuant to O.C.G.A. § 12-8-96.1(c) "no person shall be liable for cost or damages if he can show that the release was caused solely by an act or omission of a third party." Therefore, my clients assert the third party defense pursuant to O.C.G.A. § 12-8-96.1(c) in that regulated substances have not been handled on the property during their ownership and any lead contamination of groundwater is the result of an unrelated third party.

HunterMaclean

Alexandra Y. Cleary, Unit Coordinator

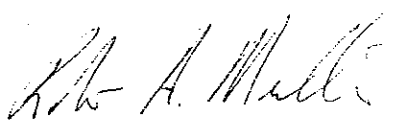
February 28, 2002

Page Two

As to identifying additional potentially responsible parties, the former owner of the property is International Paper/Union Camp. It is our understanding that there is lead contamination throughout the whole area that may be related to Hixon Battery Co., a now closed battery manufacturing company in which lead was the major component, and which occupied a site to the east of subject property now owned by the Georgia DOT. Please provide any information that you have of nearby contamination. We will be happy to meet with you at your convenience to discuss this matter or supply additional information regarding the third party defense.

If you have any questions, please do not hesitate to contact me. I look forward to hearing from you.

Very truly yours,



Robert A. Mullins

RAM/bl

cc: Michael E. Bart
John S. Reese

Georgia Department of Natural Resources

2 Martin Luther King Jr., Drive. SE. Suite 1462 East, Atlanta, Georgia 30334

Lonice C. Barrett, Commissioner

Environmental Protection Division


Harold F. Reheis, Director

Hazardous Waste Management Branch

404/657-8600

Trip Report

Site Name and Location: Reese & Company, Inc. HSI # 10503
Savannah, GA Chatham County

Trip By: Jacki Scarbary, Environmental Specialist 
Hazardous Sites Response Program

Date of Trip: September 16, 2002

Date of Report: October 21, 2002

Officials Contacted: None

Reason for Trip: Site Inspection

Reference: Refusal to complete CSR, March 4, 2002

Background:

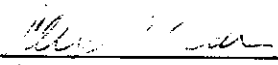
Attorneys for the Reese & Co., Inc. site have requested delisting from the HSI four times since the site's listing on the HSI in March 1998. EPD denied the delisting requests based on the position that the tidal fluctuations will influence the groundwater flow direction. The groundwater flow direction off of the southwestern portion of the site is not known. It is possible that groundwater flows in the southwestern direction affecting the two wells within a mile that is in the southwest direction. John Reese has stated in a letter dated March 4, 2002 that he will not complete a compliance status report.

Findings:

The site is located off the road at 1000 East President Street in Savannah. An entrance to the site from the street could not be located and there was no access to parking on the side of the road. East President Street is a highly traveled road; however, I was able to visually inspect the site by driving slowly by the site several times. The site is overgrown and it appeared that horses were being stored in the rear of the building (possibly the horses for the carriage rides in downtown Savannah).

Recommendation/Follow-Up Required: Issue Consent Order to the property owners of the Reese & Co., Inc. site.

Attachments: photographs (1)

Reviewed By: 
Alexandra Y. Cleary, Unit Coordinator

File: HSI# 10503

EXECUTIVE SUMMARY

EMC Engineering Services Inc., (EMC) has performed a Compliance Status Report (CSR) and compliance status certification for groundwater quality at the site on behalf of the Owners. The site is located at 1000 East President Street in Savannah, Georgia. The facility is currently listed on the EPD Hazardous Site Inventory (HSI) as HSI #10503.

Four groundwater quality monitoring wells were installed in areas previously identified by others to be impacted by lead and acetone. The wells were purged using the low-flow purge method appropriate for total metals analysis of groundwater. The samples were collected carefully and steps were taken to minimize sample cross-contamination.

The results of this CSR indicate that lead and acetone were not detected in groundwater at or above the laboratory reporting limits of 0.005 mg/l (lead) and 50 ug/l (acetone). It is our opinion that groundwater quality has not been adversely impacted by lead or acetone at the site.

INTRODUCTION

EMC Engineering Services Inc., (EMC) was retained by Reese and Co. Inc., to perform a Compliance Status Report (CSR) and compliance status certification for the site located at 1000 East President Street in Savannah, Georgia. The CSR and certification was requested in a letter dated January 10, 2002 from the Georgia Environmental Protection Division (EPD) pursuant to Sections 391-3-19-06(3)(a) and 391-3-19-06(4) of the Rules for Hazardous Site Response. The facility was listed on the EPD Hazardous Site Inventory (HSI) on April 8, 1998 as HSI #10503. Lead and acetone were reportedly detected in groundwater in excess of the groundwater criteria concentrations (NC) included in the Hazardous Site Response Act (HSRA-Appendix III, Table 1). This information was reported to EPD pursuant to the HSRA Notification Requirements in correspondence dated May 30, 1997. Although the data was suspect because of the sampling methodology utilized at the time, contradicting information was not provided to the EPD before the site was listed on the HSI.

