

Alabama Department of Environmental Management  
adem.alabama.gov

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DEC 12 2016

Andrew G. Bradley  
Sr. V.P. Environmental Affairs  
Unimin Corporation  
258 Elm Street  
New Canaan, CT 06840

RE: Draft Permit  
Tuscaloosa Plant  
NPDES Permit No. AL0063649  
Tuscaloosa County (125)

Dear Mr. Bradley:

An error was made on the Draft Permit that was mailed out on November 18, 2016. The draft permit did not contain the correct language for Part I.D. Discharge Reporting Requirements. Please be aware that we have made corrections and have enclosed a copy of the corrected permit.

Should you have any questions concerning this matter, please contact Jasmine Martin at (334) 270-5622 or [jasmine.martin@adem.alabama.gov](mailto:jasmine.martin@adem.alabama.gov).

Sincerely,

  
Catherine McNeill, Chief  
Mining and Natural Resource Section  
Stormwater Management Branch  
Water Division

CAM/jm

File: DPER/12644

Enclosure

cc: Jasmine Martin, ADEM  
Environmental Protection Agency  
Department of Conservation and Natural Resources  
U.S. Fish and Wildlife Service  
Alabama Historical Commission  
Advisory Council on Historic Preservation  
Alabama Department of Labor





# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE: Unimin Corporation  
258 Elm Street  
New Canaan, CT 06840

FACILITY LOCATION: Tuscaloosa Plant  
2400 Crabtree Road  
Tuscaloosa, AL 35405  
Tuscaloosa County  
T22S, R10W, Sections 9, 10, 15, and 16

PERMIT NUMBER: AL0063649

DSN & RECEIVING STREAM: 001-1 Cypress Creek/Groundwater  
002-1 Cypress Creek/Groundwater

*In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-16, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

**\*\* DRAFT \*\***

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Alabama Department of Environmental Management

**MINING AND NATURAL RESOURCE SECTION  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT**

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## PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

### A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency <sup>1</sup>
pH 00400	6.0 s.u.	-----	8.5 s.u.	Grab	2/Month
Solids, Total Suspended 00530	-----	25.0 mg/L	45.0 mg/L	Grab	2/Month
Flow, In Conduit or Thru Treatment Plant <sup>2</sup> 50050	-----	Report MGD	Report MGD	Instantaneous	2/Month
Toxicity, Ceriodaphnia Chronic <sup>3</sup> 61426	-----	-----	0 pass(0)/fail(1)	Grab	Quarterly
Toxicity, Pimephales Chronic <sup>3</sup> 61428	-----	-----	0 pass(0)/fail(1)	Grab	Quarterly

### B. REQUIREMENTS TO ACTIVATE A PROPOSED MINING OUTFALL

1. Discharge from any point source identified on Page 1 of this Permit which is a proposed outfall is not authorized by this Permit until the outfall has been constructed and certification received by the Department from a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed according to good engineering practices and in accordance with the Pollution Abatement and/or Prevention (PAP) Plan.
2. Certification required by Part I.B.1. shall be submitted on a completed ADEM Form 432. The certification shall include the latitude and longitude of the constructed and certified outfall.
3. Discharge monitoring and Discharge Monitoring Report (DMR) reporting requirements described in Part I.C. of this Permit do not apply to point sources that have not been constructed and certified.
4. Upon submittal of the certification required by Part I.B.1. to the Department, all monitoring and DMR submittal requirements shall apply to the constructed and certified outfall.

### C. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

<sup>1</sup> See Part I.C.2. for further measurement frequency requirements.

<sup>2</sup> Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.

<sup>3</sup> See Part IV.A. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity. Monitoring will not be required provided the Permittee submits quarterly certification of non-use of maintenance chemicals. If monitoring is not applicable during a monitoring period, the Permittee shall report "NODI=9" or "\*9" on the Discharge Monitoring Report.

**1. Sampling Schedule and Frequency**

- a. The Permittee shall collect at least one grab sample of the discharge to surface waters from each constructed and certified point source identified on Page 1 of this Permit and described more fully in the Permittee's application twice per month at a rate of at least every other week if a discharge occurs at any time during the two week period, but need not collect more than two samples per calendar month. Each sample collected shall be analyzed for each parameter specified in Part I.A. of this Permit.
- b. If the final effluent is pumped in order to discharge (e.g. from incised ponds, old highwall cuts, old pit areas or depressions, etc.), the Permittee shall collect at least one grab sample of the discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application each quarterly (three month) monitoring period if a discharge occurs at any time during the quarterly monitoring period which results from direct pumped drainage. Each sample collected shall be analyzed for each parameter specified in Part I.A. of this Permit.
- c. The Permittee may increase the frequency of sampling listed in Parts I.C.1.a and I.C.1.b; however, all sampling results must be reported to the Department and included in any calculated results submitted to the Department in accordance with this Permit.

**2. Measurement Frequency**

Measurement frequency requirements found in Part I.A. shall mean:

- a. A measurement frequency of one day per week shall mean sample collection on any day of discharge which occurs every calendar week.
- b. A measurement frequency of two days per month shall mean sample collection on any day of discharge which occurs every other week, but need not exceed two sample days per month.
- c. A measurement frequency of one day per month shall mean sample collection on any day of discharge which occurs during each calendar month.
- d. A measurement frequency of one day per quarter shall mean sample collection on any day of discharge which occurs during each calendar quarter.
- e. A measurement frequency of one day per six months shall mean sample collection on any day of discharge which occurs during the period of January through June and during the period of July through December.
- f. A measurement frequency of one day per year shall mean sample collection on any day of discharge which occurs during each calendar year.

**3. Monitoring Schedule**

The Permittee shall conduct the monitoring required by Part I.A. in accordance with the following schedule:

- a. MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this Permit and every month thereafter. More frequently than monthly and monthly monitoring may be done anytime during the month, unless restricted elsewhere in

this Permit, but the results should be reported on the last Discharge Monitoring Report (DMR) due for the quarter (i.e., with the March, June, September, and December DMRs).

- b. QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The Permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this Permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this Permit, but the results should be reported on the last DMR due for the quarter (i.e., with the March, June, September, and December DMRs).
- c. SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The Permittee shall conduct the semiannual monitoring during the first complete semiannual calendar period following the effective date of this Permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this Permit, but it should be reported on the last DMR due for the month of the semiannual period (i.e., with the June and December DMRs).
- d. ANNUAL MONITORING shall be conducted at least once during the period of January through December. The Permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this Permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this Permit, but it should be reported on the December DMR.

**4. Sampling Location**

Unless restricted elsewhere in this Permit, samples collected to comply with the monitoring requirements specified in Part I.A. shall be collected at the nearest accessible location just prior to discharge and after final treatment, or at an alternate location approved in writing by the Department.

**5. Representative Sampling**

Sample collection and measurement actions taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this Permit.

**6. Test Procedures**

For the purpose of reporting and compliance, Permittees shall use one of the following procedures:

- a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136, guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h), and ADEM Standard Operating Procedures. If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this Permit the Permittee shall use the newly approved method.

- b. For pollutant parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the Permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

- c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures identified in Parts I.C.6.a. and b. shall be reported on the Permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

**7. Recording of Results**

For each measurement or sample taken pursuant to the requirements of this Permit, the Permittee shall record the following information:

- a. The facility name and location, point source number, date, time, and exact place of sampling or measurements;
- b. The name(s) of person(s) who obtained the samples or measurements;
- c. The dates and times the analyses were performed;
- d. The name(s) of the person(s) who performed the analyses;
- e. The analytical techniques or methods used including source of method and method number; and
- f. The results of all required analyses.

**8. Routine Inspection by Permittee**

- a. The Permittee shall inspect all point sources identified on Page 1 of this Permit and described more fully in the Permittee's application and all treatment or control facilities or systems used by the Permittee to achieve compliance with the terms and conditions of this Permit at least as often as the applicable sampling frequency specified in Part I.C.1 of this Permit.
- b. If required by the Director, the Permittee shall maintain a written log for each point source identified on Page 1 of this Permit and described more fully in the Permittee's application in which the Permittee shall record the following information:
  - (1) The date and time the point source and any associated treatment or control facilities or systems were inspected by the Permittee;

- (2) Whether there was a discharge from the point source at the time of inspection by the Permittee;
- (3) Whether a sample of the discharge from the point source was collected at the time of inspection by the Permittee;
- (4) Whether all associated treatment or control facilities or systems appeared to be in good working order and operating as efficiently as possible, and if not, a description of the problems or deficiencies; and
- (5) The name and signature of the person performing the inspection of the point source and associated treatment or control facilities or systems.

**9. Records Retention and Production**

- a. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the above reports or the application for this Permit, for a period of at least three (3) years from the date of the sample collection, measurement, report, or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA, AEMA, and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director, the Permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records should not be submitted unless requested.
- b. All records required to be kept for a period of three (3) years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

**10. Monitoring Equipment and Instrumentation**

All equipment and instrumentation used to determine compliance with the requirements of this Permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The Permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

**D. DISCHARGE REPORTING REQUIREMENTS**

**1. Requirements for Reporting of Monitoring**

- a. Monitoring results obtained during the previous three (3) months shall be summarized for each month on a Discharge Monitoring Report (DMR) Form approved by the Department, and submitted to the Department so that it is received by the Director no later than the 28<sup>th</sup> day of the month following the quarterly reporting period (i.e., on the 28<sup>th</sup> day of January, April, July, and October of each year).
- b. The Department utilizes a web-based electronic environmental (E2) reporting system for submittal of DMRs. **Except as allowed by Part I.D.1.c. or d., the Permittee shall submit all DMRs required by Part I.D.1.a. by utilizing the E2 reporting system.** The E2

reporting system Permittee Participation Package may be downloaded online at <https://e2.adem.alabama.gov/npdes>.

- c. If the electronic environmental (E2) reporting system is down (i.e. electronic submittal of DMR data is unable to be completed due to technical problems originating with the Department's system; this could include entry/submittal issues with an entire set of DMRs or individual parameters), permittees are not relieved of their obligation to submit DMR data to the Department by the required submittal date. However, if the E2 system is down on the 28th day of the month or is down for an extended period of time as determined by the Department when a DMR is required to be submitted, the facility may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the E2 system resuming operation, the Permittee shall enter the data into the E2 reporting system unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date).
- d. The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable. Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The Permittee shall submit the Department-approved DMR forms to the address listed in Part I.D.1.j.
- e. If the Permittee, using approved analytical methods as specified in Part I.C.6., monitors any discharge from a point source identified on Page 1 of this Permit and describe more fully in the Permittee's application more frequently than required by this Permit; the results of such monitoring shall be included in the calculation and reporting of values on the DMR Form, and the increased frequency shall be indicated on the DMR Form.
- f. In the event no discharge from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application occurs during a monitoring period, the Permittee shall report "No Discharge" for such period on the appropriate DMR Form.
- g. The Permittee shall report "No Discharge During Quarterly Monitoring Period" on the appropriate DMR Form for each point source receiving pumped discharges pursuant to Part I.C.1.b. provided that no discharge has occurred at any time during the entire quarterly (three month) monitoring period.
- h. Each DMR Form submitted by the Permittee to the Department in accordance with Part I.D.1. must be legible and bear an original signature or electronic signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.
- i. All reports and forms required to be submitted by this Permit, the AWPCA, and the Department's rules and regulations, shall be signed by a "responsible official" of the Permittee as defined in ADEM Admin. Code r. 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Admin. Code r. 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed

to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- j. All DMRs, reports, and forms required to be submitted by this Permit, the AWPCA and the Department's rules and regulations, shall be addressed to:

Alabama Department of Environmental Management  
Water Division, Mining and Natural Resource Section  
Post Office Box 301463  
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management  
Water Division, Mining and Natural Resource Section  
1400 Coliseum Boulevard  
Montgomery, Alabama 36110-2059

- k. Unless authorized in writing by the Department, approved reporting forms required by this Permit or the Department are not to be altered, and if copied or reproduced, must be consistent in format and identical in content to the ADEM approved form. Unauthorized alteration, falsification, or use of incorrectly reproduced forms constitutes noncompliance with the requirements of this Permit and may significantly delay processing of any request, result in denial of the request, result in permit termination, revocation, suspension, modification, or denial of a permit renewal application, or result in other enforcement action.
- l. If this Permit is a reissuance, then the Permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.D.1.

## **2. Noncompliance Notification**

- a. The Permittee must notify the Department if, for any reason, the Permittee's discharge:
- (1) Potentially threatens human health or welfare;
  - (2) Potentially threatens fish or aquatic life;
  - (3) Causes an in-stream water quality criterion to be exceeded;
  - (4) Does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. §1317(a);
  - (5) Contains a quantity of a hazardous substance which has been determined may be harmful to the public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. §1321(b)(4); or
  - (6) Exceeds any discharge limitation for an effluent parameter as a result of an unanticipated bypass or upset.

The Permittee shall orally or electronically report any of the above occurrences, describing the circumstances and potential effects of such discharge to the Director within 24-hours after the Permittee becomes aware of the occurrence of such discharge. In addition to the oral or electronic report, the Permittee shall submit to the Director a written report as provided in Part I.D.2.c., no later than five (5) days after becoming aware of the occurrence of such discharge.

- b. If for any reason, the Permittee's discharge does not comply with any limitation of this Permit, the Permittee shall submit a written report to the Director as provided in Part I.D.2.c. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Part I.D.1. of this Permit after becoming aware of the occurrence of such noncompliance.
- c. Form 401 or 421 must be submitted to the Director in accordance with Parts I.D.2.a. and b. The completed form must document the following information:
  - (1) A description of the discharge and cause of noncompliance;
  - (2) The period of noncompliance, including exact dates, times, and duration of the noncompliance. If not corrected by the due date of the written report, then the Permittee is to state the anticipated timeframe that is expected to transpire before the noncompliance is resolved; and
  - (3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

**3. Reduction, Suspension, or Termination of Monitoring and/or Reporting**

- a. The Director may, with respect to any point source identified on Page 1 of this Permit and described more fully in the Permittee's application, authorize the Permittee to reduce, suspend, or terminate the monitoring and/or reporting required by this Permit upon the submission of a written request for such reduction, suspension, or termination by the Permittee provided:
  - (1) All mining, processing, or disturbance in the drainage basin(s) associated with the discharge has ceased and site access is adequately restricted or controlled to preclude unpermitted and unauthorized mining, processing, transportation, or associated operations/activity;
  - (2) Permanent, perennial vegetation has been re-established on all areas mined or disturbed for at least one year since mining has ceased in the drainage basin(s) associated with the surface discharge, or all areas have been permanently graded such that all drainage is directed back into the mined pit to preclude all surface discharges;
  - (3) Unless waived in writing by the Department, the Permittee has been granted, in writing, a 100% Bond Release, if applicable, by the Alabama Department of Industrial Relations and, if applicable, by the Surface Mining Commission for all areas mined or disturbed in the drainage basin(s) associated with the discharge;
  - (4) Unless waived in writing by the Department, the Permittee has submitted inspection reports prepared and certified by a Professional Engineer (PE) registered in the State of Alabama or a qualified professional under the PE's direction which certify that the facility has been fully reclaimed or that water quality remediation has been achieved. The first inspection must be conducted approximately one year prior to and the second inspection must be conducted

within thirty days of the Permittee's request for termination of monitoring and reporting requirements;

- (5) All surface effects of the mining activity such as fuel or chemical tanks, preparation plants or equipment, old tools or equipment, junk or debris, etc., must be removed and disposed of according to applicable state and federal regulations;
  - (6) The Permittee's request for termination of monitoring and reporting requirements contained in this Permit has been supported by monitoring data covering a period of at least six consecutive months or such longer period as is necessary to assure that the data reflect discharges occurring during varying seasonal climatological conditions;
  - (7) The Permittee has stated in its request that the samples collected and reported in the monitoring data submitted in support of the Permittee's request for monitoring termination or suspension are representative of the discharge and were collected in accordance with all Permit terms and conditions respecting sampling times (e.g., rainfall events) and methods and were analyzed in accordance with all Permit terms and conditions respecting analytical methods and procedures;
  - (8) The Permittee has certified that during the entire period covered by the monitoring data submitted, no chemical treatment of the discharge was provided;
  - (9) The Permittee's request has included the certification required by Part I.D.1.e. of this Permit; and
  - (10) The Permittee has certified to the Director in writing as part of the request, its compliance with (1) through (9) above.
- b. It remains the responsibility of the Permittee to comply with the monitoring and reporting requirements of this Permit until written authorization to reduce, suspend, or terminate such monitoring and/or reporting is received by the Permittee from the Director.

## **E. OTHER REPORTING AND NOTIFICATION REQUIREMENTS**

### **1. Anticipated Noncompliance**

The Permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

### **2. Termination of Discharge**

The Permittee shall notify the Director, in writing, when all discharges from any point source(s) identified on Page 1 of this Permit and described more fully in the Permittee's application have permanently ceased.

### **3. Updating Information**

- a. The Permittee shall inform the Director of any change in the Permittee's mailing address or telephone number or in the Permittee's designation of a facility contact or officer(s) having the authority and responsibility to prevent and abate violations of the AWPCA, the AEMA, the Department's rules and regulations, and the terms and conditions of this Permit, in writing, no later than ten (10) days after such change. Upon request of the Director, the Permittee shall furnish the Director with an update of any information provided in the permit application.

- b. If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

**4. Duty to Provide Information**

- a. The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, terminating, or revoking and reissuing this Permit, in whole or in part, or to determine compliance with this Permit. The Permittee shall also furnish to the Director upon request, copies of records required to be maintained by this Permit.
- b. The Permittee shall furnish to the Director upon request, within a reasonable time, available information (name, phone number, address, and site location) which identifies offsite sources of material or natural resources (mineral, ore, or other material such as iron, coal, coke, dirt, chert, shale, clay, sand, gravel, bauxite, rock, stone, etc.) used in its operation or stored at the facility.

**F. SCHEDULE OF COMPLIANCE**

The Permittee shall achieve compliance with the discharge limitations specified in Part I.A. of this Permit in accordance with the following schedule:

**Compliance must be achieved by the effective date of this Permit.**

## **PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES**

### **A. OPERATIONAL AND MANAGEMENT REQUIREMENTS**

#### **1. Facilities Operation and Management**

The Permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of this Permit.

#### **2. Pollution Abatement and/or Prevention Plan**

The Pollution Abatement and/or Prevention (PAP) Plan shall be prepared and certified by a registered Professional Engineer (PE), licensed to practice in the State of Alabama, and shall include at a minimum, the information indicated in ADEM Admin. Code r. 335-6-9-.03 and ADEM Admin. Code ch. 335-6-9 Appendices A and B. The PAP Plan shall become a part of this Permit and all requirements of the PAP Plan shall become requirements of this Permit pursuant to ADEM Admin. Code r. 335-6-9-.05(2).

#### **3. Best Management Practices (BMPs)**

- a. Unless otherwise authorized in writing by the Director, the Permittee shall provide a means of subsurface withdrawal for any discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application. Notwithstanding the above provision, a means of subsurface withdrawal need not be provided for any discharge caused by a 24-hour precipitation event greater than a 10-year, 24-hour precipitation event.
- b. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director has granted prior written authorization for dilution to meet water quality requirements.
- c. The Permittee shall minimize the contact of water with overburden, including but not limited to stabilizing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, sealing acid-forming and toxic-forming materials, and maximizing placement of waste materials in back-fill areas.
- d. The Permittee shall prepare, submit to the Department for approval, and implement a Best Management Practices (BMPs) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a potential for discharge, if so required by the Director. When submitted and approved, the BMP Plan shall become a part of this Permit and all requirements of the BMP Plan shall become requirements of this Permit.
- e. Spill Prevention, Control, and Management

The Permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan acceptable to the Department that is prepared and certified by a Professional Engineer (PE), registered in the State of Alabama, for all onsite petroleum product or other pollutant storage tanks or containers as required by applicable state (ADEM Admin. Code r. 335-6-6-.12(r)) and federal (40 C.F.R. §§112.1-.7) regulations. The Permittee shall implement appropriate structural and/or non-structural spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a

ground or surface water of the State or a publicly or privately owned treatment works. Careful consideration should be applied for tanks or containers located near treatment ponds, water bodies, or high traffic areas. In most situations this would require construction of a containment system if the cumulative storage capacity of petroleum products or other pollutants at the facility is greater than 1320 gallons. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. Such containment systems shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided. The applicant shall maintain onsite or have readily available flotation booms to contain, and sufficient material to absorb, fuel and chemical spills and leaks. Soil contaminated by chemical spills, oil spills, etc., must be immediately cleaned up or be removed and disposed of in an approved manner.

- f. All surface drainage and storm water runoff which originate within or enters the Permittee's premises and which contains any pollutants or other wastes shall be discharged, if at all, from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application.
- g. The Permittee shall take all reasonable precautions to prevent any surface drainage or storm water runoff which originates outside the Permittee's premises and which contains any pollutants or other wastes from entering the Permittee's premises. At no time shall the Permittee discharge any such surface drainage or storm water runoff which enters the Permittee's premises if, either alone or in combination with the Permittee's effluent, the discharge would exceed any applicable discharge limitation specified in Part I.A. of this Permit.