SITE DESCRIPTION

The site consists of approximately 4.6 acres and is located at 1000 East President Street in Savannah, Chatham County, Georgia (Figure 1, Appendix I). The site is currently used by a commercial enterprise known as the Plantation Carriage Company. The surrounding area is primarily commercial and industrial. The facility was formerly owned and operated by the Union Camp Corporation (now International Paper) from 1966 to 1986. Union Camp used the property for turpentine bottling and then tall oil storage and distribution. Figure 2, Appendix I, is an aerial photograph of the site dated 1985. The photograph shows site features in place at the time of Union Camp ownership.

Two adjoining brick buildings are present in the southwest portion of the site. There are no other permanent structures present on the property. The remains of a large corrugated metal building is present near the northern property boundary, and remnants of transfer pumps and dikes thought to be associated with product handling are present in the central and eastern portion of the site. Four tall oil above ground storage tanks (ASTs) were previously located in the southeastern portion of the site. The tanks have been removed from the site. Four ASTs and dispensers thought to be for truck fuelling were reportedly present in the north central to northwest central portion of the site. This system has also been removed from the site.

The current owners and occupant of the site has not used hazardous and/or regulated substances at the site.

REGIONAL GEOLOGY

The site lies within the Coastal Plain Physiographic Region of Georgia. Site elevation is approximately 3 feet above mean sea level (USGS, 1978). This elevation indicates that the site lies within the Silver Bluff shoreline complex of the late Pleistocene (Hoyt and Hails, 1967). The formation is typically composed of barrier island and back-barrier marsh deposits found at elevations ranging from present day sea level to approximately 10 feet above msl. Sedimentary components of these types of environments are dominated by interlayered and sometimes mixed deposits of fine sand, silts and clays. Site soils explored during this investigation were found to be dominated by fine grained materials including clays and silts mixed with varying and minor concentrations of fine sand.

Elevation data for the surrounding area indicates that a second older and higher lying Pleistocene shoreline terrace complex is present west of the site. The Pamlico formation is found at elevation ranges from 10 ft above msl to 30 feet above msl (Hoyt and Hails, 1967) and these elevations are present within one west of the site. Much of downtown Savannah is constructed upon the Pamlico terrace west of the site.

There are three main aquifer systems typically recognized in the Coastal Plain Area of Georgia. They are, in descending order, the shallow Surficial Aquifer, the Brunswick Aquifer (upper and lower), and the Artesian Floridan Aquifer System. This system consists of two principal units; the Upper and Lower Floridan (Miller, no date). Depths below land surface to the top of the Floridan Aquifer system at well sites in the Savannah area are approximately 125 to 215 feet. In the Savannah area, the Floridan Aquifer system is the principal groundwater source for human consumption, agricultural irrigation, and industrial use (Clarke 1990).

PROJECT HISTORY

The Georgia Environmental Protection Division (EPD) Southeast Region issued a Notice of Violation (NOV) to the current owners for unpermitted solid waste disposal at the site in a letter dated February 12, 1997. The letter indicated that an unknown quantity of crude tall oil had been spilled onto the soil and into surrounding surface waters. The NOV requested that the owners immediately insure that no contaminated water was leaving the property, submit a detailed corrective action plan for complete assessment and submit a copy of a Phase I Environmental Site Assessment completed in 1985.

The owners then retained Hussey, Gay, Bell and Deyoung Environmental Inc., (HGBD) to perform an environmental assessment of the crude tall oil release and to prepare a remedial plan to mitigate the impacted area. HGBD performed an investigation of the soil and groundwater quality at the site, specifically in the observed release area noted during EPD inspections and in a potential source area around suspected petroleum ASTs and dispensers. Soil borings and temporary wells were used to obtain soil and groundwater samples from the site. The temporary wells were installed using hand augers.

Analytical parameters for the soil samples collected in the vicinity of the Tall Oil ASTs included benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8020, base neutral acids extractables (BNA) by EPA Method 8270, and the eight RCRA metals by EPA methods 6010 and 7471 for mercury. Soil samples collected from the vicinity of the former fuel ASTs were analyzed for BTEX (EPA method 8020) and for polynuclear aromatic hydrocarbons (PAH) by EPA method 8270. A sample of the released material (sludge) was obtained from the ground surface adjacent to Tall Oil AST #2. This sample was analyzed for BTEX (8020) BNA (8270), the eight RCRA metals (6010/7471) and by the toxicity characteristic leaching process method (TCLP, EPA method 1311) for lead.

Groundwater analytical parameters for samples collected in the vicinity of the tall oil storage area included BNA (8270), Appendix I volatiles by EPA method 8260, and total lead (6010). Groundwater samples collected from the vicinity of the fuel ASTs and dispensers were analyzed for total lead (6010), BNA (8270), and PAH (8270). Soil and groundwater sample locations are shown on Figure 3, Appendix I.

The soil quality results indicated that the sludge sample was the only sample collected from the site in which constituents were detected above the Hazardous Site Response Act (HSRA) Notification Concentrations (NCs). The sludge constituents detected above the NCs were lead, 2,6-Dinitrotoluene and Bis(2-ethylhexyl)phthalate. The reported concentrations for these constituents were 565 mg/kg, 1.73 mg/kg, and 86 mg/kg, respectively. The sludge TCLP result for lead was <0.50 mg/l.

Groundwater quality results from samples collected in temporary wells installed by hand augers indicated that lead and acetone were present in the groundwater at concentrations in excess of the HSRA Groundwater Criteria. The lead concentrations in groundwater at the site were also reported to be in excess of the Federal Primary Drinking Water Standard. The maximum lead and acetone concentrations observed were detected at B-8 and were reported to be 0.634 mg/l and 6.0 mg/l, respectively. No other parameter constituents were detected in the groundwater samples collected from the site.

HGBD did not use low-flow purge techniques to obtain the groundwater samples, and turbidity monitoring during the purge event was apparently not performed. HGBD reported that 50% isopropyl alcohol was used to decontaminate the hand augers used to install the monitoring wells. Equipment blank QA/QC samples were not collected during the assessment. The presence of elevated lead and acetone concentrations in groundwater at the site was considered suspect.

The HGBD assessment recommended that all sludge and contact soils be removed from the area of the tall oil ASTs and disposed of at an approved off-site facility. The assessment report was submitted to EPD in April 1997. EPD responded in a letter dated April 14, 1997 with comments including HSRA notification requirements and a request that remediation confirmatory samples be collected during the sludge and soil removal activity. EPD reminded the owner that if the impacted soil was successfully removed from the site within 30 days of detection, then Division notification would not be required. A copy of the HGBD assessment report is included as Appendix II.

Soil excavation and disposal was performed by Soil Safe Inc., and directed by HGBD in April, 1997. The sludge and contact soil was excavated from the site and rendered suitable for recycling by solidification/stabilization technology at the Soil Safe facility in Newington, Georgia. 293.55 tons of material were removed from the site and treated by Soil Safe. Four soil samples

for remediation confirmation were collected from the excavation floor subsequent to excavation. The samples were analyzed for BNA (8270), and total lead (6010). BNA constituents were not detected in any of the confirmatory soil samples. Lead concentrations at the floor of the excavation ranged from 11.0 mg/kg to 276 mg/kg. Additional over-excavation was not performed because constituent concentrations were not detected above NCs in the confirmatory soil samples. HGBD prepared a Corrective Action Report in May 1997 documenting the mitigation work performed. The report was submitted to the EPD and the EPD responded in a letter dated June 6, 1997 that the owner had satisfied all of the Divisions requests stated in the Notice of Violation dated February 12, 1997. The excavation limits and confirmatory sample locations are shown on Figure 3, Appendix I. A copy of the HGBD corrective action report is included as Appendix III.

The EPD Hazardous Site Response Program was notified of the lead and acetone concentrations detected in groundwater during the March 1997 assessment. The notification was dated May 30, 1997. EPD responded to the notification and determined from available information that the site should be included to the Georgia Hazardous Site Inventory (HSI) in a letter dated April 8, 1998. The site was listed as HSI Site Number: 10503.

EPD requested in a letter dated January 10, 2002 that the owners submit a Compliance Status Report (CSR) and compliance status certification in accordance with Sections (3)(a) and (4) of Rule 391-3-19-06. In a letter dated February 28, 2002, Robert Mullins, attorney for the owners, responded to the EPD request on behalf of the owners. The owners expressed a willingness to work with the EPD, but had reservations due to faulty RQSM scoring and off-site lead sources. Subsequently, on January 12, 2004, the EPD forwarded a Proposed Consent Order to the owners. In a letter dated February 10, 2004, the owners indicated that they would voluntarily conduct a limited CSR for the site. EMC Engineering Services, Inc., was retained by the owners in March 2004 to prepare the CSR and compliance status certification.

COMPLIANCE STATUS DETERMINATION

The following information is provided pursuant to Rule 391-3-19-.06(3) in its entirety. The Rule is written in bold type as it appears published in Chapter 391-3-19 of the Rules of the Georgia Department of Natural Resources, Environmental Protection Division. The information provided on behalf of the Owner to satisfy the requirement of the Rule is written in plain text.

391-3-19-.06(a)(3)(b)

1. **A description of each known source which has contributed or is contributing to a release including:**

i. **Source name, number or other descriptor**

No lead or acetone sources have been identified. The only potential sources identified by the former owner/operator was tall oil, and petroleum fuel products. A letter prepared by International Paper and submitted to EPD indicating the use of tall oil and possibly petroleum fuel products is included as Appendix IV. Tall oil is a derivative of pine trees and is generally produced from the rendering of these trees to obtain pulp for paper manufacturing. Tall oil has been assigned CAS # 8002-26-4, and is primarily composed of fatty acids. Tall oil was reportedly stored in the former ASTs located in the southeast portion of the site. The potential petroleum fuel source area was apparently located in the center west and center north portion of the site, in the areas identified with additional ASTs and labeled as "gas pumps" on the provided site map (Figure 3, Appendix I).

ii. **Location of source on a map scale of 1 inch = 200 feet or less**

Figure 2, Appendix I, displays the tall oil storage area and petroleum storage area identified at the site.

iii. **Name of each regulated substance released from each source**

As per the February 1997 Notice of Violation (NOV) crude tall oil was released at the site. Soil and groundwater samples were collected from the release area and from a likely petroleum storage area during the HGBD March 1997 assessment. The sample locations are shown on Figure 3, Appendix I.