#### 4. Biocide Additives

- a. The Permittee shall notify the Director in writing not later than sixty (60) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in any cooling or boiler system(s) regulated by this Permit. Notification is not required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the Permittee. Such notification shall include:
  - (a) Name and general composition of biocide or chemical;
  - (b) 96-hour median tolerance limit data for organisms representative of the biota of the water(s) which the discharge(s) enter(s);
  - (c) Quantities to be used;
  - (d) Frequencies of use;
  - (e) Proposed discharge concentrations; and
  - (f) EPA registration number, if applicable.
- b. The use of any biocide or chemical additive containing tributyl tin, tributyl tin oxide, zinc, chromium, or related compounds in any cooling or boiler system(s) regulated by the Permit is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality

standards for these substances. The use of any additive, not identified in this Permit or in the application for this Permit or not exempted from notification under this Permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

**5. Facility Identification**

The Permittee shall clearly display prior to commencement of any regulated activity and until permit coverage is properly terminated, the name of the Permittee, entire NPDES permit number, facility or site name, and other descriptive information deemed appropriate by the Permittee at an easily accessible location(s) to adequately identify the site, unless approved otherwise in writing by the Department. The Permittee shall repair or replace the sign(s) as necessary upon becoming aware that the identification is missing or is unreadable due to age, vandalism, theft, weather, or other reason.

**6. Removed Substances**

Solids, sludges, filter backwash, or any other pollutants or other wastes removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department rules and regulations.

**7. Loss or Failure of Treatment Facilities**

Upon the loss or failure of any treatment facility, including but not limited to the loss or failure of the primary source of power of the treatment facility, the Permittee shall, where necessary to maintain compliance with the discharge limitations specified in Part I.A. of this Permit or any other terms or conditions of this Permit, cease, reduce, or otherwise control production and/or discharges until treatment is restored.

**8. Duty to Mitigate**

The Permittee shall promptly take all reasonable steps to minimize or prevent any violation of this Permit or to mitigate and minimize any adverse impact to waters resulting from noncompliance with any discharge limitation specified in Part I.A. of this Permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as is necessary to determine the nature and impact of the noncomplying discharge.

**B. BYPASS AND UPSET**

**1. Bypass**

- a. Any bypass is prohibited except as provided in Parts II.B.1.b. and c..
- b. A bypass is not prohibited if:
  - (1) It does not cause any applicable discharge limitation specified in Part I.A. of this Permit to be exceeded;
  - (2) The discharge resulting from such bypass enters the same receiving water as the discharge from the permitted outfall;
  - (3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system; and

- (4) The Permittee monitors the discharge resulting from such bypass at a frequency, at least daily, sufficient to prove compliance with the discharge limitations specified in Part I.A. of this Permit.
- c. A bypass is not prohibited and need not meet the discharge limitations specified in Part I.A. of this Permit if:
- (1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the Permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - (3) The Permittee submits a written request for authorization to bypass to the Director at least ten (10) days, if possible, prior to the anticipated bypass or within 24 hours of an unanticipated bypass, the Permittee is granted such authorization, and Permittee complies with any conditions imposed by the Director to minimize any adverse impact to waters resulting from the bypass.
- d. The Permittee has the burden of establishing that each of the conditions of Parts II.B.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in Part II.B.1.a. and an exemption, where applicable, from the discharge limitations specified in Part I.A. of this Permit.

## 2. Upset

- a. Except as provided in Parts II.B.2.b. and c., a discharge which results from an upset need not meet the applicable discharge limitations specified in Part I.A. of this Permit if:
- (1) No later than 24-hours after becoming aware of the occurrence of the upset, the Permittee orally reports the occurrence and circumstances of the upset to the Director; and
  - (2) No later than five (5) days after becoming aware of the occurrence of the upset, the Permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, design drawings, construction certification, maintenance records, weir flow measurements, dated photographs, rain gauge measurements, or other relevant evidence, demonstrating that:
    - (i) An upset occurred;
    - (ii) The Permittee can identify the specific cause(s) of the upset;
    - (iii) The Permittee's treatment facility was being properly operated at the time of the upset; and
    - (iv) The Permittee promptly took all reasonable steps to minimize any adverse impact to waters resulting from the upset.
- b. Notwithstanding the provisions of Part II.B.2.a., a discharge which is an overflow from a treatment facility or system, or an excess discharge from a point source associated with a treatment facility or system and which results from a 24-hour precipitation event larger

than a 10-year, 24-hour precipitation event is not exempted from the discharge limitations specified in Part I.A. of this Permit unless:

- (1) The treatment facility or system is designed, constructed, and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or to treat the maximum flow associated with these volumes.

In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the volume which would result from all areas contributing runoff to the individual treatment facility must be included (i.e., all runoff that is not diverted from the mining area and runoff which is not diverted from the preparation plant area); and

- (2) The Permittee takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow or excess discharge.

- c. The Permittee has the burden of establishing that each of the conditions of Parts II.B.2.a. and b. have been met to qualify for an exemption from the discharge limitations specified in Part I.A. of this Permit.

## **C. PERMIT CONDITIONS AND RESTRICTIONS**

### **1. Prohibition against Discharge from Facilities Not Certified**

- a. Notwithstanding any other provisions of this Permit, if the permitted facility has not obtained or is not required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which was not certified to the Department on a form approved by the Department by a professional engineer, registered in the State of Alabama, as being designed, constructed, and in accordance with plans and specifications reviewed by the Department is prohibited; or
- b. Notwithstanding any other provisions of this Permit, if the permitted facility has obtained or is required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which is associated with a treatment facility which was not constructed and certified to the Alabama Surface Mining Commission pursuant to applicable provisions of said Commission's regulations, is prohibited until the Permittee submits to the Alabama Surface Mining Commission, certification by a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed in accordance with plans and specifications approved by the Alabama Surface Mining Commission. This requirement shall not apply to pumped discharges from the underground works of underground coal mines where no surface structure is required by the Alabama Surface Mining Commission, provided the Department is notified in writing of the completion or installation of such facilities, and the pumped discharges will meet permit effluent limits without treatment.

### **2. Permit Modification, Suspension, Termination, and Revocation**

- a. This Permit may be modified, suspended, terminated, or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

- (1) The violation of any term or condition of this Permit;
  - (2) The obtaining of this Permit by misrepresentation or the failure to disclose fully all relevant facts;
  - (3) The submission of materially false or inaccurate statements or information in the permit application or reports required by the Permit;
  - (4) The need for a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
  - (5) The existence of any typographical or clerical errors or of any errors in the calculation of discharge limitations;
  - (6) The existence of material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;
  - (7) The threat of the Permittee's discharge on human health or welfare; or
  - (8) Any other cause allowed by ADEM Admin. Code ch. 335-6-6.
- b. The filing of a request by the Permittee for modification, suspension, termination, or revocation and reissuance of this Permit, in whole or in part, does not stay any Permit term or condition of this Permit.

**3. Automatic Expiration of Permits for New or Increased Discharges**

- a. Except as provided by ADEM Admin. Code r. 335-6-6-.02(g) and 335-6-6-.05, if this Permit was issued for a new discharger or new source, it shall expire eighteen months after the issuance date if construction has not begun during that eighteen month period.
- b. Except as provided by ADEM Admin. Code r. 335-6-6-.02(g) and 335-6-6-.05, if any portion of this Permit was issued or modified to authorize the discharge of increased quantities of pollutants to accommodate the modification of an existing facility, that portion of this Permit shall expire eighteen months after this Permit's issuance if construction of the modification has not begun within eighteen month period.
- c. Construction has begun when the owner or operator has:
  - (1) Begun, or caused to begin as part of a continuous on-site construction program:
    - (i) Any placement, assembly, or installation of facilities or equipment; or
    - (ii) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
  - (2) Entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of

Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

- d. The automatic expiration of this Permit for new or increased discharges if construction has not begun within the eighteen month period after the issuance of this Permit may be tolled by administrative or judicial stay.

**4. Transfer of Permit**

This Permit may not be transferred or the name of the Permittee changed without notice to the Director and subsequent modification or revocation and reissuance of this Permit to identify the new Permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership, or control of the Permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership, or control of the Permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership, or control, he may decide not to modify the existing Permit and require the submission of a new permit application.

**5. Groundwater**

Unless authorized on page 1 of this Permit, this Permit does not authorize any discharge to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem, and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

**6. Property and Other Rights**

This Permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the State or of the United States.

**D. RESPONSIBILITIES**

**1. Duty to Comply**

- a. The Permittee must comply with all terms and conditions of this Permit. Any permit noncompliance constitutes a violation of the AWPCA, AEMA, and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification, or denial of a permit renewal application.
- b. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the FWPCA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the effluent standard, prohibition or requirement.
- c. For any violation(s) of this Permit, the Permittee is subject to a civil penalty as authorized by the AWPCA, the AEMA, the FWPCA, and Code of Alabama 1975, §§22-22A-1 et. seq., as amended, and/or a criminal penalty as authorized by Code of Alabama 1975, §22-22-1 et. seq., as amended.

- d. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of this Permit shall not be a defense for a Permittee in an enforcement action.
- e. Nothing in this Permit shall be construed to preclude or negate the Permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, federal, state, or local government permits, certifications, licenses, or other approvals.
- f. The discharge of a pollutant from a source not specifically identified in the permit application for this Permit and not specifically included in the description of an outfall in this Permit is not authorized and shall constitute noncompliance with this Permit.
- g. The Permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this Permit or to minimize or prevent any adverse impact of any permit violation.

**2. Change in Discharge**

- a. The Permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants, increase the quantity of a discharged pollutant, or that could result in an additional discharge point. This requirement also applies to pollutants that are not subject to discharge limitations in this Permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.
- b. The Permittee shall notify the Director as soon as it knows or has reason to believe that it has begun or expects to begin to discharge any pollutant listed as a toxic pollutant pursuant to Section 307(a) of the FWPCA, 33 U.S.C. §1317(a), any substance designated as a hazardous substance pursuant to Section 311(b)(2) of the FWPCA, 33 U.S.C. §1321(b)(2), any waste listed as a hazardous waste pursuant to Code of Alabama 1975, §22-30-10, or any other pollutants or other wastes which is not subject to any discharge limitations specified in Part I.A. of this Permit and was not reported in the Permittee's application, was reported in the Permittee's application in concentrations or mass rates lower than that which the Permittee expects to begin to be discharged, or has reason to believe has begun to be discharged.

**3. Compliance with Toxic or Other Pollutant Effluent Standard or Prohibition**

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Sections 301(b)(2)(C),(D),(E) and (F) of the FWPCA, 33 U.S.C. §1311(b)(2)(C),(D),(E), and (F); 304(b)(2) of the FWPCA, 33 U.S.C. §1314(b)(2); or 307(a) of the FWPCA, 33 U.S.C. §1317(a), for a toxic or other pollutant discharged by the Permittee, and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Part I.A. of this Permit or controls a pollutant not limited in Part I.A. of this Permit, this Permit shall be modified to conform to the toxic or other pollutant effluent standard or prohibition and the Permittee shall be notified of such modification. If this Permit has not been modified to conform to the toxic or other pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the authorization to discharge in this Permit shall be void to the extent that any discharge limitation on such pollutant in Part I.A. of this Permit exceeds or is inconsistent with the established toxic or other pollutant effluent standard or prohibition.

**4. Compliance with Water Quality Standards and Other Provisions**

- a. On the basis of the Permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this Permit

will assure compliance with applicable water quality standards. However, this Permit does not relieve the Permittee from compliance with applicable State water quality standards established in ADEM Admin. Code ch. 335-6-10, and does not preclude the Department from taking action as appropriate to address the potential for contravention of applicable State water quality standards which could result from discharges of pollutants from the permitted facility.

- b. Compliance with Permit terms and conditions notwithstanding, if the Permittee's discharge(s) from point source(s) identified on Page 1 of this Permit cause(s) or contribute(s) to a condition in contravention of State water quality standards, the Department may require abatement action to be taken by the Permittee, modify the Permit pursuant to the Department's rules and regulations, or both.
- c. If the Department determines, on the basis of a notice provided pursuant to Part II.C.2. of this Permit or any investigation, inspection, or sampling, that a modification of this Permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the noticed act until the Permit has been modified.

**5. Compliance with Statutes and Rules**

- a. This Permit has been issued under ADEM Admin. Code div. 335-6. All provisions of this division, that are applicable to this Permit, are hereby made a part of this Permit. A copy of this division may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36110-2059.
- b. This Permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

**6. Right of Entry and Inspection**

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the Permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

**7. Duty to Reapply or Notify of Intent to Cease Discharge**

- a. If the Permittee intends to continue to discharge beyond the expiration date of this Permit, the Permittee shall file with the Department a complete permit application for reissuance of this Permit at least 180 days prior to its expiration.

- b. If the Permittee does not desire to continue the discharge(s) allowed by this Permit, the Permittee shall notify the Department at least 180 days prior to expiration of this Permit of the Permittee's intention not to request reissuance of this Permit. This notification must include the information required in Part I.D.4.a. and be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Admin. Code r. 335-6-6-.09.
  
- c. Failure of the Permittee to submit to the Department a complete application for reissuance of this Permit at least 180 days prior to the expiration date of this Permit will void the automatic continuation of this Permit provided by ADEM Admin. Code r. 335-6-6-.06; and should this Permit not be reissued for any reason, any discharge after the expiration of this Permit will be an unpermitted discharge.

## **PART III ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS**

### **A. CIVIL AND CRIMINAL LIABILITY**

#### **1. Tampering**

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under this Permit shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

#### **2. False Statements**

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished as provided by applicable State and Federal law.

#### **3. Permit Enforcement**

This NPDES Permit is a Permit for the purpose of the AWPCA, the AEMA, and the FWPCA, and as such all terms, conditions, or limitations of this Permit are enforceable under State and Federal law.

#### **4. Relief From Liability**

Except as provided in Part II.B.1. (Bypass) and Part II.B.2. (Upset), nothing in this Permit shall be construed to relieve the Permittee of civil or criminal liability under the AWPCA, AEMA, or FWPCA for noncompliance with any term or condition of this Permit.

### **B. OIL AND HAZARDOUS SUBSTANCE LIABILITY**

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Section 311 of the FWPCA, 33 U.S.C. §1321.

### **C. AVAILABILITY OF REPORTS**

Except for data determined to be confidential under Code of Alabama 1975, §22-22-9(c), all reports prepared in accordance with the terms of this Permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement in any such report may result in the imposition of criminal penalties as provided for in Section 309 of the FWPCA, 33 U.S.C. §1319, and Code of Alabama 1975, §22-22-14.

### **D. DEFINITIONS**

1. Alabama Environmental Management Act (AEMA) - means Code of Alabama 1975, §§22-22A-1 et. seq., as amended.
2. Alabama Water Pollution Control Act (AWPCA) - means Code of Alabama 1975, §§22-22-1 et. seq., as amended.
3. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar

month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

4. Arithmetic Mean - means the summation of the individual values of any set of values divided by the number of individual values.
5. BOD - means the five-day measure of the pollutant parameter biochemical oxygen demand
6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.
7. CBOD - means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.
8. Construction Sand and Gravel mine - means an area, on or beneath land, used or disturbed in activity related to the extraction, removal, or recovery of sand and/or gravel from natural or artificial deposits, including active mining, reclamation, and mineral storage areas.
9. Controlled Surface Mine Drainage – means any surface mine drainage that is pumped or siphoned from the active mining area.
10. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.
11. Daily maximum - means the highest value of any individual sample result obtained during a day.
12. Daily minimum - means the lowest value of any individual sample result obtained during a day.
13. Day - means any consecutive 24-hour period.
14. Department - means the Alabama Department of Environmental Management.
15. Director - means the Director of the Department or his authorized representative or designee.
16. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the state." Code of Alabama 1975, §22-22-1(b)(8).
17. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish monitoring report requirements of an NPDES Permit.
18. DO - means dissolved oxygen.
19. E. coli – means the pollutant parameter Escherichia coli.
20. 8HC - means 8-hour composite sample, including any of the following:
  - a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

- b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
21. EPA - means the United States Environmental Protection Agency.
22. Federal Water Pollution Control Act (FWPCA) - means 33 U.S.C. §§1251 et. seq., as amended.
23. Flow – means the total volume of discharge in a 24-hour period.
24. Geometric Mean - means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).
25. Grab Sample - means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.
26. Indirect Discharger - means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.
27. Industrial User - means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.
28. mg/L - means milligrams per liter of discharge.
29. MGD - means million gallons per day.
30. Monthly Average - means, other than for E. coli bacteria, the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for E. coli bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period. (Zero discharges shall not be included in the calculation of monthly averages.)
31. New Discharger - means a person owning or operating any building, structure, facility or installation:
- a. From which there is or may be a discharge of pollutants;
  - b. From which the discharge of pollutants did not commence prior to August 13, 1979, and which is not a new source; and
  - c. Which has never received a final effective NPDES Permit for dischargers at that site.
32. New Source - means:
- a. A new source as defined for coal mines by 40 CFR Part 434.11 (1994); and
  - b. Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
    - (1) After promulgation of standards of performance under Section 306 of FWPCA which are applicable to such source; or

- (2) After proposal of standards of performance in accordance with Section 306 of the FWPCA which are applicable to such source, but only if the standards are promulgated in accordance with Section 206 within 120 days of their proposal.
33. NH3-N - means the pollutant parameter ammonia, measured as nitrogen.
34. 1-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in one year as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.
35. Permit application - means forms and additional information that are required by ADEM Admin. Code r. 335-6-6-.08 and applicable permit fees.
36. Point Source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. §1362(14).
37. Pollutant - includes for purposes of this Permit, but is not limited to, those pollutants specified in Code of Alabama 1975, §22-22-1(b)(3) and those effluent characteristics, excluding flow, specified in Part I.A. of this Permit.
38. Pollutant of Concern - means those pollutants for which a water body is listed as impaired or which contribute to the listed impairment.
39. Pollution Abatement and/or Prevention Plan (PAP Plan) – mining operations plan developed to minimize impacts on water quality to avoid a contravention of the applicable water quality standards as defined in ADEM Admin. Code r. 335-6-9-.03
40. Preparation, Dry - means a dry preparation facility within which the mineral/material is cleaned, separated, or otherwise processed without use of water or chemical additives before it is shipped to the customer or otherwise utilized. A dry preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Dry preparation also includes minor water spray(s) used solely for dust suppression on equipment and roads to minimize dust emissions.
41. Preparation, Wet - means a wet preparation facility within which the mineral/material is cleaned, separated, or otherwise processed using water or chemical additives before it is shipped to the customer or otherwise utilized. A wet preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Wet preparation also includes mineral extraction/processing by dredging, slurry pumping, etc.
42. Privately Owned Treatment Works - means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".
43. Publicly Owned Treatment Works (POTW) - means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.
44. Receiving Stream - means the "waters" receiving a "discharge" from a "point source".
45. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural

resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

46. 10-year, 24-hour precipitation event - means that amount of precipitation which occurs during the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.
47. TKN - means the pollutant parameter Total Kjeldahl Nitrogen.
48. TON - means the pollutant parameter Total Organic Nitrogen.
49. TRC - means Total Residual Chlorine.
50. TSS - means the pollutant parameter Total Suspended Solids
51. Treatment facility and treatment system - means all structures which contain, convey, and as necessary, chemically or physically treat mine and/or associated preparation plant drainage, which remove pollutants limited by this Permit from such drainage or wastewater. This includes all pipes, channels, ponds, tanks, and all other equipment serving such structures.
52. 24HC - means 24-hour composite sample, including any of the following:
  - a. The mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;
  - b. A sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or
  - c. A sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.
53. 24-hour precipitation event - means that amount of precipitation which occurs within any 24-hour period.
54. 2-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in two years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.
55. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate facilities, lack of preventive maintenance, or careless or improper operation.
56. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, §22-22-1(b)(2). "Waters" include all "navigable waters" as defined in §502(7) of the FWPCA, 33 U.S.C. §1362(7), which are within the State of Alabama.
57. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

58. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

#### **E. SEVERABILITY**

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

#### **F. PROHIBITIONS AND ACTIVITIES NOT AUTHORIZED**

1. Discharges from disposal or landfill activities as described in ADEM Admin. Code div. 335-13 are not authorized by this Permit unless specifically approved by the Department.
2. Relocation, diversion, or other alteration of a water of the State is not authorized by this Permit unless specifically approved by the Department.
3. Lime or cement manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.
4. Concrete or asphalt manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.
5. The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the Permittee or not identified in the application for this Permit or not identified specifically in the description of an outfall in this Permit is not authorized by this Permit.

#### **G. DISCHARGES TO IMPAIRED WATERS**

1. This Permit does not authorize new sources or new discharges of pollutants of concern to impaired waters unless consistent with an EPA-approved or EPA-established Total Maximum Daily Load (TMDL) and applicable State law. Impaired waters are those that do not meet applicable water quality standards and are identified on the State of Alabama's §303(d) list or on an EPA-approved or EPA-established TMDL. Pollutants of concern are those pollutants for which the receiving water is listed as impaired or contribute to the listed impairment.
2. Facilities that discharge into a receiving stream which is listed on the State of Alabama's §303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the waters are impaired, must within six (6) months of the Final §303(d) list approval, document in its BMP plan how the BMPs will control the discharge of the pollutant(s) of concern, and must ensure that there will be no increase of the pollutants of concern. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan.
3. If the facility discharges to impaired waters as described above, it must determine whether a TMDL has been developed and approved or established by EPA for the listed waters. If a TMDL is approved or established during this Permit cycle by EPA for any waters into which the facility discharges, the facility must review the applicable TMDL to see if it includes requirements for

control of any water discharged by the Permittee. Within six (6) months of the date of TMDL approval or establishment, the facility must notify the Department on how it will modify its BMP plan to include best management practices specifically targeted to achieve the allocations prescribed by the TMDL, if necessary. Any revised BMP plans must be submitted to the Department for review. The facility must include in the BMP plan a monitoring component to assess the effectiveness of the BMPs in achieving the allocations.