The sample collected from the tall oil sludge was the only soil sample collected from the site that displayed concentrations of regulated constituents in excess of the HSRA notification concentrations. These detected constituents and respective concentrations are summarized below.

<u>Sample ID</u>	<u>Constituent</u>	<u>Soil Concentration (mg/kg)</u>
Sludge	2,6 Dinitrotoluene	1.73
	Bis(2-ethylhexyl)phthalate	86
	Lead	565

Groundwater quality data indicated that lead was detected in all groundwater samples collected from the site except for B-13. The highest lead concentration in groundwater was reported to be 0.634 mg/l and was detected in the sample B-8. Acetone was detected in each groundwater sample analyzed for volatile organic constituents. The highest acetone concentration in groundwater was reported to be 6.0 mg/l and was also detected at B-8. A source of acetone in groundwater was not identified.

A copy of the March 1997 Environmental Site Assessment is attached as Appendix II.

iv. Chronology of each source of a release

The chronology of the release is not known, furthermore, there is no known release impacting groundwater quality at the site. The tall oil release was apparently discovered or reported to EPD personnel prior to April 10, 1996. EPD conducted a complaint investigation on April 10 1996, and again on February 5, 1997. EPD then issued a Notice of Violation dated February 12, 1997 to the Owner, and required that steps be taken to mitigate the tall oil release.

v. If a source is an engineered structure or a waste management unit, a description of the function, design, dimensions, capacity and operation of the source, including as-built construction drawings where available.

A release of tall oil apparently occurred during operation and/or removal of the tall oil ASTs. Information regarding the design, dimensions, capacity and operation of this system was not available during this investigation.

2. If a release involves soil contamination, a complete definition of the horizontal and vertical extent of such soil contamination.

During a soil and groundwater investigation performed by HGBD in March 1997, elevated levels of lead, 2,6 dinitrotoluene and Bis (2-ethylhexyl) phthalate were identified in sludge material discharged from the tall oil above ground storage tanks located in the southeastern portion of the site. The sludge and contact soils were removed from the site and disposed at an EPD approved treatment facility within 30 days of detection. Approximately 293 tons of sludge and contact soils were removed from the release area. Four confirmatory samples were collected from the base of the excavation. Confirmatory sample analytical data indicated that the soil left in place did not exceed notification concentrations for the previously detected contaminants. EPD-Coastal District personnel reviewed the initial limited soil and groundwater investigation report and the Corrective Action Report. EPD determined that the owners had satisfied all of the Divisions requests regarding the release in a letter dated June 6, 1997.

Additional soil investigative activities were not performed during the CSR because the owners had removed and properly disposed of the sludge and impacted soils that displayed constituent concentrations above Notification Concentrations within 30 days after detection. Therefore, the owners were not required to notify the Hazardous Site Response Program regarding soil quality at the site. Because there was not a notification requirement for soil quality, the owners were not required to perform soil quality compliance status activities or provide soil quality compliance certification.

3. If a release involves groundwater contamination, a complete definition of the horizontal and vertical extent of groundwater contamination.

i. Analytical parameters selected and rationale for selection

The groundwater samples collected during this investigation were analyzed for total lead and acetone in accordance with EPA (SW-846) method 6010 and 8260, respectively. The laboratory reporting limits for total lead and acetone were 0.005 mg/l, and 50 ug/l, respectively. The earlier HGBD assessment activities, which were suspect due to sampling methodology, detected only lead and acetone in groundwater at the site by EPA methods 6010, and 8260, respectively. The laboratory methods selected during this investigation were consistent with the test methods

previously used and are considered standard and appropriate for the constituents identified by others in groundwater at the site.

Lead was not detected above 0.005 mg/l in any groundwater sample collected from the site. Acetone was not detected above 50 ug/l in any groundwater sample collected from the site.

ii. A description of the methods used to characterize subsurface geology

Soil cuttings at each monitoring well location were collected from the hollow stem augers during well installation activities. The soil cuttings were hand characterized for textural classification in the field in accordance with the Visual-Manual Procedure specified in ASTM D 2488. Textural descriptions and depths of occurrence at each monitoring well location were recorded in the field and are included in the Boring Logs provided in Appendix V.

iii. A description of the methods used to characterize horizontal and vertical groundwater gradients, flow rates and flow directions

The highest point on the PVC well casing and the adjacent ground surface at each monitoring well was surveyed using a rod and level to obtain relative vertical positions. Vertical accuracy using this method is within 0.01 feet. Line of sight to all wells was possible from one level location. A benchmark was established on a permanent on-site structure and assumed to be 3.00 feet above mean sea level. The top-of-casing (TOC) height for each monitoring well was subtracted from the assumed benchmark elevation to obtain the relative top-of-casing elevation of each well. Horizontal well locations were established by triangulating to existing and permanent on-site structures using a 300 foot fiberglass tape measure and recording to the nearest foot.

Water levels were measured in each monitoring well at the site using a Slope Indicator electronic water level indicator accurate to 0.01 feet. The wells were opened and allowed to vent for thirty minutes prior to obtaining measurements. Water levels were measured successively from one well to the next after the thirty minute waiting period and were completed within 7 minutes after the first measurement. It should be noted that the water level indicator was rinsed with distilled water to prevent cross-contamination between each location. The water level measurement was obtained from the highest point on the PVC well casing, and was consistent with the point used to obtain the TOC elevation.

The water level measurement obtained from each well was subtracted from the TOC elevation for the respective well to determine the relative groundwater level elevation at each monitoring point. A water table surface map was prepared by plotting the respective water level elevations on a scaled site map, and contouring the elevations in accordance with standard methods. The groundwater flow direction was determined from lines drawn perpendicular to the elevation contours, from highest elevation to lowest elevation. A horizontal hydraulic gradient was calculated between the location of the highest water level elevation and the lowest water level elevation observed on-site. The horizontal hydraulic gradient was calculated by subtracting the lowest water level elevation from the highest water level elevation, and then dividing that difference by the horizontal distance between the two monitoring points. The horizontal hydraulic gradient between MW-1 (highest) and MW-4 (lowest) was determined to be 0.0082 ft/ft. The groundwater flow direction in the surficial aquifer was determined to be toward the north.

A vertical hydraulic gradient was not calculated because the four wells at the site were screened within the same interval (uppermost portion) of the surficial aquifer. A deep well was not paired with a shallow monitoring well on-site because vertical contaminant delineation was not necessary because contaminants were not detected in the surficial portion of the aquifer.

Groundwater flow rates were not directly investigated because groundwater quality impact was not observed. Observations made during well installation (textural classification), purging activities and the horizontal hydraulic gradient measured at the site indicates that groundwater flow rates would likely be very low in the uppermost portion of the surficial aquifer.

iv. A description of the methods used to determine hydraulic conductivities and other pertinent hydrogeological characteristics, including a description of any slug and/or aquifer pumping tests

Direct hydraulic conductivity measurements were not performed at the site because groundwater impact above the Type I risk reduction standard was not observed on-site.

Groundwater was encountered under water table conditions at depths that ranged from approximately 1.0 feet to 5.6 feet below ground surface (bgs). The water bearing strata observed during this investigation was composed primarily of silt and clay with minor concentrations of fine sand. The lithology and observed ground surface elevation is coincident with paleo-tidal marsh deposits of the Silver Bluff Formation (Hoyt and Hails, 1967). The specific yield of the formation material was estimated from published literature (Fetter, 1994) to be within

the range of 8-14 %. The groundwater seepage velocity beneath the site would then be expected to be low due to the slight hydraulic gradient observed and the low potential horizontal hydraulic conductivities and estimated low specific yield of the surficial aquifer formation.

v. A description of groundwater monitoring well locations, and their installation and construction methods, including:

Four surficial aquifer groundwater monitoring wells were installed in the areas previously shown to display the greatest groundwater contaminant concentrations.

I. A map with scale of 1 inch = 200 feet or less depicting all existing well locations including a survey of each well's surface reference point and the elevation of its top-of-casing

Figure 4, Appendix I, is a site map that displays the monitoring well locations and relevant survey data obtained during this investigation.

II. Type of well casing material

The monitoring wells were constructed using new and individually plastic wrapped, flush threaded two inch diameter schedule 40 PVC riser, screen and sediment traps (points).

III. Description of well-intake design including screen slot size and length, filter pack materials and length, and method of filter pack emplacement

The monitoring wells were installed using 3 3/4 -inch I.D. hollow stem augers to advance the boreholes. The augers were decontaminated prior to use on-site and between each boring location to prevent cross-contamination. Decontamination techniques consisted of pressure washing the augers with tap water and brushing with stiff-bristle brushes to remove all particulate material and then rinsing with clean tap water. The augers were stored and transported carefully in order to minimize contact with extraneous surfaces. The borings were advanced below the water table to total depths that ranged from 14.1 feet bgs at MW-1 to 16.0 feet bgs at MW-4. The water table was encountered at depths that ranged from 1.0 feet bgs at MW-2 to 5.6 feet bgs at MW-4. The monitoring wells were completed by removing the pine knock-out plug from the hollow stem auger and then inserting the completed well materials through the augers. The

wells were completed using flush thread two-inch diameter schedule 40 PVC materials including a sediment trap (three to four-inch point) fitted at the bottom of the well and threaded onto a 10 foot section of 0.01 inch slotted well screen threaded onto a section of riser (well casing) that was extended from the top of the screened interval to at least 1.25 feet above ground surface. A sand filter pack consisting of washed, medium grain silica sand (BX 20/30, 50 lb. bags) was then placed around the well screen through the hollow stem augers by pouring the first bag slowly from the top of the auger string. The auger string was removed and the remainder of the filter pack was placed by slowly pouring from the ground surface. The sand packs were placed from the total depth of the borings and extended above the well screen. The sand pack heights above the well screen ranged from 1.5 feet at MW-2 to 2.3 feet at MW-4. Well construction details are provided on the boring logs included in Appendix V.