## **PART IV EFFLUENT TOXICITY LIMITATION AND BIOMONITORING REQUIREMENTS FOR CHRONIC TOXICITY**

Except as provided below, the Permittee shall perform short-term chronic toxicity tests on the discharges required to be tested for chronic toxicity by Part I.A. of this permit.

The Permittee may certify, in writing, that the activities at the site at the time of sample collection will result in representative discharges, and therefore perform the toxicity tests on only the samples collected from the representative outfalls. The certification must be signed by a responsible official of the Permittee as defined in ADEM Admin Code r. 335-6-6-.09 and include the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

### **1. Test Requirements (Screening Test)**

- a. The tests shall be performed using effluent diluted to the Instream Waster Concentration (IWC) of 5% for all outfalls.
- b. Any test result that shows a statistically significant reduction in survival, growth or reproduction between the control and the test at the 95% confidence level indicate chronic toxicity and constitute noncompliance with this permit.

### **2. General Test Requirements**

- a. A grab sample shall be obtained for use in the above biomonitoring tests and collected every other day so that the laboratory receives water samples on the first, third and fifth day of the seven-day test period. The holding time for each sample shall not exceed 36 hours, unless sample collection was not possible due to discharge cessation. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-013 or the most current edition or another control water selected by the Permittee and approved by the Department.
- b. Should the discharge cease prior to the third grab sample on the fifth day of discharge, the chronic test shall be terminated early and the code "NODI=F" shall be reported on the DMR to indicate insufficient flow. A report of insufficient flow shall not indicate noncompliance with the chronic toxicity testing requirements.
- c. Effluent toxicity tests in which the control survival is less than 80%, *P. promelas* dry weight per surviving control organism is less than 0.25 mg, Ceriodaphnia number of young per surviving control organism is less than 15, Ceriodaphnia reproduction where less than 60% of surviving control females produce three broods or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period.
- d. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

- e. Should results from five consecutive testing periods indicate that the effluent does not exhibit chronic toxicity, the Permittee may request, in writing, that the Toxicity monitoring and reporting requirements be suspended. It remains the responsibility of the Permittee to comply with the Toxicity monitoring and reporting requirements until written authorization to suspend the monitoring and reporting is received by the Permittee from the Director.

**3. Reporting Requirements**

- a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).
- b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 6. of this part, an effluent toxicity report containing the information in Section 6. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

**4. Additional Testing Requirements**

- a. If chronic toxicity is indicated (noncompliance with permit limit), the Permittee shall perform two additional valid chronic toxicity tests in accordance with these procedures. The toxicity tests shall be performed on new samples collected during the first discharge event after becoming aware of the chronic toxicity. The additional samples shall be collected a minimum of 12 hours apart, or sooner if the discharge is not expected to continue for 12 hours. In the event that the discharge ceases prior to collection of the second additional sample, the sample shall be collected during the beginning of the next discharge event. The results of these tests shall be submitted no later than 28 days following the month in which the tests were performed. Additional testing sample collection and analysis timeframes may be extended, as necessary, to obtain the samples during discharges.
- b. After evaluation of the results of the additional tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The Permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

**5. Test Methods**

The tests shall be performed in accordance with the latest edition of the "EPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The Larval Survival and Growth Test, Methods 1000.0, shall be used for the fathead minnow (*Pimephales promelas*) test and the Survival and Reproduction Test, Method 1002.0, shall be used for the cladoceran (*Ceriodaphnia dubia*) test.

**6. Effluent Toxicity Testing Reports**

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any times suspend or reinstate this requirement or may decrease or increase the frequency of submittals.

- a. Introduction

- (1) Facility name, location and county
  - (2) Permit number
  - (3) Toxicity testing requirements of permit
  - (4) Name of receiving water body
  - (5) Contract laboratory information (if tests are performed under contract)
    - (i) Name of firm
    - (ii) Telephone number
    - (iii) Address
  - (6) Objective of test
- b. Plant Operations
- (1) Discharge Operating schedule (if other than continuous)
  - (2) Volume of discharge during sample collection to include Mean daily discharge on sample collection dates (MGD, CFS, GPM)
  - (3) Design flow of treatment facility at time of sampling
- c. Source of Effluent and Dilution Water
- (1) Effluent samples
    - (i) Sampling point
    - (ii) Sample collection dates and times
    - (iii) Sample collection method
    - (iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)
    - (v) Lapsed time from sample collection to delivery
    - (vi) Lapsed time from sample collection to test initiation
    - (vii) Sample temperature when received at the laboratory
  - (2) Dilution Water
    - (i) Source
    - (ii) Collection/preparation date(s) and time(s)
    - (iii) Pretreatment (if applicable)

- (iv) Physical and chemical characteristics (water temperature, pH, alkalinity, hardness, specific conductance, etc.)

d. Test Conditions

- (1) Toxicity test method utilized
- (2) End point(s) of test
- (3) Deviations from referenced method, if any, and reason(s)
- (4) Date and time test started
- (5) Date and time test terminated
- (6) Type and volume of test chambers
- (7) Volume of solution per chamber
- (8) Number of organisms per test chamber
- (9) Number of replicate test chambers per treatment
- (10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)
- (11) Specify if aeration was needed
- (12) Feeding frequency, amount and type of food
- (13) Specify if (and how) pH control measures were implemented
- (14) Light intensity (mean)

e. Test Organisms

- (1) Scientific name
- (2) Life stage and age
- (3) Source
- (4) Disease(s) treatment (if applicable)

f. Quality Assurance

- (1) Reference toxicant utilized and source
- (2) Date and time of most recent chronic reference toxicant test(s), raw data and current control chart(s). The most recent chronic reference toxicant test shall be conducted within 30 days of the routine.
- (3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship and evaluate test sensitivity

(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: NOECs, IC25s, PASS/FAIL, etc. (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD) calculated for sublethal endpoints determined by hypothesis testing.

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Actions to be taken

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
WATER DIVISION**

**NPDES INDIVIDUAL PERMIT RATIONALE**

**Company Name:** Unimin Corporation

**Facility Name:** Tuscaloosa Plant

**County:** Tuscaloosa County

**Permit Number:** AL0063649

**Prepared by:** Jasmine Martin

**Date:** August 16, 2016

**Receiving Waters:** Cypress Creek/Groundwater

**Permit Coverage:** Industrial Sand Mine, Construction Sand and Gravel Mine, Mineral Dry and Wet Processing, Mineral Storing, Mineral Loading, Mineral Transportation and Associated Areas

**SIC Code(s):** 1446, 1442

The Department has made a tentative determination that the available information is adequate to support modification and reissuance of this permit. The modification addresses the removal of the hydro-fluoride (HF) flotation processing and addition of Outfall 002-1.

This proposed permit covers an industrial sand mine, construction sand and gravel mine, dry processing, wet processing, mineral storage, loading, transportation and associated areas which discharge to ground and surface waters.

This proposed permit authorizes treated discharges into a stream segments, other State waters, or local watersheds that currently have a water quality classification of Fish and Wildlife (F&W) (ADEM Admin. Code r. 335-6-11). If the requirements of the proposed permit are fully implemented, the facility will not discharge pollutants at levels that will cause or contribute to a violation of the F&W classification.

Full compliance with the proposed permit terms and conditions is expected to be protective of instream water quality and ensure consistency with applicable instream State water quality standards (WQS) for the receiving stream.

The permittee has submitted that the facility no longer utilizes hydro-fluoride (HF) flotation for the processing of material. As a result the effluent limitations for HF Flotation Process Wastewater will be removed from the draft permit.

The effluent discharge limitations for pH are based on 40 CFR Part 436.42 and ADEM Admin. Code r. 335-6-10-.09. The instream WQS for pH in streams classified as F&W is 6.0 – 8.5 s.u. per ADEM Admin Code 335-6-10-.09. A discharge limitation for pH of 9.0 s.u. is imposed when enough dilution is considered to be available in-stream to allow for a discharge at 9.0 s.u. without endangering water quality, as is for the discharges expected from these operations. However, the discharge shall not be allowed to cause the in-

stream pH to deviate more than 1.0 s.u. from the normal or natural pH, nor be less than 6.0 s.u., nor greater than 8.5 s.u.

The monthly average and daily maximum TSS limitations of 25.0 mg/L and 45.0 mg/L, respectively, are based on ELGs for Industrial Sand found in 40 CFR Part 436.42. These parameters are indicative of the pollutants typically discharged by a facility covered by this permit and have been found to be protective of water quality. Monitoring for discharges to groundwater is not required because of the natural treatment provided by the sand and gravel formation; however, discharges to surface waters must be monitored twice per month.

The applicant has requested, in accordance with 40 CFR Part 122.21 and their NPDES permit application, a waiver from testing for the Part A, B, and C pollutants listed in the EPA Form 2C and 2D that are not addressed in their application. They have also certified that due to the processes involved in their mining activity these pollutants are believed to be not present in the waste stream.

Information provided in the application note the occasional use of maintenance chemical (surfactants, flocculants, and caustic solution) to aid with processing of material and treatment of waste water. Additional effluent monitoring for Chronic Whole Effluent Toxicity (WET) testing at 5% is required to ensure the added maintenance chemicals do not cause or contribute to an excursion of WQS. The WET testing requirements only apply during quarters when the maintenance chemicals have been in use.

Outfalls 001 and 002 discharge to Cypress Creek. The Instream Waste Concentration (IWC) for Outfalls 001 and 002 calculated based on the average discharge flow ( $Q_w$ ) from the design maximum 30 day flow and the receiving stream's  $7Q_{10}$  (seven-day 10-year low flow) is:

$$\text{Instream Waste Concentration (IWC)} = \frac{Q_w}{7Q_{10} + Q_w} = \frac{0.426 \text{ cfs}}{(9.87 + 0.426) \text{ cfs}} = 4.13\% \text{ (round to 5\%)}$$

The Pollution Abatement/Prevention (PAP) plan for this facility has been prepared by a professional engineer (PE) registered in the State of Alabama and is designed to ensure reduction of pollutants in the waste stream to a level that, if operated properly, the discharge will not contribute to or cause a violation of applicable State water quality standards. The proposed permit terms and conditions are predicated on the basis of ensuring a reduction of pollutants in the discharge to a level that reduces the potential of contributing to or causing a violation of applicable State water quality standards.

In accordance with ADEM Admin. Code r. 335-6-3-.07 the design professional engineer, as evidenced by their seal and/or signature on the application, has accepted full responsibility for the effectiveness of the waste treatment facility to treat the permittee's effluent to meet NPDES permit limitations and requirements, and to fully comply with Alabama's water quality standards, when such treatment facilities are properly operated.

If there is a reasonable potential that a pollutant present in the treated discharges from a facility could cause or contribute to a contravention of applicable State water quality standards above numeric or narrative criteria, 40 CFR Part 122 requires the Department to establish effluent limits using calculated water quality criterion, establish effluent limits on a case-by-case basis using criteria established by EPA, or establish effluent limits based on an indicator parameter. Based on available information, potential pollutants discharged from this facility, if discharged within the concentrations allowed by this permit, would not have a reasonable potential to cause or contribute to a contravention of applicable State water quality standards.

Pursuant to ADEM Admin. Code r. 335-6-6-.12(r) this permit requires the permittee to design and implement a Spill Prevention Control and Countermeasures (SPCC) plan for all stored chemicals, fuels and/or stored pollutants that have the potential to discharge to a water of the State. This plan must meet the minimum engineering requirements as defined in 40 CFR Part 112 and must provide for secondary containment adequate to control a potential spill.

The applicant is not proposing discharges of pollutants to a water of the State with an approved Total Maximum Daily Load (TMDL).

The applicant is not proposing discharges into a stream segment or other State water that is included on Alabama's current CWA §303(d) list.

The applicant is not proposing discharges of pollutant(s) to an ADEM identified Tier I water.

The proposed permit action authorizes new discharges of pollutants to receiving waters determined by the Department to be waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier II). Pursuant to ADEM Admin. Code r. 335-6-10 (Antidegradation Policy and Implementation of the Antidegradation Policy), the applicant has submitted and the Department has reviewed and considered information regarding (1) demonstration of necessity/importance, (2) alternatives analysis, and (3) calculations of total annualized costs for technically feasible treatment alternatives regarding the proposed new discharges to Tier II waters. The Department has determined, based on the applicant's demonstration, that the proposed new discharges to the Tier II waters are necessary for important economic or social development in the area in which the waters are located.

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
WATER DIVISION**

**ANTIDEGRADATION RATIONALE**

**Company Name:** Unimin Corporation  
**Facility Name:** Tuscaloosa Plant  
**County:** Tuscaloosa  
**Permit Number:** AL0063649  
**Prepared by:** Jasmine Martin  
**Date:** August 16, 2016  
**Receiving Waters:** Cypress Creek  
**Stream Category:** Tier II as defined by ADEM Admin. Code 335-6-10-.12  
**Discharge Description:** Discharge of drainage from industrial sand mining and associated areas

**The following preliminary determination was prepared in accordance with ADEM Admin. Code 335-6-10-.12(7)(c):**

The Department has reviewed the information submitted by applicant in accordance with ADEM Admin. Code 335-6-10-.12(9). The applicant has demonstrated that there are no technically or economically viable treatment options in its alternatives analysis that would completely eliminate a direct discharge.

The permit applicant has indicated that the following economic and social benefits will result from this project:

1. The Permittee explains the addition of the basin will result in a reduction of total suspended solids that is discharge from the facility.
2. The Permittee submits that no additional positions will be created, but if the plant is unable to discharge this will cause the plant to not operate and for over 90% of the staff to be laid off.
3. The Permittee proposes that being able to continue operations will maintain the ability to pay approximately \$180,000 in taxes.
4. The Permittee also explains they currently support local schools, churches, and the community through donations of money and materials goods.

The Department has determined that the discharge proposed by the permit applicant is necessary for important economic and social development in the area of the outfall location in the receiving water.

**Reviewed By:**  
**Date:**

Catherine McNeill  
11-15-16 

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)  
NPDES INDIVIDUAL PERMIT APPLICATION**

S104185  
P232180.1  
F 7729.1

**SURFACE & UNDERGROUND MINERAL & ORE OR MINERAL PRODUCT MINING QUARRYING, EXCAVATION,  
BORROWING, HYDRAULIC MINING, STORAGE, PROCESSING, PREPARATION, RECOVERY, HANDLING,  
LOADING, STORING, OR DISPOSING ACTIVITIES AND ASSOCIATED AREAS INCLUDING PRE-MINING SITE  
DEVELOPMENT, CONSTRUCTION, EXCAVATION, CLEARING, DISTURBANCE, RECLAMATION, AND  
ASSOCIATED AREAS**

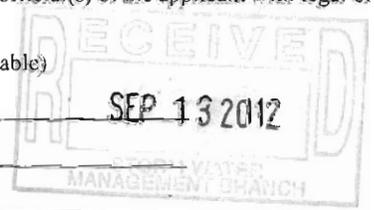
R# 11-18405 C. Gamble \$1,840.00

PLEASE READ THE ACCOMPANYING INSTRUCTIONS CAREFULLY BEFORE COMPLETING THIS FORM. COMPLETE ALL QUESTIONS. RESPOND WITH "N/A" AS APPROPRIATE. INCOMPLETE OR INCORRECT ANSWERS OR MISSING SIGNATURES WILL DELAY PROCESSING. ATTACH ADDITIONAL COMMENTS OR INFORMATION AS NEEDED. IF SPACE IS INSUFFICIENT, CONTINUE ON AN ATTACHED SHEET(S) AS NECESSARY. COMMENCEMENT OF ACTIVITIES APPLIED FOR AS DETAILED IN THIS APPLICATION ARE NOT AUTHORIZED UNTIL PERMIT COVERAGE HAS BEEN ISSUED BY THE DEPARTMENT.

PLEASE TYPE OR PRINT IN INK ONLY.

I. APPLICANT INFORMATION Initial Issuance:  Major Modification:  Reissuance:  NPDES AL 0063649  
County TUSCALOOSA Reissuance & Modification:  Minor Modification:  Transfer:  Voluntary Termination:

Company Name <b>Unimin Corporation</b>		Facility Name <b>Tuscaloosa Plant</b>	
Responsible Official and Title <b>Andrew G. Bradley, Sr. V.P. Environmental Affairs</b>		Facility Contact and Title <b>Glenn Robertson, Plant Manager</b>	
Mailing Address of Applicant <b>258 Elm Street</b>		Facility Contact Street Address <b>2400 Crabtree Road</b>	
City <b>New Canaan</b>	State <b>CT</b>	Zip <b>06840-5300</b>	City <b>Tuscaloosa</b>
			State <b>AL</b>
			Zip <b>35405</b>
Business Phone Number <b>203-966-8880</b>	Fax Number <b>203-966-1977</b>	Facility Contact Phone Number and Email Address <b>205-758-8353 grobertson@unimin.com</b>	
Responsible Official Street/Physical Address & Phone Number <b>258 Elm Street, New Canaan, CT 06840-5300 / 203-996-8880</b>		Responsible Official Email Address <b>dbradley@unimin.com</b>	
Registered Agent Name, Address, & Phone Number <b>The Corporation Company, 2000 Interstate Park Drive, STE 204, Montgomery, AL 36109</b>		Latitude and Longitude of Front Gate <b>Lat. 33.138415246° Long. 87.572794287°</b>	
Identify the name, title/position, and unless waived in writing by the Department, the residence address of every officer, general partner, LLP partner, LLC member, investor, director, or person performing a function similar to a director, of the applicant, and each person who is the record or beneficial owner of 10 percent or more of any class of voting stock of the applicant, or any other responsible official(s) of the applicant with legal or decision making responsibility or authority for the facility:			
Name	Title/Position	Residence Address (PO Box not acceptable)	
<b>See Attachments A &amp; B</b>			



**II. OFFICER INFORMATION**

Name of each corporation, partnership, association, and single proprietorship (other than applicant) having an Alabama NPDES permit at any time during the sixty (60) month period immediately preceding the date on which this form is signed for which any individual identified in Item I is or was an officer, general partner, LLP partner, LLC member, investor, director, or individual performing a function similar to a director, or principal (10% or more) stockholder:

Name of corporation, partnership, association, or single proprietorship	Name of individual (from Item I)	Title/position in corporation, partnership, association, or single proprietorship
<b>N/A</b>		

III. LEGAL STRUCTURE OF APPLICANT

Corporation   
  Association   
  Individual   
  Single Proprietorship   
  Partnership   
  LLP   
  LLC  
 Government Agency \_\_\_\_\_   
  Other \_\_\_\_\_   
  Other \_\_\_\_\_  
 Parent Corporation and Subsidiary Corporations of Applicant, if any: See Attachment C  
 Land owner(s): Percy L. Spiller  
 Mining Sub-contractor(s)/Operator(s), If Known: N/A

IV. COMPLIANCE HISTORY

Has the applicant ever had (If the response to any item is yes, attach a letter of explanation.):

	Yes	No		Yes	No
(a) an Alabama NPDES-SID-UIC permit suspended or terminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(b) an Alabama license to mine suspended or revoked?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) an Alabama or federal mining permit suspended or terminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
(d) a reclamation bond, or similar security deposited in lieu of a bond, or portion thereof, forfeited?				<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) a bond or similar security deposited in lieu of a bond, or portion thereof, the purpose of which was to secure compliance with any requirement of the Alabama Water Improvement Commission or Alabama Department of Environmental Management, forfeited?				<input type="checkbox"/>	<input checked="" type="checkbox"/>

Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, Directive, or litigation filed by ADEM or EPA during the three year (36 months) period preceding the date on which this form is signed issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC Member. Indicate the date of issuance, briefly describe alleged violations, list actions (if any) to abate alleged violations, and indicate date of final resolution:

None

V. PROPOSED SCHEDULE

Anticipated Activity schedule:    Commencement date: 1969    Completion date or year: 2030  
 Proposed Area of the Permitted site:    Total area in acres: 245.1    Disturbed area in acres: 221

VI. OTHER PERMITS/AUTHORIZATIONS

1) List any other NPDES or other environmental permits, authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, Alabama Surface Mining Commission (ASMC), Alabama Department of Industrial Relations (ADIR), or other Agency, to the applicant, parent corporation, subsidiary, or LLC member for this facility whether presently effective, expired, suspended, or revoked (include permit numbers):

See Attachment D

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2) List any other NPDES or other ADEM permits, authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, ASMC, or ADIR, to the applicant, parent corporation, subsidiary, or LLC member for other facilities whether presently effective, expired, suspended, or revoked (include permit numbers):

See Attachment E

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VII. ACTIVITY DESCRIPTION & INFORMATION

Township(s), Range(s), Section(s) T22S, R10W, Sec. 9,10,15,16 County(s) Tuscaloosa

Directions To Site See Attachment F

Yes	No	Is/will this facility:	Yes	No	
(a) <input checked="" type="checkbox"/>	<input type="checkbox"/>	an existing facility which currently results in discharges to State waters	(b) <input checked="" type="checkbox"/>	<input type="checkbox"/>	be located within any 100-year flood plain?
(c) <input type="checkbox"/>	<input checked="" type="checkbox"/>	a proposed facility which will result in a discharge to State waters?	(d) <input type="checkbox"/>	<input checked="" type="checkbox"/>	discharge to Municipal Separate Storm Sewer?
(e) <input type="checkbox"/>	<input checked="" type="checkbox"/>	discharge to waters of or be located in the Coastal Zone?	(f) <input type="checkbox"/>	<input checked="" type="checkbox"/>	need/have ADEM UIC permit coverage?
(g) <input type="checkbox"/>	<input checked="" type="checkbox"/>	be located on Indian/ historically significant lands?	(h) <input type="checkbox"/>	<input checked="" type="checkbox"/>	need/have ADEM SID permit coverage?
(i) <input type="checkbox"/>	<input checked="" type="checkbox"/>	need/have ASMC permit coverage?	(j) <input checked="" type="checkbox"/>	<input type="checkbox"/>	need/have ADIR permit coverage?
(k) <input type="checkbox"/>	<input checked="" type="checkbox"/>	generate, treat, store, or dispose of hazardous or toxic waste ? If "yes", attach a detailed explanation.			
(l) <input type="checkbox"/>	<input checked="" type="checkbox"/>	be located in or discharge to a Public Water Supply (PWS) Watershed(s) or be located within 1/2 mile of any PWS well?			