IV. Method used to seal well from the surface and any other features designed to prevent or minimize downward migration of contaminants along the well annulus; and

A bentonite seal was placed above the top of the filter pack of each monitor well and extended to just below the ground surface ground surface by slowly pouring from the bag at ground surface. The bentonite seal consisted of medium size PureGold chips. The bentonite seals ranged in thickness from 1.25 feet at MW-1 to 2.05 feet at MW-2. The bentonite chips were hydrated using potable water subsequent to placement. The wellheads were fitted with expandable locking plugs subsequent to completion.

V. Description of the methods and procedures used to develop the wells

The wells were developed by manual bailing using disposable bailers fitted with nylon string. The wells were bailed until the water became noticeably free of fines.

vi. Description of all sampling and analysis procedures, including at a minimum:

I. Procedures and timing for measuring groundwater elevations for each sampling event

The wells were opened and allowed to vent for thirty minutes prior to obtaining measurements. Water levels were measured successively from one well to the next after the thirty minute waiting

period and were completed within 7 minutes after the first measurement. It should be noted that the water level indicator was rinsed with distilled water to prevent cross-contamination between each location. The water level measurement was obtained from the highest point on the PVC well casing, and was consistent with the point used to obtain the TOC elevation. Table 1, Appendix VI, is a summary of water level data obtained during this investigation.

II. Well evacuation procedures including volume evacuated prior to sampling

Groundwater samples were collected from the monitoring wells on April 7, 2004. The monitoring wells were purged using low-flow peristaltic pumps (GeoPump II) dedicated to each well. The pumps were fitted with new silicon (3/16-inch X 3/8-inch) and polyethylene (3/16-inch X 5/16-inch) tubing and the tubing intake was set just below the water level in each well. An equipment blank sample (EB-1) was collected from the tubing stock used to outfit the peristaltic pumps. The wells were purged for more than four hours each and purge volumes ranged from a low of 8.5 gallons at MW-3 to 21 gallons at MW-1. Monitoring wells MW-3 and MW-4 periodically ran dry at the lowest pump setting and sufficient time for recharge had to be allotted. Turbidity measurements were performed periodically at each well during the purge process. Groundwater samples were collected after turbidity values became stable at less than 5.0 NTUs. Table 2, Appendix VI, is a summary of well purge data collected during this investigation.

III. Sample withdrawal techniques, sampling equipment and materials (tubing, rope, pump, etc.)

The groundwater samples were collected in laboratory prepared containers directly from the discharge tubing of the peristaltic pumps. An equipment blank sample (EB-1) was collected from the tubing stock used to outfit the peristaltic pumps.

IV. Sample handling and preservation techniques

The sample containers were prepared by the laboratory and included one 500 ml clear plastic bottle with nitric acid as a preservative for total lead analyses and three 40 ml VOA glass bottles with teflon septa and hydrochloric acid as a preservative for the acetone analyses. The samples were placed in a secure cooler and on ice subsequent to collection. The samples were maintained at approximately 4.0 degrees centigrade subsequent to collection and during transport to the laboratory.

V. Procedures for decontaminating sampling equipment between samples and sampling events

The four monitoring wells were sampled once using a dedicated peristaltic pump with new tubing at each well and decontamination between samples and sampling events was not necessary. An equipment blank sample (EB-1) was collected from the tubing stock used to outfit the peristaltic pumps.

VI. Chain-of-custody procedures for all phases of sample management; and

Chain-of-custody for the samples was maintained throughout sample collection, transport and delivery to the analytical laboratory using completed laboratory provided triplicate custody forms.

VII. Laboratory analytical techniques, including references to the analytical methods used, if standard, or in cases where standard analytical techniques do not exist, descriptions of the analytical methods used, including quality assurance and quality control procedures utilized;

The groundwater and equipment blank samples were analyzed for total lead and acetone in accordance with EPA methods 6010 and 8260, respectively. STL-Savannah Labs, an EPD certified laboratory, performed the laboratory analytical procedures. Table 3, Appendix VI, is a summary of the analytical results obtained during this investigation. A copy of the laboratory analytical report is included as Appendix VII.

vii. A description of procedures used to determine background groundwater quality which is representative of ground water not affected by a release

Groundwater quality was not found to be impacted by a release at the site. Therefore procedures to determine background groundwater quality were not employed except that MW-1 was installed upgradient and toward the property boundary from the HGBD sample location B-8. Lead and acetone were not detected in any groundwater sample collected from the site during this investigation above the laboratory reporting limits of 0.005 mg/l and 50 ug/l, respectively.