VIII. PROPOSED ACTIVITY TO BE CONDUCTED - Check All that apply

Type(s) of activity presently conducted at applicant's existing facility or proposed to be conducted at proposed facility (check each one that applies):

Surface mining     Underground mining     Auger mining     Quarrying     Hydraulic mining     Mineral storing

Within-bank mining     Lime production     Cement production     Synthetic fuel production     Alternative fuels operation

Other beneficiation/manufacturing operations     Chemicals used in process or wastewater treatment (coagulant, biocide, etc.)

Mineral loading     Mineral wet preparation     Mineral dry processing (crushing & screening)

Chemical processing or leaching     Solution mining     Construction related temporary borrow pits/areas

Mineral transportation X rail    barge X truck     Hydraulic mining, dredging, instream or between stream-bank mining

Preparation plant waste recovery     Onsite construction/mining waste/debris/equipment storing/disposing

Excavation     Grading, clearing, grubbing, etc.     Reclamation of disturbed areas

Pre-mining logging or land clearing     Pre-construction ponded water removal     Waterbody relocation or other alteration

Adjacent/associated asphalt/concrete plant(s)     Low volume sewage treatment package plant     Creek/stream crossings

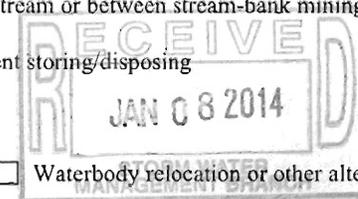
Other (Describe): \_\_\_\_\_     Other (Describe): \_\_\_\_\_

Primary SIC Code 1446    Description Industrial Sand

Secondary SIC Code 1442    Description Construction Sand and Gravel

Narrative Description: Dredging of silica sand and gravel, operation of a sand pit, washing, drying, screening and preparing product for industrial and other uses. (See attachment "Pg 3 - Section VIII - Attachment - 1-8-13")

of the Activity \_\_\_\_\_



IX. MATERIAL TO BE REMOVED, PROCESSED, OR TRANSLOADED – List relative percentages for All that apply

List relative percentages of mineral(s) or mineral products presently mined, quarried, recovered, prepared, processed, handled, transloaded, or disposed at applicant's existing facility or to be mined, quarried, recovered, prepared, processed, handled, transloaded, or disposed at applicant's proposed facility. **If more than one mineral is to be mined, list the relative proportions of each mineral by tonnage for the life of the mine.**

_____ Dirt-Chert	<u>20</u>	Sand-Gravel	_____ Chalk	_____ Talc	_____ Crushed rock - other
_____ Bentonite	<u>80</u>	Industrial Sand	_____ Coal product, coke	_____ Marble	_____ Shale & Common Clay
_____ Coal	_____	Lignite	_____ Fire clay	_____ Iron ore	_____ Coal fines/refuse recovery
_____ Slag, Red Rock	_____	Phosphate rock	_____ Granite	_____ Limestone, crushed limestone and dolomite	
_____ Bauxitic clay	_____	Kaolin	_____ Dimension stone	_____ Gold, other trace minerals (be specific)	_____
_____ Bauxite ore (for Aluminum production)	_____	Other (be specific)	_____	_____ Other (be specific)	_____

**VIII. PROPOSED ACTIVITY TO BE CONDUCTED**

Material is mined hydraulically using a dredge and slurry system. The material is initially classified and split for construction materials which are placed into raw stockpiles. The remaining material stream is washed, further classified and placed into damp stockpiles before being dried, stored, loaded and shipped. Surfactants are sometimes used as a dewatering aid for material placed into damp stockpiles. Note that there is no flotation, HF or otherwise, utilized during the processing/beneficiation of material at this facility. Undesirable waste material is sent to the Tailings Pond for final deposition. Process wastewater is clarified in the pond prior to discharge. Flocculant is sometimes used, at or below allowable levels, to assist in the clarification of process wastewater. Additionally, a caustic solution is also utilized for pH management as part of the process wastewater treatment system prior to discharge.



X. FUEL - CHEMICAL HANDLING, STORAGE & SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC) PLAN

Will fuels, chemicals, compounds or liquid waste be used or stored onsite?  Yes  No If "yes", identify and indicate amount below:

Capacity	Contents	Capacity	Contents	Capacity	Contents
_____ gallons	See Attachment G	_____ gallons	_____	_____ gallons	_____
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____

If "yes", a detailed SPCC Plan with acceptable format/content, including diagrams, must be attached to application according to ADEM Admin. Code R. 335-6-6-.12(r). Unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis, attach Material Safety Data Sheets (MSDS) for chemicals/compounds used or proposed to be used at the facility.

XI. POLLUTION ABATEMENT & PREVENTION (PAP) PLAN

Yes  No For non-coal mining facilities: ADEM 335-6-9 PAP and Appendix A & B Checklists have been completed and are attached as part of this application.\*

Yes  No For non-coal mining facilities: A detailed PAP Plan with format/content acceptable to ADEM is attached to application according to ADEM Admin. Code R. 335-6-9-.03 and Appendices A & B\*.

Yes  No For coal mining facilities: A detailed PAP Plan has been submitted to ASMC according to submittal procedures for ASMC regulated facilities (see next response)\*.

If 'Yes', date \_\_\_\_\_ the PAP Plan was submitted to ASMC.

If 'No', anticipated date \_\_\_\_\_ the PAP Plan will be submitted to ASMC

\* - For coal mining facilities, the PAP Plan is required to be submitted to ASMC. Therefore, coal facilities are not required to submit a PAP Plan and/or Appendix A & B Checklists to ADEM.

XII. TOPOGRAPHIC MAP SUBMITTAL

Attach to this application a 7.5 minute series U.S.G.S. topographic map(s) or equivalent map(s) no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary) of the area extending to at least one mile beyond property boundaries. The topographic or equivalent map(s) must include a caption indicating the name of the topographic map, name of the applicant, facility name, county, and township, range, & section(s) where the facility is located. Unless approved in advance by the Department, the topographic or equivalent map(s), at a minimum, must show:

- (a) an outline of legal boundary of entire property (property lines and lease boundaries)
- (b) an outline of the facility
- (c) all existing and proposed disturbed areas
- (d) location of discharge areas
- (e) proposed and existing discharge points
- (f) perennial, intermittent, and ephemeral streams
- (g) lakes, springs, water wells, wetlands
- (h) all known facility dirt/improved access/haul roads
- (i) all surrounding unimproved/improved roads
- (j) high-tension power lines and railroad tracks
- (k) buildings and structures, including fuel/water tanks
- (l) contour lines, township-range-section lines
- (m) drainage patterns, swales, washes
- (n) all drainage conveyance/treatment structures (ditches, berms, etc.)
- (o) Any other pertinent or significant feature

[symbols identified in Theodore D. Steger, Topographic Maps, U.S. Interior Dept., Geological Survey, 1978 (No. 0--274--961), as updated/revised]

XIII. DETAILED FACILITY MAP SUBMITTAL

Attach to this application a 1:500 scale or better, detailed auto-CAD map(s) or equivalent map(s) no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary) of the facility. The facility or equivalent map(s) must include a caption indicating the name of the facility, name of the applicant, facility name, county, and township, range, & section(s) where the facility is located. Unless approved in advance by the Department, the facility or equivalent map(s), at a minimum, must show:

- (a) Information listed in Item XII (a) – (o) above
- (b) If noncoal, detailed, planned mining progression
- (c) location of mining or pond cleanout waste storage/disposal areas
- (d) If noncoal, location of topsoil storage areas
- (e) Other information relevant to facility or operation
- (f) location of facility sign showing permittee name, facility name, and NPDES Number

XIV. PROPOSED NEW OR INCREASED DISCHARGES

Pursuant to ADEM Admin. Code Chapter 335-6-10-.12(9), responses to the following questions must be provided by the applicant requesting NPDES permit coverage for new or expanded discharges of pollutant(s) to Tier 2 waters (except discharges eligible for coverage under general permits). As part of the permit application review process, the Department is required to determine, based on the applicant's demonstration, that the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located.

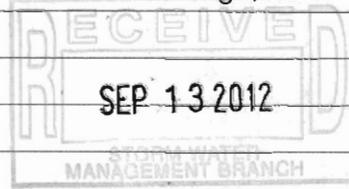
- Yes. New/increased discharges of pollutant(s) or discharge locations to Tier 2 waters are proposed. Complete items 1 – 6 below.
- No. New/increased discharges of pollutants(s) or discharge locations to Tier 2 waters are not proposed.

If "Yes", applicant is requesting issuance, modification, or reissuance & modification of permit coverage for new or expanded discharges of pollutant(s) not previously permitted. Complete this Item, Item XV, and Item XVI as necessary. **Attach additional sheets/documentation and supporting information as needed.**

1) What environmental or public health problem will the discharge be correcting? Runoff from undisturbed land within the watershed usually does not meet the effluent limits that the plant is currently required to meet. By routing the stormwater runoff through the ponds, the Total Suspended Solids (TSS) in the surface runoff will be reduced significantly.

2) How much will the discharger be increasing employment (at its existing facility or as a result of locating a new facility)? No additional positions have been or will be created as a result of this permit modification.

3) How much reduction in employment will the discharger be avoiding? If the plant is not allowed to discharge, then it cannot operate will cause over 90% of the current staff to be unemployed.



4) How much additional state or local taxes will the discharger be paying? No additional production will be created with this permit modification which will therefore result in no changes in the State and local taxes currently being paid. The plants annual sales is approximately \$2,000,000 and pays roughly \$180,000 in taxes at ±9%.

5) What public service to the community will the discharger be providing? The plant currently supports local schools, churches and the community by making donations totaling (approximately) \$3,000 per year. The plant also donates approximately \$3,000 in material goods (sand, gravel and other aggregate) to local schools and churches.

6) What economic or social benefit will the discharger be providing to the community? The plant provides jobs to the local community as well as sand, gravel and other aggregate to local businesses and individuals with lower transportation costs. The plant also purchases local electrical power, fuel and other supplies necessary for operation.

Pursuant to ADEM Admin. Code Chapter 335-6-10, an evaluation of the discharge alternatives identified below has been completed and the following conclusions, as indicated, were reached. All proposed new or expanded discharges of pollutant(s) covered by the Individual NPDES permitting program are subject to the provisions of the antidegradation policy. As part of the permit application review process, the Department is required to determine, based on the applicant’s demonstration, that the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located. As a part of this demonstration, a registered professional engineer (PE) licensed to practice in the State of Alabama must complete an evaluation of the discharge alternatives, to include calculation of total annualized project costs (Item XVI) for each technically feasible alternative. Technically feasible alternatives with total annualized pollution control project costs that are less than 110% of the preferred alternative total annualized pollution control project costs for the Tier 2 new or increased discharge proposal are considered viable alternatives. **Supporting documentation is attached, referenced, or otherwise handled as appropriate.**

Alternative	Viable	Non-Viable	Reason/Rationale For Indicating Non-Viable
1) Treatment/Discharge Proposed In This Application	X		
2) Land Application		X	Water quantity too great
3) Pretreatment/Discharge to POTW By SID Permit		X	Water quantity too great
4) Relocation of Discharge		X	Topography does not support/allow this alternative
5) Reuse/Recycle – Pollution Prevention	X		Plant recycles 100% of water. Discharge occurs only during periods of excess precipitation.
6) Other Process/Treatment Alternatives		X	Settling, surface water discharge best treatment
7) Underground Injection By UIC Permit		X	Mining method and topography does not support/allow this alternative
8) Other Project Specific Alternative(s) Identified By the Applicant Or The ADEM			
9) Other Project Specific Alternative(s) Identified By the Applicant Or The ADEM			

COMMENTS: Although the plant discharges only during periods of excess precipitation, without permitted discharges, this mining location cannot operate which would have negative affects on the local economy relating to tax revenue, employment opportunities, purchasing of local utilities and fuel as well as providing construction materials and industrial minerals to the community.

XVI. CALCULATION OF TOTAL ANNUALIZED PROJECT COSTS FOR PRIVATE SECTOR PROJECTS - ADEM Form 313 3/02  
(ADEM Form 312 3/02 - Public Sector Project is available upon request)

This item must be completed for each technically feasible alternative evaluated in Item XV. **Copy, complete, and attach additional blocks/sheets and supporting information as needed.**

Capital Costs of pollution control project to be expended or financed by applicant (Supplied by applicant)	\$ <u>10,000</u> (1)	* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.
Interest Rate for Financing (Expressed as a decimal)	<u>0.0575</u> (i)	
Time Period of Financing (Assume 10 years *)	<u>10 years</u> (n)	
Annualization Factor ** = $\frac{i}{(1+i)^{10}-1} + i$ i = Interest Rate	<u>0.13426</u> (2)	** Or refer to Appendix B (application information) for calculated annualization factors.
Annualized Capital Cost [Calculate: (1) x (2) ]	\$ <u>1,343</u> (3)	
Annual Cost of Operation & Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration & replacement) ***	\$ <u>2,000</u> (4)	*** For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).
<b>Total Annual Cost of Pollution Control Project [ (3) + (4) ]</b>	\$ <u>3,343</u> (5)	

XVII. RECEIVING WATERS

List the requested permit Action for each outfall (issue, reissue, add, delete, move, etc.), Outfall Designation including noting "E" for existing and "P" for proposed, name of receiving water(s), if the stream is included in a TMDL, latitude and longitude (to seconds) of location(s) that run-off enters the receiving water, distance of receiving water from outfall in feet, number of disturbed acres, the number of drainage acres which will drain through each treatment system, outfall, or BMP, and if the outfall discharges to an ADEM listed CWA Section 303(d) waterbody segment at the time of application submittal.

Action	Outfall E/P	Receiving Water	Included in TMDL*	Latitude	Longitude	Distance to Rec. Water	Disturbed Acres	Drainage Acres	303(d) Segment (Y/N)
Reissue	001 (E)	Cypress Creek	No	33° 08' 04"	87° 34' 51"	850	162	172	N
Add	002 (P)	Cypress Creek	No	33° 08' 37"	87° 34' 48"	550	162	172	N

\*If a TMDL Compliance Schedule is requested the following should be attached as supporting documentation:  
 (1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.); (2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be reported as available); (3) Requested interim limitations, if applicable; (4) Date of final compliance with the TMDL limitations; and (5) Any other additional information available to support the requested compliance schedule.

XVIII. DISCHARGE CHARACTERIZATION

- Yes, pursuant to 40 CFR 122.21, the applicant requests a waiver for completion of the modified EPA Form 2C and certifies that the operating facility will discharge treated stormwater only, unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis that chemical/compound additives are not used, and that there are no process, manufacturing, or other industrial operations or wastewaters, including but not limited to lime or cement production, synfuel operations, etc.
- No, the applicant does not request a waiver and a complete modified EPA Form 2C is attached.

The applicant is required to supply the following information separately for every P or E outfall. If necessary, attach extra sheets. List expected average daily discharge flow rate in gallons/day and in cfs, frequency of discharge in hours per day and days per month, average summer and winter temperature of discharge(s) in degrees centigrade (C), average daily discharge in pounds per day of Total Iron, Total Manganese, BOD<sub>5</sub>, Total Aluminum (if bauxite or bauxitic clay), and Total Suspended Solids:

Outfall E/P	Information Source - # of Samples	Flow cfs	Flow gpd	Frequency hours/day	Frequency days/mnth	pH s.u.	BOD <sub>5</sub> lbs/day	Sum/Win Temp, C.	TSS lbs/day	Tot Fe lbs/day	Tot Mn lbs/day	Tot Al lbs/day

Please supply the following information separately for every P or E outfall. If necessary, attach extra sheets. Identify and list expected average daily discharge in pounds per day of any other pollutant(s) listed in EPA Form 2C, Item V – Intake And Effluent Characteristics, Parts A, B & C that are not referenced in XVIII above, that you know or there is reason to believe could be present in the discharge(s) at levels of concern. I/we (PE and applicant) certify that I/we have reviewed the list of pollutants referenced in EPA Forms 2C & 2D, and the pollutants listed in EPA Form 2C and/or 2D that are not listed below are believed absent or not present at levels of concern in any proposed or existing discharge(s) from this facility:

Outfall E/P	Reason Believed Present	Information Source - # of Samples									
			lbs/day								



XXI. POLLUTION ABATEMENT PLAN (PAP) - APPENDIX A& B INFORMATION

Outfall(s): 001 (Existing) and 002 (Proposed)

Y	N	N/A	
X			Runoff from all areas of disturbance is controlled
X			Drainage from pit area, stockpiles, and spoil areas directed to a sedimentation pond
X			Sedimentation basin at least 0.25 acre/feet for every acre of disturbed drainage
		X1	Sedimentation basin cleaned out when sediment accumulation is 60% of design capacity
X			Trees, boulders, and other obstructions removed from pond during initial construction
		X2	Width of top of dam greater than 12'
		X2	Side slopes of dam no steeper than 3:1
		X2	Cutoff trench at least 8' wide
		X2	Side slopes of cutoff trench no less than 1:1
		X2	Cutoff trench located along the centerline of the dam
		X2	Cutoff trench extends at least 2' into bedrock or impervious soil
		X2	Cutoff trench filled with impervious material
		X2	Embankments and cutoff trench 95% compaction standard proctor ASTM
		X2	Embankment free of roots, tree debris, stones >6" diameter, etc.
		X2	Embankment constructed in lifts no greater than 12"
		X3	Spillpipe sized to carry peak flow from a one year storm event
		X3	Spillpipe will not chemically react with effluent
X4			Subsurface withdrawal
		X5	Anti-seep collars extend radially at least 2' from each joint in spillpipe
		X3	Splashpad at the end of the spillpipe
X			Emergency Spillway sized for peak flow from 25-yr 24-hr event if discharge not into PWS classified stream
		X2	Emergency spillway sized for peak flow from 50-yr 24-hr event if discharge is into PWS classified stream
		X6	Emergency overflow at least 20' long
		X6	Side slopes of emergency spillway no steeper than 2:1
		X6	Emergency spillway lined with riprap or concrete
X			Minimum of 1.5' of freeboard between normal overflow and emergency overflow
		X2	Minimum of 1.5' of freeboard between max. design flow of emergency spillway and top of dam
X			All emergency overflows are sized to handle entire drainage area for ponds in series
		X2	Dam stabilized with permanent vegetation
		X7	Sustained grade of haul road <10%
		X7	Maximum grade of haul road <15% for no more than 300'
		X7	Outer slopes of haul road no steeper than 2:1
		X7	Outer slopes of haul road vegetated or otherwise stabilized
		X8	Detail drawings supplied for all stream crossings
X			Short-Term Stabilization/Grading And Temporary Vegetative Cover Plans
X			Long-Term Stabilization/Grading And Permanent Reclamation or Water Quality Remediation Plans

The applicant has completed the surface water discharge alternatives analysis and has supporting documentation, including annualized costs for each technically feasible alternative available for review upon request

IDENTIFY AND PROVIDE DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(s):

X1 - Excess pond volume and mining sequence make pond cleanout unnecessary
X2 - There are no dams
X3 - There are no spill pipes
X4 - Ponds only overflow due to excess stormwater runoff
X5 - There are no discharges to a public water supply
X6 - Primary spillway also functions as emergency spillway
X7 - There are no haul roads
X8 - There are no stream crossings

XXII. POLLUTION ABATEMENT PLAN (PAP) REVIEW CHECKLIST

Outfall(s): 001 (Existing) and 002 (Proposed)

Y	N	N/A
X		
X		
X		

PE Seal with License #  
 Name and Address of Operator  
 Legal Description of Facility

**General Information:**

X		
X		
X		
X		
X		

Name of Company  
 Number of Employees  
 Products to be Mined  
 Hours of Operation  
 Water Supply and Disposition

**Topographic Map:**

X		
X		
X		
X		
X		

Mine Location  
 Location of Prep Plant  
 Location of Treatment Basins  
 Location of Discharge Points  
 Location of Adjacent Streams

**1"- 500' or Equivalent Facility Map:**

X		
X		
X		
X		

Drainage Patterns  
 Mining Details  
 All Roads, Structures Detailed  
 All Treatment Structures Detailed

**Detailed Design Diagrams:**

X		
X		
X		

Plan Views  
 Cross-section Views  
 Method of Diverting Runoff to Treatment Basins

**Narrative of Operations:**

X		
X		
X		

Raw Materials Defined  
 Processes Defined  
 Products Defined

**Schematic Diagram:**

X		
X		
X		

Points of Waste Origin  
 Collection System  
 Disposal System

**Post Treatment Quantity and Quality of Effluent:**

X		
X		
		X1
X		

Flow  
 Suspended Solids  
 Iron Concentration  
 pH

**Description of Waste Treatment Facility:**

X		
X		
X		
X		

Pre-Treatment Measures  
 Recovery System  
 Expected Life of Treatment Basin  
 Schedule of Cleaning and/or abandonment

**Other:**

X		
		X2
X		
X		
X		
		X3

Precipitation/Volume Calculations/Diagram Attached  
 BMP Plan for Haul Roads  
 Measures for Minimizing Impacts to Adjacent Stream i.e., Buffer Strips, Berms, etc.  
 Methods for Minimizing Nonpoint Source Discharges  
 Facility Closure Plans  
 PE Rationale(s) For Alternate Standards, Designs or Plans

**IDENTIFY AND PROVIDE DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(S):**

X1 - Iron is not a regulated effluent
X2 - There are no haul roads
X3 - There are no alternate standards, designs or plans

XXIII. PROFESSIONAL ENGINEER (PE) CERTIFICATION

A detailed, comprehensive Pollution Abatement/Prevention Plan (PAP) must be prepared, signed, and certified by a professional engineer (PE), registered in the State of Alabama as follows:

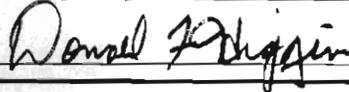
"I certify on behalf of the applicant, that I have completed an evaluation of discharge alternatives (Item XV) for any proposed new or increased discharges of pollutant(s) to Tier 2 waters and reached the conclusions indicated. I certify under penalty of law that technical information and data contained in this application, and a comprehensive PAP Plan including any attached SPCC plan, maps, engineering designs, etc. acceptable to ADEM, for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6, including Chapter 335-6-9 and Appendices A & B. If the PAP plan is properly implemented and maintained by the permittee, discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other permit requirements. The applicant has been advised that appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices as detailed in the PAP plan must be fully implemented and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices, permit requirements, and other ADEM requirements to ensure protection of groundwater and surface water quality."

Address 4000 Baker Road, Ottawa, IL 61350

PE Registration # 27968-PE

Name and Title (type or print) Donald F. Higgins - Mgr. Env. Affairs

Phone Number (815) 434-4178

Signature 

Date Signed 3/25/11

XXIV. RESPONSIBLE OFFICIAL SIGNATURE

This application must be signed by a Responsible Official of the applicant pursuant to ADEM Admin. Code Rule 335-6-6-.09 who has overall responsibility for the operation of the facility.

"I certify under penalty of law that this document, including technical information and data, the PAP plan, including any SPCC plan, maps, engineering designs, and all other attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the PE and other person or persons under my supervision who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment for knowing violations.

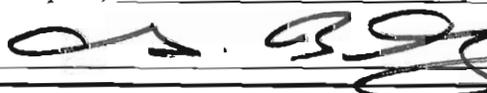
A comprehensive PAP Plan to prevent and minimize discharges of pollution to the maximum extent practicable has been prepared at my direction by a PE for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6, including Chapter 335-6-9 and Appendices A & B, and information contained in this application, including any attachments. I understand that regular inspections must be performed by, or under the direct supervision of, a PE and all appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices identified by the PE must be fully implemented prior to and concurrent with commencement of regulated activities and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices and ADEM requirements. I understand that the PAP plan must be fully implemented and regularly maintained so that discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other requirements to ensure protection of groundwater and surface water quality. I understand that failure to fully implement and regularly maintain required management practices for the protection of groundwater and surface water quality may subject the permittee to appropriate enforcement action.

I certify that this form has not been altered, and if copied or reproduced, is consistent in format and identical in content to the ADEM approved form.

I further certify that the discharges described in this application have been tested or evaluated for the presence of non-stormwater discharges and any non-mining associated beneficiation/process pollutants and wastewaters have been fully identified."

Name (type or print) Andrew G. Bradley

Official Title Sr. V.P. Env. Affairs

Signature 

Date Signed 2/16/11

## ATTACHMENT A

### Unimin Corporation Officers

Office Position Held	Person	Business Address	Home Address
Chairman President and Chief Executive Officer	Kevin F. Crawford	Unimin Corporation 258 Elm Street New Canaan, CT 06840	377 Ponus Ridge Rd. New Canaan, CT 06840
Executive Vice President and Chief Operating Officer	Joseph C. Shapiro	Unimin Corporation 258 Elm Street New Canaan, CT 06840	73 Blackman Road Ridgefield, CT 06877
Executive Vice President - Sales and Marketing	Louis R. Mastandrea	Unimin Corporation 258 Elm Street New Canaan, CT 06840	36 Standish Drive Ridgefield, CT 06877
Senior Vice President - Finance and Treasurer	Luke C. Anderson	Unimin Corporation 258 Elm Street New Canaan, CT 06840	128 Dunning Road. New Canaan, CT 06840
Senior Vice President - Operations & Senior Vice President - Environmental Affairs	Andrew G. Bradley	Unimin Corporation 258 Elm Street New Canaan, CT 06840	52 Rowayton Avenue Rowayton, CT 06853
Senior Vice President - Technical Services and Procurement	Mark B. Oskam	Unimin Corporation 258 Elm Street New Canaan, CT 06840	7 Main Street Ridgefield, CT 06877-4928
Senior Vice President - Legal and Human Resources & General Counsel and Secretary	Richard M. Solazzo	Unimin Corporation 258 Elm Street New Canaan, CT 06840	470 Queens Grant Rd. Fairfield, CT 06824
Senior Vice President - Mexico	Joaquin Duran Martinez	Unimin Corporation Jose Benitez 2728, Col. Obispado Monterrey, Nuevo Leon, MX 64060	Ave. Colonial de la Sierra 114 Col. Colonial de la Sierra San Pedro Garza Garcia, N.L. 66286-66231 MX
Vice President - Operations	Michael E. Wallenius	Unimin Corporation 39770 Onawa Road LeSueur, MN 56058	108 Woodside Lane Mankato, MN 56001
Vice President & Executive Technical Advisor	Thomas O. Hiscox	Unimin Corporation 258 Elm Street New Canaan, CT 06840	101 S. Leisure Lane Ponderosa Springs Payson, AZ 85541
Senior Vice President - Marketing and Sales	David R. Frattaroli	Unimin Corporation 258 Elm Street New Canaan, CT 06840	640 Newfield Ave. Stamford, CT 06905
Vice President - Investment and Risk Management	Richard L. Benck	Unimin Corporation 258 Elm Street New Canaan, CT 06840	4 Nelson Brook Rd. Monroe, CT 06468
Vice President - Technical Sales & Research and Analytical Services	Richard C. Zielke	Unimin Corporation Highway 197N Bakersville, NC 28705	12 Quail Drive Weaverville, NC 28787
Vice President - Corporate Marketing	Craig W. Johnson	Unimin Corporation 258 Elm Street New Canaan, CT 06840	127 Minuteman Rd. Ridgefield, CT 06877
Vice President - Eastern Operations	Gary V. Podlogar	Unimin Corporation 695 S. Bennett Street Southern Pines, NC 28387	10 Plantation Drive Southern Pines, NC 28387
Vice President - Technical Services	Roger F. Bresee	Unimin Corporation Unit 13, Upper Fl., 637 The Queensway Peterborough, Ont. K9J7J6	82 Cadillac Blvd. RR10meme Ontario, K0I2WD
Vice President - Western Operations	Charles A. Collins	Unimin Corporation 39770 Ottawa Road LeSueur, MN 56058	32546 Hugo Drive St. Peter, MN 56082
Vice President - Quartz Operations	Karl E. Kuchta	Unimin Corporation Highway 197N Bakersville, NC 28705	99 Mountain Stream Rd. Spruce Pine, NC 28777
Vice President - Sales - Quartz, Specialty and Export	Colby T. Banker	Unimin Corporation - Riverton Office Works 3810 South Water Street Pittsburgh, PA 15203	305 Laurel Oak Drive Sewickly, PA 15143
Vice President - Sales - Industrial	Mark E. Bannon	Unimin Corporation - Riverton Office Works 3810 South Water Street Pittsburgh, PA 15203	113 Tarnwood Way Greensburg, PA 15601
Vice President - Sales - Energy	Martin D. Goolsby	Unimin Corporation - Southern Lime 8035 Highway 25W Calera, AL 35040	(in the process of moving 1111)
Vice President - Sales Service	Jeffrey P. Hunt	Unimin Corporation 258 Elm Street New Canaan, CT 06840	44 Beech Tree Hill Road Shelton, CT 06484
Assistant Secretary	George I. Kalapos, Jr.	Unimin Corporation 258 Elm Street New Canaan, CT 06840	502 Allyndale Avenue Stratford, CT 06497
Assistant Treasurer - Taxation	Douglas M. Love	Unimin Corporation 258 Elm Street New Canaan, CT 06840	2 Baldwin Street West Haven, CT 06516
Controller and Chief Accounting Officer	Jean Ng	Unimin Corporation 258 Elm Street New Canaan, CT 06840	140 Centennial Drive Milford, CT 06461

## ATTACHMENT B

### Unimin Corporation Directors

Person	Business Address
Kevin F. Crawford	Unimin Corporation 258 Elm Street New Canaan, CT 06840
Jacques Emsens	SCR - Sibelco S.A. Quellinstraat 49 B-2018 Antwerp, Belgium
Alain Speeckaert	SCR - Sibelco S.A. Quellinstraat 49 B-2018 Antwerp, Belgium
Joseph C. Shapiro	Unimin Corporation 258 Elm Street New Canaan, CT 06840
Jean-Luc Deleersnyder	SCR - Sibelco S.A. Quellinstraat 49 B-2018 Antwerp, Belgium
Thomas Cutbush	WBB Minerals Brookside Hall, Congleton Road Sandbach, Cheshire CW11 4TF, UK

# ATTACHMENT C

## Unimin Corporation Parent Corporation and Subsidiary

Sibelco Europs

Ankerpoort

Sihelco

Cine Akmaden

Grupo Materias Primas

Thomas Cutbush

## ATTACHMENT D

Permit Number	Permit Name	Effective Date	Agency	Issued To
413-057-X004	Synthetic Minor Source Operating Permit, Dryer, etc	10/26/2001	ADEM	Unimin Corporation
413-057-X005	Synthetic Minor Source Operating Permit, Storing, etc	10/26/2001	ADEM	Unimin Corporation
413-057-X006	Synthetic Minor Source Operating Permit, Screening, etc	10/26/2001	ADEM	Unimin Corporation
20428 125 001162	Aboveground and/or underground storage tanks	5/8/2006	ADEM	Unimin Corporation
63-Unimin-1 (SMP 12803)	Surface Mining Permit	10/1/2010	ADIR	Unimin Corporation
AL0063649	NPDES Permit	12/1/2008	ADEM	Unimin Corporation

## ATTACHMENT E

Permit Number	Permit Name	Effective Date	Agency	Issued To
MSOP 411-0054	Air Major Source Operating Permit	12/27/2006	ADEM	Unimin Corporation
NMX-58-080-290	Radiation Permit (Oxford X-Ray Instruments)	7/27/2007	DEP	Unimin Corporation

OTHER PERMITS

## **ATTACHMENT F**

### **DIRECTIONS TO PLANT**

Unimin Corporation – Tuscaloosa Plant  
2400 Crabtree Road  
Tuscaloosa, AL 35405  
Telephone: (205) 758-8353 Fax: (205) 758-2177

#### Directions from Birmingham, AL to Tuscaloosa Plant

- 1 Take I-59/20 South to Tuscaloosa (approximately 59 miles)
- 2 Take Exit 71A (Tuscaloosa/Moundville Exit)
- 3 Take Route 69 South, go 1 to 1 ½ miles to county Road 26
- 4 Turn right on county Road 26, to 1 block to Old Greensboro Road
- 5 Turn left on Old Greensboro Road, go .2 to .3 miles to a 4-way stop
- 6 Turn right on Crabtree Road that leads directly into the plant

## ATTACHMENT G

Capacity (Gallons)	Contents	Number of Tanks	Additional Notes
12,000	Diesel Fuel	1	
500	Gasoline	1	
500	30 WT Oil	1	<b>Not in Service</b>
500	10 WT Oil	1	<b>Not in Service</b>
500	90 WT Oil	1	<b>Not in Service</b>
350	CXI 15-40 Oil	1	<b>Not in Service</b>
55	TELLUS 68 Oil	1	<b>Not in Service</b>
900	USED Oil	1	
55	Surfactant (Betzdearborn DG5671)	MAX 10	
55	Surfactant (DRIMAX 1235C)	MAX 10	
55	ZETAG 7117 (Flock)	MAX 10	
55	Caustic (25%)	MAX 10	
55	Antifreeze	MAX 10	

TANKS

## ATTACHMENT G

Capacity (Gallons)	Contents	Number of Tanks	Additional Notes
12,000	Diesel Fuel	1	
500	Gasoline	1	
500	30 WT Oil	1	<b>Not in Service</b>
500	10 WT Oil	1	<b>Not in Service</b>
500	90 WT Oil	1	<b>Not in Service</b>
350	CXI 15-40 Oil	1	<b>Not in Service</b>
55	TELLUS 68 Oil	1	<b>Not in Service</b>
900	USED Oil	1	
55	Surfactant (Betzdearborn DG5671)	MAX 10	
55	Surfactant (CustoPrep 9300)	MAX 10	
55	Surfactant (DRIMAX 1235C)	MAX 10	
55	ZETAG 7117 (Flock)	MAX 10	
55	Caustic (25%)	MAX 10	
55	Antifreeze	MAX 10	

TANKS



## E2 Receipt

Here is your report submission receipt. [Click here to print.](#)

**Submission ID: 48551**

Submitted on 12/2/2013 8:53:38 AM, at 76.18.96.178

**Submitted by:** Ty Owens  
Unimin Corp Tuscaloosa Plant  
P O Box 1746  
Tuscaloosa, AL 35403  
205-758-8353  
towens@unimin.com

### Report Detail

Summary Discharge Monitoring Report  
Facility Name Unimin Corp Tuscaloosa Plant  
Permit Number AL0063649  
Report Frequency MONTHLY DUE QUARTERLY  
Report Period 10/01/2013 - 10/31/2013

### Attachment Detail

#### Online Attachments

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#### Mail Attachments

---

Mail to Address:

Mail in the following attachment(s):

Thank you for using E2 system!

**Alabama Department of Environmental Management Discharge Monitoring Report**

PERMITTEE NAME: Unimin Corporation  
 MAILING: 258 Elm Street  
 ADDRESS: New Canaan, CT06840  
 FACILITY: Unimin Corp Tuscaloosa Plant  
 LOCATION: 2400 Crabtree Rd.  
 Tuscaloosa, AL 35405

PERMIT NUMBER: *AL0063649*  
 MONITORING POINT: 0011  
 Monitoring Period: 2013-10-01 To: 2013-10-31

COUNTY:  
 NO DISCHARGE FROM SITE:

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
PH PARAM CODE: 00400 Stage Code: 1 Final Effluent	Sample Measurement	*****	*****		7.7	*****	8.4	12 S.U.	0	2X Monthly	Grab
	Permit Requirement	*****	*****		6.0 Minimum Daily	*****	9.0 Maximum Daily				
SOLIDS, TOTAL SUSPENDED PARAM CODE: 00530 Stage Code: 1 Final Effluent	Sample Measurement	*****	*****		*****	1	1	19 mg/l	0	2X Monthly	Grab
	Permit Requirement	*****	*****		*****	25 Daily Average	45 Maximum Daily				
FLOW, IN CONDUIT OR THRU TREATMENT PLANT PARAM CODE: 50050 Stage Code: 1 Final Effluent	Sample Measurement	1.108	2.591	03 MGD	*****	*****	*****		0	2X Monthly	Grab
	Permit Requirement	REPORT Minimum Daily	REPORT Maximum Daily		*****	*****	*****				
Name/Title of Principal Executive Officer Or Authorized Agent	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. §1001 AND 33 U.S.C. §1319 (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months to 5 years.)					Signature of Principal Executive Officer Or Authorized Agent		Telephone No	Date (MM/DD/YY)		
									2013-12-02		

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Page

# MATERIAL SAFETY DATA SHEET



**Date Issued:** 03/04/2008  
**MSDS No:** ZN93000 (CustoPrep 9300)  
**Date Revised:** 05/12/2011  
**Revision No:** 4

## CustoPrep 9300

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Custoprep 9300  
**PRODUCT DESCRIPTION:** Anionic surfactant  
**PRODUCT CODE:** ZN93000 (CustoPrep 9300)  
**CHEMICAL FAMILY:** Surfactants

#### MANUFACTURER

ArrMaz Custom Chemicals  
 4800 State Rd. 60 East  
 Mulberry, FL 33860  
**Emergency Contact:** Jacalyn McCarthy  
**E-Mail:** jmccarthy@am-cc.com  
**Emergency Phone:** 1-863-578-1231  
**Alternate Emergency Phone:** 1-863-578-1206

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

**CANUTEC (Canadian Transportation) :**(613) 996-6666  
**CHEMTREC (US Transportation) :**(800) 424-9300  
 ArrMaz Custom Chemicals: (863) 578-1206

### 2. HAZARDS IDENTIFICATION

#### HAZARD DESIGNATION

"Xi" - Irritant  
 R22: Harmful if swallowed.  
 R36/37/38: Irritating to eyes, respiratory system and skin.

#### POTENTIAL HEALTH EFFECTS

**EYES:** Contact may cause eye irritation.  
**SKIN:** Prolonged exposure may cause skin irritation.  
**INGESTION:** May cause irritation to mucous membranes of the mouth and gastrointestinal tract. Toxicity has not been determined.  
**INHALATION:** None expected under normal conditions of use. Exposure to mists, fumes or vapors may cause irritation of the nose and throat, drowsiness, dizziness, loss of coordination and fatigue.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**CHRONIC EFFECTS:** No information available

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Di-2-ethylhexylsulfosuccinate, sodium salt	100	577-11-7	209-406-4

### 4. FIRST AID MEASURES

**EYES:** Immediate and continuous irrigation with flowing water for at least 15 minutes is imperative. Prompt medical attention is essential.

## CustoPrep 9300

**SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if rash develops. Wash contaminated clothing before reuse.

**INGESTION:** DO NOT induce vomiting. Aspiration of swallowed liquid product may cause lung damage. Seek medical attention immediately.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

**NOTES TO PHYSICIAN:** Treat symptomatically and supportively.

### 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** > (212°F)

**AUTOIGNITION TEMPERATURE:** Not Available

**EXTINGUISHING MEDIA:** Agents approved for Class B fires (CO<sub>2</sub>, foam, steam, dry chemical, etc.) or water fog.

**EXPLOSION HAZARDS:** Not Available

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

### 6. ACCIDENTAL RELEASE MEASURES

#### GENERAL PROCEDURES: IN CASE OF SPILLS:

No action shall be taken involving personal risk without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering spill area. Do not touch or walk through material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate Personal Protective Equipment (PPE). Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Absorb with materials such as: Clay. Dirt. Milsorb. Sand. Do NOT use absorbent materials such as: Cellulose. Sawdust. May be neutralized with alkali. After all visible traces have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Collect any wash water for disposal. Dispose of according to local, state and federal regulations. Advise authorities if material has entered or may enter waterways or sewer drains.

### 7. HANDLING AND STORAGE

**HANDLING:** Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Do not ingest or inhale.

**STORAGE:** Store in a tightly closed container. Keep from contact with oxidizing agents. Store in a cool, dry well-ventilated area away from incompatible materials. Keep away from acids. Keep away from strong bases.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

## CustoPrep 9300

## EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Di-2-ethylhexylsulfosuccinate, sodium salt	TWA	ppm [1]	mg/m <sup>3</sup> [1]	ppm	mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
	STEL	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
<b>Footnotes:</b>							
1. NL = Not Listed							

## PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses with side shields or goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**SKIN:** Avoid skin contact. Wear impermeable gloves and suitable protective clothing.

**RESPIRATORY:** A respiratory protection program that meets 29 CFR & OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**PROTECTIVE CLOTHING:** Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

**OTHER USE PRECAUTIONS:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Characteristic

**APPEARANCE:** Light yellow liquid.

**pH:** ~ 6

**Notes:** 1% solution

**VAPOR PRESSURE:** Not Available

**VAPOR DENSITY:** Not Available

**BOILING POINT:** (212°F)

**FREEZING POINT:** ~ (32°F)

**FLASHPOINT AND METHOD:** > (212°F)

**SOLUBILITY IN WATER:**

Dispersible

**SPECIFIC GRAVITY:** ~ 1.052

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable.

**POLYMERIZATION:** Has not been reported.

**CONDITIONS TO AVOID:** Dust generation, strong acids, strong oxidants, bases.

**INCOMPATIBLE MATERIALS:** Strong acid, strong bases and strong oxidizers.

## 11. TOXICOLOGICAL INFORMATION

## CARCINOGENICITY

**CustoPrep 9300****NTP:** Not listed.

**COMMENTS:** Draize rest, rabbit, eye: 250 ug Mild;  
 Draize rest, rabbit, eye: 1% Severe;  
 Draize test, rabbit, skin: 10 mg/24H Moderate;  
 Oral, mouse: LD50 = 2643 mg/kg;  
 Oral, rat: LD50 = 1900 mg/kg;

**12. ECOLOGICAL INFORMATION****ENVIRONMENTAL DATA:** No information available**ECOTOXICOLOGICAL INFORMATION:** No information available**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characteristics and compliance with applicable laws are the responsibility solely of the waste generator.