- viii. A map with scale of 1 inch = 200 feet or less depicting the horizontal extent of contamination**

Groundwater contamination was not observed during this investigation and a map depicting the horizontal extent of contamination is therefore not included.

- ix. A map with scale of 1 inch = 200 feet or less depicting the potentiometric surface of ground water**

Figure 5, Appendix I, is a potentiometric surface map prepared from water level and top-of-casing data obtained during this investigation.

- x. Maps and vertical cross-sections of appropriate scale depicting concentrations for all contaminants superimposed upon site stratigraphic features and monitoring wells; and**

Contaminants were not detected in the groundwater on-site during this investigation. Vertical cross-sections depicting contaminant concentrations are therefore not included.

- xi. Narrative and tabular summary of all pertinent field data and the results of all final laboratory analyses that are supported by sufficient quality assurance/quality control data to validate the results.**

The analytical results obtained during this investigation indicate that groundwater quality is not impacted above Type I risk reduction standards. Lead was not detected in any groundwater sample or the equipment blank sample collected from the site during this investigation above the laboratory reporting limit (0.005 mg/l). Acetone was not detected in any groundwater sample or the equipment blank sample collected from the site during this investigation above the laboratory reporting limit (50 ug/l). Laboratory QA/QC data indicate that the analyses meet all accreditation requirements for the specified parameters. The groundwater analytical results are therefore considered valid.

Table 1, Appendix IV, is a summary of water levels and water level elevations recorded at the site.

Table 2, Appendix IV, is a summary of well purge data including purge volumes and turbidity measurements recorded during the groundwater sampling event.

Table 3, Appendix IV, is a summary of the groundwater and equipment blank analytical results obtained for this investigation.

A copy of the laboratory report and chain-of-custody for the samples collected during this investigation are included in Appendix VII.

- 4. A description of any human or environmental receptors who may have been or could be potentially exposed to a release at the site.**

Groundwater contamination was not observed at the site and groundwater quality meets the Type I risk reduction standard. Therefore, no human or environmental receptors that may have been or could potentially be exposed were identified. A contaminant release to groundwater was not documented during this investigation. The Lamar canal and the Savannah River are the most proximate surface water bodies to the site and are located approximately 200 feet and 550 feet downgradient of the site, respectively.

- 5. A description of all properties which are part of the site including the address and location of such property, its legal description, and the property owners name, address and telephone number.**

The subject site is a single parcel of land, located at 1000 East President Street in Savannah, Georgia. Figure 1, is a site location map prepared from the USGS 7.5 minute Savannah, GA/SC Quadrangle, 1978. The property legal description is provided in Appendix VIII.

The property is currently owned by: Reese and Company, Inc.
Attn: Mr. Jack Reese (912) 236-4233
703 Louisville Road
Suite D
Savannah, Georgia 31401

- 6. The name address and telephone number of any other person who may be a responsible party for the site and a description of the type and amount of regulated substances such party may have contributed to a release.**

International Paper Company has been identified as an additional responsible party for the subject site pursuant to Rule 391-3-19-.02. The facility was formerly owned and operated by the Union Camp Corporation (now International Paper) from 1966 to 1986. Union Camp used the property for turpentine bottling and then for tall oil storage and distribution (International Paper

Company letter to EPD, Appendix IV). Tall oil storage or distribution was not performed by the current owner.

The EPD Southeast Region issued a Notice of Violation (NOV) for unpermitted solid waste disposal at the site in a letter dated February 12, 1997. The letter indicated that an unknown quantity of crude Tall Oil had been spilled onto the soil and into surrounding surface waters.

A sample of the released tall oil described by EPD in the February 1997 NOV was obtained from the ground surface adjacent to Tall Oil AST #2 and labeled "sludge". This sample was analyzed for BTEX (8020) BNA (8270), the eight RCRA metals (6010/7471) and by the toxicity characteristic leaching process method (TCLP, EPA method 1311) for lead.

The soil quality results indicated that the sludge sample was the only sample collected from the site in which constituents were detected above the Hazardous Site Response Act (HSRA) Notification Concentrations (NCs). The sludge constituents detected above the NCs were lead, 2,6-Dinitrotoluene and Bis(2-ethylhexyl)phthalate. The reported concentrations for these constituents detected in the sludge sample were 565 mg/kg, 1.73 mg/kg, and 86 mg/kg, respectively. The sludge TCLP result for lead was <0.50 mg/l. This information indicates that the tall oil sludge was the source of regulated constituents released at the site. The impacted sludge and soil was removed from the site in April 1997.

The address and telephone number for International Paper Company is;

International Paper Company
Attn: Mr. James Leitheiser (904) 928-8937
4600 Touchton Road East
Suite 500
Jacksonville, Florida 32246

- 7. A summary of any previous actions taken to eliminate, control, or minimize any potential risk at the site, including actions taken to comply with the risk reduction standards of Rule 391-3-19-.07.**

The HGBD assessment recommended that all sludge and contact soils be removed from the area of the Tall Oil ASTs and disposed of at an approved off-site facility. The assessment report was submitted to EPD in April 1997. EPD responded in a letter dated April 14, 1997 with comments including HSRA notification requirements and a request that remediation confirmatory samples be collected during the sludge and soil removal activity. EPD reminded the owner that if

the impacted soil was successfully removed from the site within 30 days of detection, then Division notification would not be required.