**ArrMaz Custom Chemicals HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition information.**

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted, recycler, incinerator or other thermal destruction device.

**EMPTY CONTAINER:** Empty container may contain product residue and should not be reused.**RCRA/EPA WASTE INFORMATION:** No RCRA waste number assigned.**14. TRANSPORT INFORMATION****DOT (DEPARTMENT OF TRANSPORTATION)****PROPER SHIPPING NAME:** Not regulated**15. REGULATORY INFORMATION****UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****313 REPORTABLE INGREDIENTS:** Contains no SARA 313 reportable ingredients.**302/304 EMERGENCY PLANNING****EMERGENCY PLAN:** No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)****CERCLA REGULATORY:** Contains no CERCLA listed compounds**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

Chemical Name	CAS
Di-2-ethylhexylsulfosuccinate, sodium salt	577-11-7

**TSCA STATUS:** All components are listed on the TSCA inventory.**REGULATIONS****STATE REGULATIONS:** None of this product's components are listed in CA, FL, MA, MN, NJ or PA.**CALIFORNIA PROPOSITION 65:** California No Significant Risk Level: None of the chemicals in this product are listed.**OSHA HAZARD COMM. RULE:** None of the chemicals in this product are considered highly hazardous by OSHA.

**CustoPrep 9300**

**CLEAN WATER ACT:** None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**CANADA**

**WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**WHMIS CLASS:** D1B, D2B

**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components of this product are listed on the Domestic Substances List (DSL).

**EUROPEAN COMMUNITY****EEC LABEL SYMBOL AND CLASSIFICATION**

"Xi" - Irritant

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system and skin.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39: Wear suitable gloves and eye/face protection.

**16. OTHER INFORMATION**

**REASON FOR ISSUE:** New

**APPROVED BY:** Guoxin Wang      **TITLE:** MSDS Coordinator

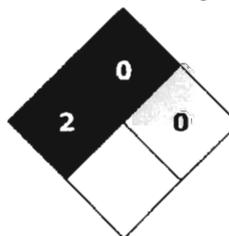
**PREPARED BY:** Richard Gillette

**INFORMATION CONTACT:** Richard Gillette

**REVISION SUMMARY:** This MSDS replaces the 04/07/2010 MSDS. Revised: **Section 5: FLASHPOINT AND METHOD.** **Section 9: APPEARANCE, BOILING POINT, DENSITY, FREEZING POINT, MOLECULAR WEIGHT, pH, PHYSICAL STATE, SOLUBILITY IN WATER, SPECIFIC GRAVITY.**

**HMIS RATING**

<b>HEALTH</b>	<input type="checkbox"/>	<b>2</b>
<b>FLAMMABILITY</b>		<b>0</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>
<b>PERSONAL PROTECTION</b>		<b>X</b>

**NFPA CODES**

**MANUFACTURER DISCLAIMER:** This safety data sheet and the information it contains are offered to you in good faith as accurate. We have reviewed any information contained in this data sheet that we received from sources outside our company. We believe that this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is

**CustoPrep 9300**

made, either expressed or implied.

Ciba Specialty Chemicals Corporation

Ciba



## Material Safety Data Sheet

OSHA / ANSI 2003 Compliant

MSDS date: 14-Jul-2004

**NEPA Rating:** Health: 1 Flammability: 0 Instability: 0 Special Hazards: -  
**HMIS Rating:** Health: 1 Flammability: 0 Physical Hazard: 0 Personal Protection: X

**Product Name:** ZETAG 7117  
**Product Number:** 2234485  
**Chemical Family:** Organic Cationic Polyelectrolyte  
**Intended Use:** Retention Aid  
**Manufacturer/Supplier:** Ciba Specialty Chemicals Corporation  
 2301 Wilroy Road  
 Suffolk, VA 23434  
 8:30am - 5pm Phone Number: 1-757-538-3700  
 MSDS Request Line (voicemail): 1-800-431-2360  
 Customer Service/Product Information 1-800-322-3885  
  
**Emergency 24-Hour Health/Environmental Phone: 1-800-873-1138**

### EMERGENCY OVERVIEW

**Signal Word:** CAUTION  
**Physical Form:** Liquid  
**Color:** Straw colored  
**Odor:** Amine-like or Musty  
**Health:** Prolonged exposure or direct contact may cause eye and skin irritation.  
**Physical Hazards:** Spills are very slippery.

**OSHA Hazardous Substance:** This material is classified as hazardous under OSHA regulations.  
**Primary Route(s) of Entry:** Ingestion, Skin, Inhalation, Eyes.

### HAZARDOUS COMPONENTS

MSDS date: 14-Jul-2004

Product Name: ZETAG 7117

Component	CAS Number	Weight %
2-Propen-1-aminium, N,N-dimethyl-N-(2-propenyl)-chloride, homopolymer	28062-79-3	10-30

**Eyes:** Immediately flush the eye(s) with lukewarm, gently flowing water for 15 minutes or until the chemical is removed. Get medical attention.

**Skin:** Wash off immediately with soap and plenty of water. Get medical attention if irritation occurs. If clothing is contaminated, remove and launder before reuse.

**Inhalation:** Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen and get immediate medical attention.

**Ingestion:** Do not induce vomiting. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. Seek medical attention immediately.

**Fire Fighting Measures:** Standard procedure for chemical fires.

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, foam or water spray.

**Fire Fighting Equipment:** Wear self-contained breathing apparatus and protective suit.

**Unusual hazards:** Spills can cause very slippery conditions on floors. Restrict pedestrian and vehicular traffic in areas where slip hazard may exist.

**Hazardous Combustion Products:** Combustion can result in carbon monoxide, carbon dioxide, oxides of nitrogen, and hydrochloric acid.

**Cleanup Instructions:** Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Wear suitable protective equipment. Should not be released into the environment.

**Handling:** As with all industrial chemicals, use good industrial practices when handling. Avoid eye, skin, and clothing contact. Do not inhale. Do not taste or swallow. Use only with adequate ventilation.

**Storage:** Keep containers tightly closed in a cool, well-ventilated place. Product contains water and can freeze. If frozen, warm to 60-70 °F using indirect heat. Product may stratify upon warming. Aggitate with low shear agitation prior to use.

**Frost:** Product will freeze but should recover upon warming and mixing.

**For Industrial Use Only**

MSDS date: 14-Jul-2004

Product Name: ZETAG 7117

**Exposure Guidelines:**

There are no OSHA or ACGIH exposure guidelines available for component(s) in this product.

**Personal Protective Equipment**

- Eye/Face Protection:** Wear splash proof chemical goggles.
- Skin Protection:** Wear chemical resistant gloves and protective clothing.
- Respiratory Protection:** Use NIOSH approved respirator as needed to mitigate exposure.
- Engineering Controls:** Work in well ventilated areas. Do not breathe vapors or mist.
- Other Protective Equipment:** Eye wash station and safety shower should be available in immediate work area. Select additional protective equipment based upon potential for exposure.

<b>Physical Form:</b>	Liquid
<b>Color:</b>	Straw colored
<b>Odor:</b>	Amine-like, or, Musty.
<b>Boiling Point:</b>	> 100 °C ( 212°F)
<b>Freezing/Melting Point:</b>	-3 - 0 °C ( 27 - 32°F)
<b>Solubility in water:</b>	Soluble
<b>Vapor Density:</b>	Not determined
<b>Vapor Pressure:</b>	Not determined
<b>Specific Gravity:</b>	1.035
<b>pH:</b>	5 - 8
<b>Percent Volatile:</b>	Not determined
<b>VOC:</b>	3.3% (EPA method 24/24A)
<b>Partition Coefficient (Octanol/Water):</b>	Not determined
<b>Autoignition Temperature:</b>	Not determined
<b>Decomposition Temperature:</b>	Not determined
<b>Flammability Limits in Air:</b>	
Upper	Not determined
Lower	Not determined
<b>Flash point:</b>	> 100 °C ( 212°F)
<b>Test Method (for Flash Point):</b>	Pensky-Martens Closed Cup (ASTM D-93)

<b>Stability:</b>	Stable.
<b>Conditions to Avoid:</b>	Avoid temperature extremes, especially frost and freezing conditions.
<b>Incompatibility:</b>	Strong oxidizing agents. May react slowly with iron, copper, and aluminum resulting in corrosion and discoloration of product.
<b>Hazardous Decomposition Products:</b>	No decomposition expected under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None expected.

MSDS date: 14-Jul-2004

Product Name: ZETAG 7117

Acute Oral Toxicity:	> 5000 mg/kg LD50: (Rats) (active ingredient)
Acute Dermal Toxicity:	Not determined
Acute Inhalation Toxicity:	May cause respiratory irritation.
Eye Irritation:	(Rabbits) irritant - active component
Skin Irritation:	(Rabbits) irritant - active component
Skin Sensitization:	Not determined
Carcinogenicity (IARC; NTP; OSHA; ACGIH):	None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.
Carcinogenicity Studies:	Not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.
Mutagenicity:	Not determined
Reproductive Toxicity:	Not determined
Teratogenicity:	Not determined
Neurotoxicity:	Not determined
Subacute Toxicity:	Not determined
Subchronic Toxicity:	A six month study with rats at doses of 1000 mg/kg/day and 2000 mg/kg/day showed cellular effects in kidneys and lungs. Both test concentrations also reduced body weight gain. The No Effect dose is less than 1000 mg/kg/day. (based on active ingredient)
Chronic toxicity:	Not determined
Absorption / Distribution / Excretion / Metabolism:	Not determined
Additional Information:	Not determined

Toxicity to Fish:	0.42 mg/L LC50 96 hour (Rainbow trout) (active ingredient)
Toxicity to Invertebrates:	0.33 mg/L LC50 48 hour (Daphnia magna) (active ingredient)
Toxicity to Algae:	0.16 mg/L EC50 72 hour (Green algae) (active ingredient)
Toxicity to Sewage Bacteria:	Not determined
Activated Sludge Respiration Inhibition Test:	Not determined

MSDS date: 14-Jul-2004

Product Name: ZETAG 7117

**Biochemical Oxygen Demand (BOD):** Not determined

**Chemical Oxygen Demand (COD):** Not determined

**Total Oxygen Demand (TOD):** Not determined

**Biodegradability:** Not determined

**Bioaccumulation:** Not determined

**Additional Environmental Data:** Prevent spills from entering drains or waterways.

**Waste Disposal:** Dispose in accordance with local, state, provincial and federal regulations.

**U.S. Department of Transportation (DOT):**

Not regulated for this mode of transport.

**International Maritime Dangerous Goods (IMDG):**

Not regulated for this mode of transport.

**International Air Transportation Authority (IATA):**

Not regulated for this mode of transport.

**Federal Regulations**

**OSHA Hazardous Substance:** This material is classified as hazardous under OSHA regulations

**Clean Air Act - Hazardous Air Pollutants (HAP):** This product does not contain any Hazardous Air Pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

**Clean Air Act - Volatile Organic Compounds (VOC):** This product does not contain any SOCM Intermediate or Final Volatile Organic Compounds (VOC), as defined by the U.S. Clean Air Act Section 111 (40 CFR 60.489).

**Clean Air Act - Ozone Depleting Substances (ODS):** This product neither contains, nor was manufactured with, a Class I or Class II ozone depleting substance (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

MDS date: 14-Jul-2004

Product Name: ZETAG 7117

**Clean Water Act - Priority Pollutants (PP):** This product does not contain any priority pollutants listed under the U.S. Clean Water Act Section 307 (2)(1) Priority Pollutant List (40 CFR 401.15).

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261.21).

**SARA Section 302 Extremely Hazardous Substances (EHS):** This product does not contain any components regulated under Section 302 (40 CFR 355) as Extremely Hazardous Substances.

**SARA Section 304 CERCLA Hazardous Substances:** This product does not contain any components regulated under Section 304 (40 CFR 302) as hazardous chemicals for emergency release notification ("CERCLA" List).

**SARA Section 311/312 Hazard Communication Standard (HCS):** Acute (immediate) health hazard.

**SARA Section 313 Toxic Chemical List (TCL):** This product does not contain any component(s) listed on the Section 313 Toxic Chemical List.

**TSCA Section 8(b) Inventory Status:** All component(s) comprising this product are either exempt or listed on the TSCA Inventory.

**TSCA Section 5(e) Consent Orders:** This product is not subject to a Section 5(e) Consent Order.

**TSCA Significant New Use Rule (SNUR):** This product is not subject to a Significant New Use Rule (SNUR).

**TSCA Section 5(f):** This product is not subject to a Section 5(f)/6(a) rule.

**TSCA Section 12(b) Export Notification:** This product does not contain any component(s) that are subject to a Section 12(b) Export Notification.

**FDA Status:** Has been cleared for use as Paper and paperboard in contact with aqueous and fatty foods complying with 21 CFR 176.170 used as a retention aid or flocculant only and has been cleared for use as Paper and paperboard in contact with dry foods complying with 21 CFR 176.180.

### State Regulations

**California Proposition 65:** This product does not contain any components currently on the California list of Known Carcinogens and Reproductive Toxins.

**Pennsylvania Right-To-Know:** This product does not contain any components currently on the Pennsylvania Right-To-Know list of hazardous chemicals.

### International Regulations

**Chemical Weapons Convention (CWC):** This product does not contain any component(s) listed under the Chemical Weapons Convention Schedule of Chemicals.

**Domestic Substance List (DSL) Status:** All components are listed on the DSL.

**Reason for revision:** VOC update.

MSDS date: 14-Jul-2004

Product Name: ZETAG 7117

Product Safety & Regulatory (PS&R) contact:

Karl Baron (757) 538-5126

**Disclaimer:** The information contained herein is based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to such data or information. The user is responsible for determining whether the product is suitable for its intended conditions of use.

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

## NFPA Hazard codes:

Health: 1                      Fire: 1                      Reactivity: 0                      Special:

## HMIS III rating

Health: 1<sup>+</sup>                      Flammability: 1                      Physical hazard 0                      Personal protection: B

HMIS Note: \* Indicates possible chronic health effects.

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Company Information

Company :                      Ciba Specialty Chemicals Corporation  
2301 Wilroy Road  
P.O.Box 820  
Suffolk, VA 23434-0820  
U.S.A.  
Customer Service / Product Information: 1-800-322-3885  
MSDS Request Line: 1-800-431-2360

### Emergency information

Emergency 24-Hour                      (24h) +1-800-873-1138  
Health/Environmental Phone:  
CHEMTREC:                      (800) 424-9300 (24hrs) or (703) 527-3887

### Product information

Product                      DRIMAX 1235AC  
Use:                      wetting agent

## 2. Hazards Identification

### Emergency overview

Signal word                      CAUTION: !  
Colour :                      colourless  
Appearance:                      liquid  
State of matter:                      liquid  
Odour :                      mild  
Health:                      This product is an eye, skin and respiratory irritant., Inhalation of vapors may cause central nervous system depression., Toxic by ingestion., Possible reproductive effects.  
Physical/Chemical hazards:                      None Expected

### Potential health effects

#### Primary routes of entry:

Skin, Eyes, Inhalation, Ingestion

## 3. Composition/Information on Ingredients

<u>Chemical name</u>	<u>CAS Number</u>	<u>Content (Weight)</u>	<u>Hazardous</u>
1,2-Ethanediol	107-21-1	10.0- 30.0%	Y
Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt	577-11-7	60.0- 100.0%	Y

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

This material is classified as hazardous under OSHA regulations.

## 4. First-aid Measures

### Inhalation:

Remove to fresh air, if not breathing give artificial respiration. If breathing is difficult, give oxygen and get immediate medical attention.

### Skin:

If clothing is contaminated, remove and launder before reuse.  
After contact with skin, wash immediately with plenty of water and soap.  
Get medical attention if irritation occurs.

### Eyes:

Immediately flush the eye(s) with lukewarm, gently flowing water for 15 minutes or until the chemical is removed.  
Get immediate medical attention if irritation persists.

### Ingestion:

Do not induce vomiting. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration.  
Seek medical attention immediately.

## 5. Fire-fighting Measures

### Suitable extinguishing media:

carbon dioxide, dry powder, foam

### Unsuitable Extinguishing Media:

water jet

### Hazardous combustion products:

Carbon and sulfur oxides.

### Hazards during fire-fighting:

Standard procedure for chemical fires.  
Cool fire-exposed containers with water.

### Protective equipment for fire-fighting:

Wear self-contained breathing apparatus and chemical-protective clothing.

## 6. Accidental Release Measures

### Cleanup:

Pick up with inert absorbent material (e.g. sand, earth etc.).  
Place into approved waste containers.  
Wear suitable protective equipment.  
Should not be released into the environment.

## 7. Handling and Storage

### Handling

#### General advice:

Do not store in mild steel containers. Avoid extremes of temperature. As with all industrial chemicals, use good industrial practices when handling. Avoid eye, skin, and clothing contact. Do not inhale. Do not taste or swallow.  
Use only with adequate ventilation.

### Storage

#### General advice:

Keep container tightly closed in a dry, cool and well-ventilated place.  
Do not store in mild steel containers.

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release: 1.0

Product: DRIMAX 1235AC

Avoid extremes of temperature.

> for industrial use only <

## 8. Exposure Controls and Personal Protection

### Exposure Guidelines

1,2-Ethanediol (107-21-1)	ACGIH	Ceiling: 100 mg/m3 aerosol
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### Engineering Controls :

Work in well ventilated areas. Do not breathe vapors or mist.

### Personal protective equipment

#### Respiratory protection:

Wear a NIOSH-certified respirator as necessary.

#### Eye protection:

Tightly fitting safety goggles (splash goggles) (EN 166)

#### Body protection :

Wear chemical resistant gloves and protective clothing.

#### General safety and hygiene measures:

Eye wash station and safety shower should be available in immediate work area., Select additional protective equipment based upon potential for exposure.

## 9. Physical and Chemical Properties

Colour :	colourless	
Form	liquid	
State of matter:	liquid	
Odour :	mild	
pH value:	5.5	
Lower explosion limit:		Not applicable
Upper explosion limit:		Not applicable
Flash point	> 93 °C	
Self-ignition temperature:		Not applicable
		Not applicable
Melting point:	< 0 °C	
Boiling point :		Not tested
Vapour pressure:		Not tested
Density:	1.1 g/cm3	
Partitioning coefficient n-octanol/water (log Pow)		Not applicable
Viscosity, dynamic:		Not tested
% Volatiles:		not determined
Solubility in water :		miscible

## 10. Stability and Reactivity

### Stability:

Stable.

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

**Conditions to avoid:** Avoid extreme temperatures. Avoid freezing.

**Substances to avoid:** strong alkalies, Unalloyed steel, strong acids

**Possibility of Hazardous Reactions:** No hazardous reactions known.

**Hazardous decomposition products:** sodium oxides sulfur oxides Carbon oxides.

## 11. Toxicological Information

### Acute oral toxicity:

LD50 / oral / rat 1,900 mg/kg

### Acute inhalation toxicity:

Not determined.

#### *Information on: 1,2-Ethanediol*

Repeated exposure to animals by inhalation to saturated vapors indicated histopathological changes of the liver, lung. Eye irritation, clouding of the eye.

### Acute dermal toxicity:

LD50 / dermal / rabbit: 9,530 mg/kg

### Skin irritation:

: Not determined

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*  
(Rabbits) Moderate irritant.

#### *Information on: 1,2-Ethanediol*

Minor skin irritation and penetration may occur. Skin allergy can develop.

### Eye irritation:

: Not determined.

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*  
(Rabbits) Up to 2% concentration -- irritant. Up to 10% concentration – severe irritant.

#### *Information on: 1,2-Ethanediol*

May cause eye irritation.

### Skin Sensitization:

Not a sensitizer.

### Chronic toxicity:

not determined

### Subacute Toxicity:

not determined

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

## Subchronic Toxicity:

*Information on: 1,2-Ethanediol*  
*Repeated small exposures by any route can cause severe kidney problems., Repeated and long term exposure caused: Histopathological changes of the kidneys, bone marrow, testes, bloodvessels, liver, sperm.. Kidney effects with oxalate crystal deposition. Altered hematology. Decreased body weight.*

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## Genetic toxicity:

Not determined.

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*

*Information on: 1,2-Ethanediol*

---

## Carcinogenicity:

None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*

*Information on: 1,2-Ethanediol*

---

## Reproductive toxicity:

not determined

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*  
*3-generation rat reproduction study: Diets containing up to 1.0% did not affect parental reproductive function or offspring survival. Primary effect was decreased body weight.*

*Information on: 1,2-Ethanediol*

---

## Developmental toxicity/teratogenicity:

Possible teratogen.

The statements are based on the properties of the the individual components.

*Information on: Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt*

*Information on: 1,2-Ethanediol*

*Embryotoxicity and teratogenicity was observed in animal studies, in the absence of maternal toxicity. There is no currently available information to suggest that ethylene glycol has caused birth defects in humans.*

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## Other relevant toxicity information:

Toxic to kidneys, lungs, liver.

*Information on: 1,2-Ethanediol*

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# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

## 12. Ecological Information

### Toxicity to fish:

Oncorhynchus mykiss /96 h/LC50: approx. = ~ 40 ppm

### Other ecotoxicological advice :

No data available. Prevent spills from entering drains or waterways.

## 13. Disposal Considerations

### Waste disposal of substance :

Dispose of in accordance with national, state and local regulations.

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).

## 14. Transport Information

### U.S. Department of Transportation

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

### Road transport:

Special shipping information Not classified as a dangerous good under transport regulations.

### Air transport :

Special shipping information Not classified as a dangerous good under transport regulations.

### Inland-waterway transport:

Special shipping information Not classified as a dangerous good under transport regulations.

## 15. Regulatory Information

US: Toxic Substances Control Act (TSCA):

All component(s) comprising this product are either exempt or listed on the TSCA inventory

Canada: Domestic Substances List (DSL):

All components either exempt or listed on the DSL

### United States - Regulations

#### SARA Section 311/312 Hazard Communication Standard :

Acute Health:	Y	Fire:	N
Chronic Health:	Y	Reactivity:	N
		Sudden release of pressure:	N

#### SARA Section 313 Toxic Chemical List :

<u>Chemical name</u>	<u>CAS Number</u>	<u>Content (Weight)</u>
1,2-Ethanediol	107-21-1	20.0 %

### OSHA hazard category:

This material is classified as hazardous under OSHA regulations.

### Toxic Substances Control Act (TSCA) Significant New Use Rule (SNUR) :

This product is not subject to a Significant New Use Rule (SNUR).

# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant



Date / Revised: 03-08-2007

Release : 1.0

Product: DRIMAX 1235AC

## Toxic Substances Control Act (TSCA) Section 5(e) Consent Orders:

This product is not subject to a Section 5(e) Consent Order.

## Toxic Substances Control Act (TSCA) Section 5(f):

This product is not subject to a Section 5(f)/6(a) rule.

## Toxic Substances Control Act (TSCA) Section 12(b) Export Notification:

No components listed.

## Clean Air Act - Hazardous Air Pollutants (HAP):

<u>Chemical name</u>	<u>CAS Number</u>	<u>Notification</u>
1,2-Ethanediol	107-21-1	Listed

## Clean Air Act 111 - Volatile Organic Compounds (VOC):

<u>Chemical name</u>	<u>CAS Number</u>	<u>Notification</u>
1,2-Ethanediol	107-21-1	Listed

## Clean Air Act 602 - Ozone Depleting Substances (ODS):

This product neither contains, nor was manufactured with, a Class I or Class II ozone depleting substance (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

## Clean Water Act - Priority Pollutants (PP):

This product does not contain any priority pollutants listed under the U.S. Clean Water Act Section 307(2)(1) Priority Pollutant List (40 CFR 401.15).

## Pennsylvania Right to Know:

<u>Chemical name</u>	<u>CAS Number</u>	<u>Notification</u>
1,2-Ethanediol	107-21-1	Environmental hazard.
1,2-Ethanediol	107-21-1	Listed

## California Proposition 65 - Chemicals Known to the State to Cause Cancer:

No components listed.

## California Proposition 65 - Chemicals Known to the State to Cause Reproductive Toxicity:

No components listed.

## International Regulations

### Chemical Weapons Convention:

This product does not contain any component(s) listed under the Chemical Weapons Convention Schedule of Chemicals.

## 16. Other Information

### Disclaimer:

The information contained herein is based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to such data or information. The user is responsible for determining whether the product is suitable for its intended conditions of use.

END OF DATA SHEET



**GE Betz**

GE Betz, Inc.  
4636 Somerton Road  
Trevose, PA 19053  
Business telephone: (215) 355-3300

Material Safety Data Sheet

Issue Date: 01-APR-2004

**EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940**

**1 PRODUCT IDENTIFICATION**

PRODUCT NAME:

**BETZDEARBORN DG5671**

PRODUCT APPLICATION AREA:

**DEWATERING AID**

**2 COMPOSITION / INFORMATION ON INGREDIENTS**

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

**HAZARDOUS INGREDIENTS:**

CAS#	CHEMICAL NAME
	TRADE SECRET INGREDIENT(E019);TSRN 125438 - 5008P Irritant (eyes and skin)
	TRADE SECRET INGREDIENT(E031);TSRN 125438 - 5020P Irritant (eyes)

No component is considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration at OSHA thresholds for carcinogens.

**3 HAZARDS IDENTIFICATION**

\*\*\*\*\*  
**EMERGENCY OVERVIEW**

**CAUTION**

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Vapors, gases, mists and/or aerosols may

Material Safety Data Sheet - BETZDEARBORN DG5671

cause irritation to upper respiratory tract.

DOT hazard is not applicable

Emergency Response Guide is not applicable

Odor: Mild; Appearance: Colorless To Light Yellow, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

\*\*\*\*\*

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:

Primary route of exposure; May cause slight irritation to the skin.

ACUTE EYE EFFECTS:

May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:

Vapors, gases, mists and/or aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:

May cause slight gastrointestinal irritation. Small amounts aspirated during ingestion or vomiting may cause lung injury, possibly leading to death.

TARGET ORGANS:

No evidence of potential chronic effects.

MEDICAL CONDITIONS AGGRAVATED:

Not known.

SYMPTOMS OF EXPOSURE:

May cause redness or itching of skin.

4 FIRST AID MEASURES

SKIN CONTACT:

Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

NOTES TO PHYSICIANS:

Aspiration into the lungs will result in chemical pneumonia and may be fatal.

5 FIRE FIGHTING MEASURES

FIRE FIGHTING INSTRUCTIONS:

## Material Safety Data Sheet - BETZDEARBORN DG5671

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

**EXTINGUISHING MEDIA:**

dry chemical, carbon dioxide, foam or water

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**FLASH POINT:**

> 200F > 93C P-M(CC)

## 6 ACCIDENTAL RELEASE MEASURES

**PROTECTION AND SPILL CONTAINMENT:**

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

**DISPOSAL INSTRUCTIONS:**

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement, a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

## 7 HANDLING & STORAGE

**HANDLING:**

Normal chemical handling.

**STORAGE:**

Keep containers closed when not in use. Do not freeze. If frozen, thaw and mix completely prior to use.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE LIMITS****CHEMICAL NAME**

TRADE SECRET INGREDIENT(E019);TSRN 125438 - 5008P

PEL (OSHA): NOT DETERMINED

TLV (ACGIH): NOT DETERMINED

TRADE SECRET INGREDIENT(E031);TSRN 125438 - 5020P

PEL (OSHA): NOT DETERMINED

TLV (ACGIH): NOT DETERMINED

**ENGINEERING CONTROLS:**

adequate ventilation

**PERSONAL PROTECTIVE EQUIPMENT:**

Use protective equipment in accordance with 29CFR 1910 Subpart I

**RESPIRATORY PROTECTION:**

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.

If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges.

**SKIN PROTECTION:**

rubber gloves-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

splash proof chemical goggles

## Material Safety Data Sheet - BETZDEARBORN DG5671

**9 PHYSICAL & CHEMICAL PROPERTIES**

Specific Grav. (70F, 21C)	1.041	Vapor Pressure (mmHG)	< 1.0
Freeze Point (F)	24	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-4		
Viscosity(cps 70F, 21C)	551	% Solubility (water)	0.0
Odor		Mild	
Appearance		Colorless To Light Yellow	
Physical State		Liquid	
Flash Point	P-M(CC)	> 200F > 93C	
pH 5% Sol. (approx.)		5.4	
Evaporation Rate (Ether=1)		< 1.00	

NA = not applicable ND = not determined

**10 STABILITY & REACTIVITY****STABILITY:**

Stable under normal storage conditions.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**INCOMPATIBILITIES:**

May react with strong oxidizers.

**DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**INTERNAL PUMPOUT/CLEANOUT CATEGORIES:**

"B"

**11 TOXICOLOGICAL INFORMATION**

Oral LD50 RAT:	>2,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>2,000 mg/kg
NOTE - Estimated value	

**12 ECOLOGICAL INFORMATION****AQUATIC TOXICOLOGY**

Daphnia magna 48 Hour Static Renewal Bioassay  
 LC50= 2.9; No Effect Level= 2.1 mg/L  
 Fathead Minnow 96 Hour Static Renewal Bioassay  
 LC50= 4; No Effect Level= 3.3 mg/L

**BIODEGRADATION**

No Data Available.

**13 DISPOSAL CONSIDERATIONS**

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :  
 Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding

## Material Safety Data Sheet - BETZDEARBORN DG5671

Page 5 of 6

the proper disposal of this material.

**14 TRANSPORT INFORMATION**

DOT HAZARD: Not Applicable  
 UN / NA NUMBER: Not applicable  
 DOT EMERGENCY RESPONSE GUIDE #: Not applicable

**15 REGULATORY INFORMATION****TSCA:**

All components of this product are listed in the TSCA inventory.

**CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):**

Treat as oil spill

**SARA SECTION 312 HAZARD CLASS:**

Immediate (acute)

**SARA SECTION 302 CHEMICALS:**

No regulated constituent present at OSHA thresholds

**SARA SECTION 313 CHEMICALS:**

No regulated constituent present at OSHA thresholds

**CALIFORNIA REGULATORY INFORMATION****CALIFORNIA SAFE DRINKING WATER AND TOXIC****ENFORCEMENT ACT (PROPOSITION 65) CHEMICALS PRESENT:**

This product contains these chemicals known to the state of California to cause cancer and/or reproductive toxicity:

CAS#	CHEMICAL NAME
123-91-1	1,4-DIOXANE
75-21-8	ETHYLENE OXIDE (OXIRANE)
75-07-0	ACETALDEHYDE
50-00-0	FORMALDEHYDE

**MICHIGAN REGULATORY INFORMATION**

No regulated constituent present at OSHA thresholds

**16 OTHER INFORMATION****NFPA/HMIS****CODE TRANSLATION**

Health	1	Slight Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles, Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

**CHANGE LOG**

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	19-NOV-1998		** NEW **
	02-AUG-2001	12	19-NOV-1998
	10-DEC-2002	4, 15	02-AUG-2001
	01-APR-2004	15	10-DEC-2002

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FORM <b>1</b> GENERAL		U.S. ENVIRONMENTAL PROTECTION AGENCY <b>GENERAL INFORMATION</b> <i>Consolidated Permits Program</i> <i>(Read the "General Instructions" before starting.)</i>	I. EPA I.D. NUMBER AL0063649
LABEL ITEMS I. EPA I.D. NUMBER III. FACILITY NAME V. FACILITY MAILING ADDRESS VI. FACILITY LOCATION		PLEASE PLACE LABEL IN THIS SPACE	GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

**II. POLLUTANT CHARACTERISTICS**

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X"			SPECIFIC QUESTIONS	Mark "X"		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a <b>publicly owned treatment works</b> which results in a <b>discharge to waters of the U.S.</b> ? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a <b>concentrated animal feeding operation</b> or <b>aquatic animal production facility</b> which results in a <b>discharge to waters of the U.S.</b> ? (FORM 2B)		X	
C. Is this a facility which currently results in <b>discharges to waters of the U.S.</b> other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a <b>discharge to waters of the U.S.</b> ? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of <b>hazardous wastes</b> ? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, <b>underground sources of drinking water</b> ? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed <b>stationary source</b> which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an <b>attainment area</b> ? (FORM 5)		X		J. Is this facility a proposed <b>stationary source</b> which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an <b>attainment area</b> ? (FORM 5)		X	

**III. NAME OF FACILITY**

1 SKIP Unimin Corporation - Tuscaloosa Plant

**IV. FACILITY CONTACT**

A. NAME & TITLE (last, first, & title) Robertson, Glenn - Plant Manager

B. PHONE (area code & no.) (205) 758-8353

**V. FACILITY MAILING ADDRESS**

A. STREET OR P.O. BOX P.O. Box 1746

B. CITY OR TOWN Tuscaloosa

C. STATE AL

D. ZIP CODE 35403

**VI. FACILITY LOCATION**

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER 2400 Crabtree Road

B. COUNTY NAME Tuscaloosa

C. CITY OR TOWN Tuscaloosa

D. STATE AL

E. ZIP CODE 35405

F. COUNTY CODE (if known)

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)			
A. FIRST		B. SECOND	
C	7 1446 (specify) Industrial Sand	C	7 1442 (specify) Sand and Gravel
15 16	19	15 16	19
C. THIRD		D. FOURTH	
C	7 (specify)	C	7 (specify)
15 16	19	15 16	19

VIII. OPERATOR INFORMATION			
A. NAME			B. Is the name listed in item VIII-A also the owner?
C	8 Unimin Corporation		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
15 16			55 56

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other," specify)		D. PHONE (area code & no.)
F = FEDERAL S = STATE P = PRIVATE	M = PUBLIC (other than federal or state) O = OTHER (specify)	C
	P (specify)	A (203) 966-8880
58		15 16 18 19 21 22 26

E. STREET OR P.O. BOX	
258 Elm Street	
28	55

F. CITY OR TOWN		G. STATE	H. ZIP CODE	IX. INDIAN LAND
C	B New Canaan	CT	06840	Is the facility located on Indian lands?
15 16		40 41	42 47 51	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
				52

X. EXISTING ENVIRONMENTAL PERMITS			
A. NPDES (Discharges to Surface Water)		D. PSD (Air Emissions from Proposed Sources)	
C	T I	C	T I
9	N See Attachment D	9	P
15 16 17 18	30	15 16 17 18	30
B. UIC (Underground Injection of Fluids)		E. OTHER (specify)	
C	T I	C	T I
9	U	9	
15 16 17 18	30	15 16 17 18	30
C. RCRA (Hazardous Wastes)		E. OTHER (specify)	
C	T I	C	T I
9	R	9	
15 16 17 18	30	15 16 17 18	30

XI. MAP  
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)  
Dredging of silica sand and gravel, operation of sand pit, washing, drying, screening and preparing product for industrial and other uses.

XIII. CERTIFICATION (see instructions)  
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print) Andrew G. Bradley Sr. V.P. Environmental Affairs	B. SIGNATURE 	C. DATE SIGNED 3/4/11
---	--	--------------------------

COMMENTS FOR OFFICIAL USE ONLY	
C	
15 16	56



CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items 11-A or B intermittent or seasonal?  
 YES (complete the following table)  NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				c. DUR- ATION (in days)
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		b. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

**III. PRODUCTION**

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?  
 YES (complete Item III-B)  NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?  
 YES (complete Item III-C)  NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

**IV. IMPROVEMENTS**

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.  
 YES (complete the following table)  NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT (specify)	4. FINAL COM- PLIANCE DATE	
	a. NO.	B. SOURCE OF DISCHARGE		a. RE- QUIRED	b. PRO- JECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.  MARK 'X' IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

**V. INTAKE AND EFFLUENT CHARACTERISTICS**

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.  
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
N/A	None Known Present		

**VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS**

Is any pollutant listed in Item V-C a substance or component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

YES (list all such pollutants below)

NO (go to Item VI-B)

Empty space for listing pollutants if 'YES' is selected.

**VII. BIOLOGICAL TOXICITY TESTING DATA**

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

YES (identify the test(s) and describe their purpose below)

NO (go to Section VIII)

**VIII. CONTRACT ANALYSIS INFORMATION**

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
Tuscaloosa Testing Lab, Inc	3516 Greensboro Ave P.O. Drawer 1128 Tuscaloosa, AL 35403	205-345-0816	TSS, pH, BOD, COD, TOC, Ammonia, Oil & Grease

**IX. CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print) Andrew G. Bradley - Senior V.P. Environmental Affairs	B. PHONE NO. (area code & no.) 203-966-8880
C. SIGNATURE 	D. DATE SIGNED 2/16/11

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)  
AL0063649

**V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)** OUTFALL NO. 001 and 002

**PART A -** You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT						d. NO. OF ANALYSES	3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	<1.0						1	mg/l				
b. Chemical Oxygen Demand (COD)	<5.0						1	mg/l				
c. Total Organic Carbon (TOC)	<5.0						1	mg/l				
d. Total Suspended Solids (TSS)	6				5.1		21	mg/l				
e. Ammonia (as N)	0.13						1	mg/l				
f. Flow	VALUE 0.275		VALUE .275		VALUE .254		21	mgd		VALUE		
g. Temperature (winter)	VALUE Ambient		Ambient		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE Ambient		Ambient		VALUE			°C		VALUE		
i. pH	MINIMUM 6.01	MAXIMUM 7.32	MINIMUM	MAXIMUM	X		21	STANDARD UNITS		X		

**PART B -** Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate-Nitrite (as N)		X												

**NOTE THAT PROPOSED OUTFALL 002 IS AN ADDITIONAL OUTFALL LOCATION FOR THE SAME WATER CURRENTLY DISCHARGED THROUGH EXISTING PERMITTED OUTFALL 001 AND THEREFORE, THE EFFLUENT FOR OUTFALL 002 WILL HAVE THE SAME CHARACTERISTICS AS PREVIOUSLY TESTED FOR OUTFALL 001.**

ITEM V-B. CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X*		<1.0					1	Mg/l					
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity * Since mobile equipment work in the area, there is a slight chance of oil and grease being present.														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO <sub>4</sub> ) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO <sub>3</sub> )		X												
n. Surfactants	X		Using Surfactant											
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-95-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
X Titanium, Total (7440-32-6)		X												

CONTINUED FROM PAGE 3 OF FORM 2-C.

**PART C -** If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know of have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2, 4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know of have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>METALS, CYANIDE, AND TOTAL PHENOLS</b>															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)			X												
6M. Copper, Total (7440-50-8)			X												
7M. Lead, Total (7439-92-1)			X												
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)			X												
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
<b>DIOXIN</b>															
2,3,7,8 -Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE <i>(optional)</i>			
	a. TEST- ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE <i>(if available)</i>		c. LONG TERM AVRG. VALUE <i>(if available)</i>		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
<b>GC/MS FRACTION - VOLATILE COMPOUNDS</b>															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloro- methyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodi- bromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloro- ethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichloro- bromomethane (75-27-4)			X												
13V. Dichloro- difluoromethane (75-71-8)			X												
14V. 1,1-Dichloro- ethane (75-34-3)			X												
15V. 1,2-Dichloro- ethane (107-06-2)			X												
16V. 1,1-Dichloro- ethylene (75-35-4)			X												
17V. 1,2-Dichloro- propane (78-87-5)			X												
18V. 1,3-Dichloro- propylene (542-75- 6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUED FROM V-4

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE <i>(optional)</i>			
	a. TEST- ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE <i>(if available)</i>		c. LONG TERM AVRG. VALUE <i>(if available)</i>		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
<b>GC/MS FRACTION – VOLATILE COMPOUNDS <i>(continued)</i></b>															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (106-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
<b>GC/MS FRACTION – ACID COMPOUNDS</b>															
1A. 2-Chlorophenol (95-67-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (106-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE <i>(optional)</i>			
	a. TEST- ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE <i>(if available)</i>		c. LONG TERM AVRG. VALUE <i>(if available)</i>		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
<b>GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS</b>															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphthylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (u) Anthracene (56-55-3)			X												
6B. Benzo (u) Pyrene (50-32-8)			X												
7B. 3,4-Benzo- fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-Chloro- ethoxy) Methane (111-91-1)			X												
11B. Bis (2-Chloro- ethyl) Ether (111-44-4)			X												
12B. Bis (2-Chloroiso- propyl) Ether (102-60-1)			X												
13B. Bis (2-Ethyl- hexyl) Phthalate (117-81-7)			X												
14B. 4-Bromo- phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro- naphthalene (91-58-7)			X												
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro- benzene (95-50-1)			X												
21B. 1,3-Dichloro- benzene (541-73-1)			X												

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE <i>(optional)</i>			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE <i>(if available)</i>		c. LONG TERM AVRG. VALUE <i>(if available)</i>		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>QC/MS FRACTION – BASE/NEUTRAL COMPOUNDS</b> <i>(continued)</i>															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,5-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine <i>(as Azobenzene)</i> (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)</b>															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenathrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
<b>GC/MS FRACTION - PESTICIDES</b>															
1P. Aldrin (309-00-2)			X												
2P. $\gamma$ -BHC (319-84-5)			X												
3P. $\delta$ -BHC (319-85-7)			X												
4P. $\theta$ -BHC (58-89-9)			X												
5P. $\alpha$ -BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. $\gamma$ -Endosulfan (115-29-7)			X												
12P. $\beta$ -Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

EPA I.D. NUMBER (copy from Item 1 of Form 1) AL0063649	OUTFALL NUMBER 001 and 002
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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

**POLLUTION ABATEMENT PLAN/PREVENTION PLAN**

**FOR**

**TUSCALOOSA PLANT**

**OF**

**UNIMIN CORPORATION**

**ENGINEER'S NAME**

**Donald F. Higgins**

  
SIGNATURE

**PE Number**

**27968-PE**

March 14, 2011

## I. INTRODUCTION

This Pollution Abatement/Prevention (PAP) plan is a required part of an application for a NPDES Permit. Unimin Corporations' Tuscaloosa Plant is located in Sections 9, 10, 15, and 16 in Township 22S, Range 10W, Tuscaloosa County, Alabama. This application is being prepared in accordance with the rules and regulations of the Alabama Department of Environmental Management. A thorough field review of the existing site has been conducted prior to the compilation and submittal of this plan. The geology of the existing site has been evaluated to determine the potential for acid-mine-drainage, to calculate runoff coefficients, and determine the suitability for mining.

The PAP is presented in two parts, which includes a narrative description of the operation and treatment requirements, drainage maps, design plans, and discharge calculations. The narrative description is intended to address the format as outlined by the ADEM Admin. Code R. 335-6-9, as well as present the bases for the designs as further detailed in the PAP were derived from rules and regulations of the ADEM Admin. Code R. 335-6-0, Appendix A and Appendix B, as well as from other generally accepted design data sources primarily from the U.S. Department of Agriculture's Natural Resource Conservation Service.