Soil excavation and disposal was performed by Soil Safe Inc., and directed by HGBD in April, 1997. The sludge and contact soil was excavated from the site and rendered suitable for recycling by solidification/stabilization technology at the Soil Safe facility in Newington, Georgia. 293.55 tons of material were removed from the site and treated by Soil Safe. Four soil samples for remediation confirmation were collected from the excavation floor subsequent to excavation. The samples were analyzed for BNA (8270), and total lead (6010). BNA constituents were not detected in any of the confirmatory soil samples. Lead concentrations at the floor of the excavation ranged from 11.0 mg/kg to 276 mg/kg. Additional over-excavation was not performed because constituent concentrations were not detected above NCs in the confirmatory soil samples. HGBD prepared a Corrective Action Report in May 1997 documenting the mitigation work performed. The report was submitted to the EPD and the EPD responded in a letter dated June 6, 1997 that the owner had satisfied all of the Divisions requests stated in the Notice of Violation dated February 12, 1997. Subsequent sampling confirms that groundwater has not been impacted.

8. **If the responsible party certifies pursuant to Rule 391-3-19-.06(4)(c) that the site is not in compliance with any of the risk reduction standards of Rule 391-3-19-.07, the compliance status report may include a proposed corrective action plan that describes the corrective action that the responsible party has determined is necessary to achieve compliance with the applicable risk reduction standards of Rule 391-3-19-.07.**

Groundwater quality meets the Type I risk reduction standards for lead and acetone.

9. **If the responsible party certifies pursuant to Rule 391-3-19-.06(4)(c) that the site is in compliance with the Type 3, Type 4, or Type 5 risk reduction standards of Rule 391-3-19-.07, the compliance status report may include a proposed corrective action plan that describes the continuing actions that the responsible party has determined are necessary to achieve or maintain compliance with the Type 3, Type 4, or Type 5 risk reductions standards.**

Groundwater quality meets the Type I risk reduction standards for lead and acetone.

CONCLUSIONS AND RECOMMENDATIONS

EMC completed a compliance status report and compliance certification in accordance with HSRA Rules 391-3-19-06(3) and 391-3-19-06(4) on behalf of the owner. Groundwater quality impact above HSRA groundwater criteria concentrations for lead and acetone was previously reported by others and was based on suspect data. The results of this investigation indicate that groundwater quality is not impacted by lead and acetone at levels equal to or above 0.005 mg/l for lead and 50 ug/l for acetone.

EMC recommends that no further action be required at this site pursuant to Rule 391-3-19. Furthermore, EMC recommends that this site be removed from the Hazardous Site Inventory based on the information provided in this document.

Georgia Department of Natural Resources

2 Martin Luther King Jr. Drive, SE, Suite 1462 East, Atlanta, Georgia 30334

Noel Holcomb, Commissioner

Environmental Protection Division

Carol A. Couch, Ph.D., Director

404-657-8600

November 12, 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

FILE COPY

Reese & Company, Inc.
c/o Mr. John S. Reese
P. O. Box 23588
Savannah, Georgia 31403

RE: Removal from the Hazardous Site Inventory
HSI #10503, Reese & Co. site
1000 East President Street
Savannah, Chatham County, Georgia 31404

Dear Mr. Reese:

On April 8, 1998, the Reese & Company property in Savannah, Chatham County, Georgia was listed on the Hazardous Site Inventory (HSI) due to a determination that a release of lead and acetone to groundwater exceeded a reportable quantity pursuant to §391-3-19-.05(1) of the Rules for Hazardous Site Response (Rules). A review of your compliance status report dated June 2004 reported that contaminated soil was excavated from the property within 30 days of the discovery pursuant to the exclusion found at §391-3-19-.04(2)(a) of the Rules and that improper sampling techniques were utilized during the original groundwater sampling. Based on the soil confirmation results presented in the May 1997 Corrective Action Report and the recent groundwater sampling conducted at the site, EPD has determined there was not a release exceeding a reportable quantity at the time of listing, and pursuant to §391-3-19-.05(4)(a) of the Rules, is removing this site from the HSI as of the date of this letter.

EPD is not required to provide notice to the public of the removal of a site from the HSI when the removal is made pursuant to §391-3-19-.05(4)(a) of the Rules. If you wish to provide such notice, please provide a copy of the public notice to EPD for review and comment prior to publication.

Please direct any questions or comments regarding this matter to Ms. Jacki Scarbary of the Hazardous Sites Response Program at (404) 657-8600.

Sincerely,



Mark Smith
Chief

Hazardous Waste Management Branch

c: John S. Reese & Michael E. Bart
William Lyons, EMC Engineering

File: HSI # 10503

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