## II. OPERATOR

The operator of this Facility is Unimin Corporation. Their business address is shown below:

258 Elm Street

... New Canaan, CT 06840

The proposed quarry will lie within; the property boundary as follows:

East half (E ½) of Section 16, Township 22, Range 10 West, and East half (E ½) of the Southwest Quarter (E ½ of SW ¼) of Section 16, Township 22, Range 10 West, and all that part of the Northwest Quarter of the Northwest Quarter (NW ¼ of NW ¼) and the Southwest Quarter of the Northwest Quarter (SW ¼ of NW ¼) of Section 15, Township 22, Range 10 West which lies West of the Alabama Great Southern Railroad, All in Tuscaloosa County, Alabama.

The Southeast Quarter of the Southeast Quarter (SE ¼ of SE ¼) of Section 9, Township 22 South, Range 10 West; and All of the Southwest Quarter (SE ¼) lying in Section 10, Township 22 South, Range 10 West, lying west of the Alabama Great southern Railway Right of Way, All being Situated in Tuscaloosa count, Alabama, less approximately five (5) acres located at the Southeast Corner of said property.

## III. GENERAL INFORMATION

This facility will normally operate six (6) days a week up to 24 hours per day, with the dredging operation normally operating ten (10) hours per day, and employing approximately ten (10) people. The products to be mined are Industrial sand and gravel. The sand and gravel will be mined using a dredge. The sand will be washed, dried, and screened on site. The gravel will be washed and screened on site. Water for these processes will be obtained from the existing Dredge Pond (shown on Map 1). The pH of the water discharged for the last two (2) years has been between 6.01 and 7.32 s.u. The TSS has ranged from 4 mg/l to 6 mg/l and the flow has ranged from 0.22 cfs to 0.275 cfs.

#### **IV. TOPOGRAPHIC MAP**

A site drainage map (Map 1) indicating topography, areas of excavation, location of the sand and gravel preparation facilities, proposed mineral stockpile areas, drainage diversionary structures, treatment ponds, fuel storage tanks (further detailed in the attached SPCC plan), and the discharge points is provided as part of this PAP plan.

#### **V. METHOD OF DIVERTING SURFACE WATER RUNOFF**

The aforementioned site drainage map shows topography and all diversionary structures. The mining activities associated with this sand and gravel plant created the treatment ponds (incised) which were strategically located using natural topography to minimize the construction of diversionary structures. Drainage from all stockpiles, excavation areas, preparation facilities, loading areas, equipment storage areas, fuel areas, truck scales, the facility office, as well as any other areas of disturbance related to the mining site is directed into a permitted treatment structure prior to discharging. Runoff from any minor areas of disturbance that cannot feasibly be routed to a treatment pond will be properly graded and vegetated with annual and perennial grasses consistent with standard Best Management Practices (BMP's) for the control of non-point source pollution and shall maintained at all times.

#### **VI. RAW MATERIALS, PROCESSES AND PRODUCTS**

The materials mined are Industrial sand and gravel. The sand is washed, dried, and screened while the gravel is only washed and screened before stockpiled. A coagulant is added to the process water as necessary before it is discharged to the tailings pond. The products produced at this facility will be industrial sand and gravel.

#### **VII. SCHEMATIC DIAGRAM**

A schematic diagram showing each process that creates wastewater and the wastewater collection system has been included with this submittal (Attachment 1).

#### **VIII. POST TREATMENT QUANTITY AND QUALITY OF EFFLUENT**

Runoff calculations have been provided as part of this plan to determine flow and also to size the discharge structures. The treatment pond allows adequate settling time for the expected particles sizes to reduce suspended solid concentrations to meet effluent limits. The pH of the effluent will be between 6.0 s.u. and 9.0 s.u. or as allowed by the permit. The maximum daily average of the TSS effluent ~~will be 25.0~~ mg/l and the daily maximum will be 45 mg/l or as allowed by the permit.

## **IX. WASTE TREATMENT FACILITIES**

The primary method of treatment for the removal of expected pollutants is settling. Based on a continual review of the site geology as mining activities progress, there have been no indications that an acid-mine – drainage (AMD) problem will arise. At a minimum, the treatment ponds will provide 0.25 acre-feet of storage for every acre of disturbed land tributary to the ponds.

The treatment ponds are to be maintained until mining has ceased, the site has been completely reclaimed, and the operator has received written permission from ADEM to remove the treatment ponds.

## **X. SEDIMENT CONTROL FOR HAUL ROADS**

The access road is shown on Map 1. Effective BMP's have been installed and are continuously maintained. The roads are crowned and properly ditched or are otherwise internally sloped. No haul roads are present at this facility since mining is conducted by dredging.

## **XI. LOCATION OF ALL STREAMS ADJACENT TO MINING AREA**

The topographic map submitted as part of this plan shows all water bodies (Map 2). The mining operation provides, at minimum, a 50-foot buffer zone around streams where practical. If a buffer zone cannot be maintained, ADEM shall be contacted regarding construction of a designed berm to protect the stream.

## **XII. NON-POINT SOURCE POLLUTION**

By virtue of the fact that all disturbed areas are graded such that any surface runoff is conveyed to the ponds, non-point sources of pollution do not result from this project.

## **XIII. PUBLIC WATER SUPPLY IMPOUNDMENT**

This facility will not discharge to a stream segment classified as a Public Water Supply.

## **XIV. SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN (SPCC)**

Detailed plans for all onsite fuel tanks and storage thereof is included in the SPCC Plan submitted concurrently.

## **XV. RUNOFF CALCULATIONS**

Calculations are attached.

## **XVI. RECLAMATION PROCEDURE**

As mining is completed in an area, it will then become integral with the existing ponds. These ponds shall be left in place as part of the reclamation plan.

During construction, stripping, and reclamation, erosion control measures such as hay bale dikes, riprap, cleared trees, and other acceptable methods may be utilized to minimize erosion. Unimin will maintain the permit till reclamation of disturbed areas has been completed and industrial effects are removed.

## DESIGN DATA

001P

Total Watershed = 190.4 Acres  
Water Surface Area  
    Dredge Pond = 72.2 Acres  
    Tailings Pond = 29.8 Acres  
Disturbed Area = Assume all disturbed  
    190.4 Acres X .25 Acre-feet/Acre = 47.6 Acre-feet of Volume Required  
Actual Capacity of Ponds based on 10/09/06 survey  
    Dredge Pond = 2,886 Acre-feet  
    Tailings Pond = 552 Acre-feet  
TOTAL = 3,438 Acre-feet

002P

Total Watershed = 104.4 Acres  
Water Surface Area  
    Dredge Pond = 72.2 Acres  
Disturbed Area = Assume all disturbed  
    104.4 Acres X .25 Acre-feet/Acre = 26.1 Acre-feet of Volume Required  
Actual Capacity of Ponds based on 10/09/06 survey  
    Dredge Pond = 2,886 Acre-feet  
TOTAL = 2,886 Acre-feet

## Spillway

Based on the results from POND-2 program, the spillway will pass the runoff from a 25-year, 24-hour storm event of 7.0 inches. The runoff volume from that event is 95.69 Acre-feet. The total watershed was routed through the Tailings Pond. This is a conservative assumption.

Note that although separate watershed data is provided above for proposed discharge 002, the new pipe and valved outlet will be located in the NW corner of the dredge pond, of which the entire watershed is tributary to the tailings pond and associated Outfall 001 and is therefore already included in the watershed characteristics of Outlet 001. The new outlet, 002, serves generally as a way to help manage the water level in the main dredge pond as a more economical form than the current method of mechanically pumping to the tailings pond and Outlet 001.

The above is an explanation indicating that the overall watershed has not changed since the last NPDES renewal in 2007.

TR-55 TABULAR HYDROGRAPH METHOD  
 Type III Distribution  
 (24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
 Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
 Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
 25 year 24 Hour Storm Event  
 7.0 inches  
 10/07 dfh

>>>> Input Parameters Used to Compute Hydrograph <<<<

Subarea Description	AREA (acres)	CN	Tc (hrs)	* Tt (hrs)	Precip. (in)	Runoff (in)	Ia/p input/used
Water	95.41	100.0	1.50	0.00	7.00	7.00	0 .10
Woods B Soil	9.70	55.0	1.50	0.00	7.00	2.12	.23 .30
Disturbed D	30.00	94.0	1.50	0.00	7.00	6.29	.02 .10
Disturbed B	55.38	86.0	1.50	0.00	7.00	5.37	.05 .10

\* Travel time from subarea outfall to composite watershed outfall point.  
 Total area = 190.49 acres or 0.2976 sq.mi  
 Peak discharge = 435 cfs

WARNING: Drainage areas of two or more subareas differ by a factor of 5 or greater.

>>>> Computer Modifications of Input Parameters <<<<

Subarea Description	Input Values		Rounded Values		Ia/p Interpolated	Ia/p Messages
	Tc (hr)	* Tt (hr)	Tc (hr)	* Tt (hr)	(Yes/No)	
Water	1.70	0.00	1.50	0.00	No	Computed Ia/p < .1
Woods B Soil	1.70	0.00	1.50	0.00	No	--
Disturbed D	1.70	0.00	1.50	0.00	No	Computed Ia/p < .1
Disturbed B	1.70	0.00	1.50	0.00	No	Computed Ia/p < .1

\* Travel time from subarea outfall to composite watershed outfall point.

TR-55 TABULAR HYDROGRAPH METHOD  
Type III Distribution  
(24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
25 year 24 Hour Storm Event  
7.0 inches  
10/07 dfh

>>>> Summary of Subarea Times to Peak <<<<

Subarea	Peak Discharge at Composite Outfall (cfs)	Time to Peak at Composite Outfall (hrs)
Water	248	13.4
Woods B Soil	6	13.2
Disturbed D	70	13.4
Disturbed B	111	13.4
-----	-----	-----
Composite Watershed	435	13.4

TR-55 TABULAR HYDROGRAPH METHOD  
 Type III Distribution  
 (24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
 Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
 Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
 25 year 24 Hour Storm Event  
 7.0 inches  
 10/07 dfh

Composite Hydrograph Summary (cfs)

Subarea Description	11.0 hr	11.3 hr	11.6 hr	11.9 hr	12.0 hr	12.1 hr	12.2 hr	12.3 hr	12.4 hr
Water	13	16	20	26	28	32	39	47	59
Woods B Soil	0	0	0	0	0	0	0	0	0
Disturbed D	4	4	6	7	8	9	11	13	17
Disturbed B	6	7	9	12	13	14	17	21	26
Total (cfs)	23	27	35	45	49	55	67	81	102

Subarea Description	12.5 hr	12.6 hr	12.7 hr	12.8 hr	13.0 hr	13.2 hr	13.4 hr	13.6 hr	13.8 hr
Water	78	101	127	158	212	241	248	222	190
Woods B Soil	1	1	2	3	4	6	6	6	6
Disturbed D	22	29	36	45	60	68	70	63	54
Disturbed B	35	45	57	70	94	107	111	99	85
Total (cfs)	136	176	222	276	370	422	435	390	335

TR-55 TABULAR HYDROGRAPH METHOD  
 Type III Distribution  
 (24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
 Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
 Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
 25 year 24 Hour Storm Event  
 7.0 inches  
 10/07 dfh

Composite Hydrograph Summary (cfs)

Subarea Description	14.0 hr	14.3 hr	14.6 hr	15.0 hr	15.5 hr	16.0 hr	16.5 hr	17.0 hr	17.5 hr
Water	157	120	95	73	56	46	39	31	27
Woods B Soil	5	4	3	3	2	2	2	1	1
Distrubed D	44	34	27	21	16	13	11	9	8
Disturbed B	70	53	42	33	25	20	17	14	12
Total (cfs)	276	211	167	130	99	81	69	55	48

Subarea Description	18.0 hr	19.0 hr	20.0 hr	22.0 hr	26.0 hr
Water	24	19	16	13	1
Woods B Soil	1	1	1	1	0
Distrubed D	7	5	4	4	0
Disturbed B	11	8	7	6	0
Total (cfs)	43	33	28	24	1

TR-55 TABULAR HYDROGRAPH METHOD  
 Type III Distribution  
 (24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
 Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
 Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
 25 year 24 Hour Storm Event  
 7.0 inches  
 10/07 dfh

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
11.0	23	14.8	148
11.1	24	14.9	139
11.2	26	15.0	130
11.3	27	15.1	124
11.4	30	15.2	118
11.5	32	15.3	111
11.6	35	15.4	105
11.7	38	15.5	99
11.8	42	15.6	95
11.9	45	15.7	92
12.0	49	15.8	88
12.1	55	15.9	85
12.2	67	16.0	81
12.3	81	16.1	79
12.4	102	16.2	76
12.5	136	16.3	74
12.6	176	16.4	71
12.7	222	16.5	69
12.8	276	16.6	66
12.9	323	16.7	63
13.0	370	16.8	61
13.1	396	16.9	58
13.2	422	17.0	55
13.3	428	17.1	54
13.4	435	17.2	52
13.5	413	17.3	51
13.6	390	17.4	49
13.7	362	17.5	48
13.8	335	17.6	47
13.9	306	17.7	46
14.0	276	17.8	45
14.1	254	17.9	44
14.2	233	18.0	43
14.3	211	18.1	42
14.4	196	18.2	41
14.5	182	18.3	40
14.6	167	18.4	39
14.7	158	18.5	38

TR-55 TABULAR HYDROGRAPH METHOD  
 Type III Distribution  
 (24 hr. Duration Storm)

Executed: 10-24-2007 13:56:15  
 Watershed file: --> C:\pondpack\tu\TU00125 .WSD  
 Hydrograph file: --> C:\pondpack\tu\TU00125 .HYD

Tailings Pond Hydrograph  
 25 year 24 Hour Storm Event  
 7.0 inches  
 10/07 dfh

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
18.6	37	22.4	22
18.7	36	22.5	21
18.8	35	22.6	21
18.9	34	22.7	20
19.0	33	22.8	19
19.1	32	22.9	19
19.2	32	23.0	18
19.3	32	23.1	18
19.4	31	23.2	17
19.5	30	23.3	17
19.6	30	23.4	16
19.7	30	23.5	15
19.8	29	23.6	15
19.9	28	23.7	14
20.0	28	23.8	14
20.1	28	23.9	13
20.2	28	24.0	12
20.3	27	24.1	12
20.4	27	24.2	11
20.5	27	24.3	11
20.6	27	24.4	10
20.7	27	24.5	10
20.8	26	24.6	9
20.9	26	24.7	8
21.0	26	24.8	8
21.1	26	24.9	7
21.2	26	25.0	7
21.3	25	25.1	6
21.4	25	25.2	6
21.5	25	25.3	5
21.6	25	25.4	4
21.7	25	25.5	4
21.8	24	25.6	3
21.9	24	25.7	3
22.0	24	25.8	2
22.1	23	25.9	2
22.2	23		
22.3	22		

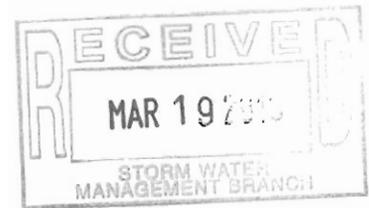
*Permit Bk  
File  
P.L.  
Plant P.B.*

**SPILL PREVENTION, CONTROL, AND**

**COUNTERMEASURES PLAN**

**FOR**

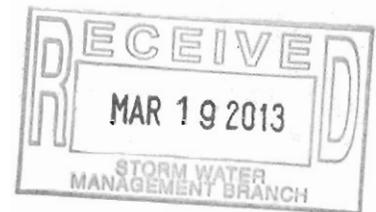
**UNIMIN CORPORATION**



\*\*\*\*\*

**TUSCALOOSA, ALABAMA FACILITY**

**September 2002**



SPCC PLAN CERTIFICATION AND BACKGROUND INFORMATION

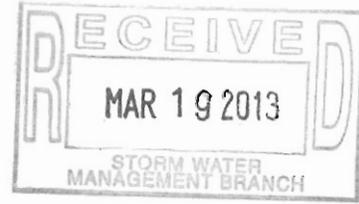
Name of Facility: Unimin Corporation, Tuscaloosa, AL Facility  
Type of Facility: Industrial Sand Mining and Processing SIC 1446  
Date of Initial Operation: ± 1960; Unimin acquired in 1996  
Location of Facility: 2400 Crabtree Road, Tuscaloosa, AL  
Sections 9, 10, 15 & 16, T 22S, R10W Tuscaloosa County

Name and Address of Owner:

Unimin Corporation  
258 Elm Street  
New Canaan CT 06840

Designated Person Responsible for Oil Spill Prevention:

Glen Robertson, Plant Manager



Management Approval

Corporate management has reviewed this plan and affirms its commitment to implementing the plan and providing the necessary resources.

Signature 

Name Andrew G. Bradley

Title V.P./Environmental Affairs

Signature 

Name Glenn Robertson

Title Plant Manager

**Certification**

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC plan has been prepared in accordance with good engineering practices.

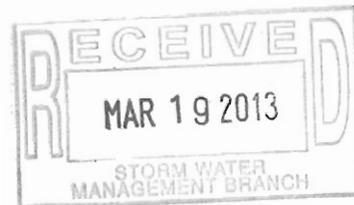


Signature *R A Deerman*  
Name R A Deerman  
Registration No. 16938  
State Alabama  
Date 10/03/02

**SPCC PLAN TERMS**

Amendment of this SPCC plan will be necessary no later than six months after any tank changes, (notably UST removal and/or AST installation and/or removal) or any other facility changes which would affect UNIMIN's potential for oil discharge. Following plan amendment, certification of the amendment by an RPE will be necessary.

Review of this SPCC plan will be required every three years. The next scheduled review of the plan will be September , 2005.



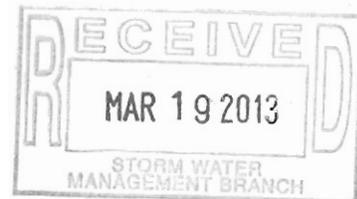
## RECORD KEEPING

All applicable inspection records shall be signed and made a part of this plan. These records should be maintained for a period of not less than three years. Applicable records include:

- A) Any tank, valve or line testing (note date, who performed testing, items tested and results)
- B) Tank valve or line maintenance records
- C) Tank and containment inspection.
- D) Safety (or other) meeting attendance (noting name and position) and date oil pollution prevention plan was discussed.

Oil pollution prevention topics include:

- 1. SPCC plan requirements and applicable pollution control laws, rules and regulations
  - 2. the location and operation of spill prevention and containment equipment
  - 3. instructing personnel in the operation and maintenance of equipment to prevent oil discharges
- E) Information regarding any spills or releases (note the date, location, type of material released, amount released, cause of spill, flow diagram of spill, estimate of any environmental damage done by the spill, clean-up action taken, and additional preventative measures taken or contemplated to minimize the possibility of recurrence).
- 1. date
  - 2. material spilled
  - 3. amount of material spilled
  - 4. spill location
  - 5. spill cause
  - 6. spill flow
  - 7. special circumstances surrounding the spill
  - 8. spill clean-up/disposal
  - 9. environmental damage caused by spill
  - 10. preventative measures



## SPILL PREVENTION PROCEDURES

### Personnel Training

- 1) All applicable personnel will be trained in the correct operating procedures and maintenance of equipment to prevent spills.
- 2) Applicable personnel will be instructed in the operation and location of spill prevention and containment equipment.
- 3) Applicable personnel will be briefed on state and federal pollution control laws, rules and/or regulations impacting this facility.
- 4) These annual briefings may occur at safety meetings and will be conducted to assure adequate understanding of this SPCC plan and will include any recently developed precautionary measures. The date and personnel (names and job positions) in attendance at such briefings will be recorded and made a part of this plan.
- 5) All relevant plant personnel shall be made aware of the location of this plan.

### Fuel Oil Delivery

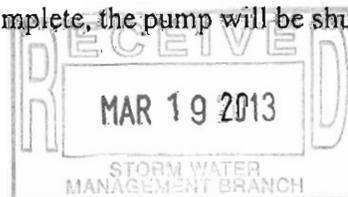
- 1) Prior to delivery, remaining tank capacity will be recalculated to assure there is adequate tank volume to hold the quantity of fuel ordered.
- 2) During receipt of product, a trained UNIMIN employee shall be at the immediate site to witness equipment connection, fill, and disconnect activities to make sure that proper methods are used and precautions are taken by the person(s) making the delivery to avoid unnecessary overfills, drippings, and releases from hoses and connections during the fill operation.
- 3) Prior to disembarkation, the tank truck pump operator or his/her designee, under supervision from a trained UNIMIN employee, will insure all transfer lines are disconnected, and that the lower most drain and all outlets are examined for leakage. If necessary, it is the pump operator or his/her designee's responsibility to tighten, adjust or replace any and all parts necessary to prevent leakage while in transit.
- 4) All unloading procedures should meet the minimum requirements and regulations established by the DOT.

### Security

The plant entrance gate is locked during hours of non-operation. Night time security lighting at the plant site is provided.

### Tank Inspection and Monitoring

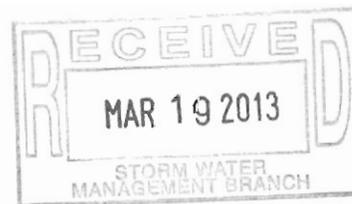
- 1) Above ground tanks, valves, and containment systems should be inspected monthly to check for leaks deterioration.
- 2) Rainwater will be released/pumped from impervious containment systems only after visually inspecting the water. Once pumping is complete, the pump will be shut off and removed.



## SPILL RESPONSE

In the event of a petroleum product spill due to overfilling of the tanks or accidental spill or rupture, the following is a suggested course of action:

1. Prevent further release in as much as possible. Identify and mitigate any fire, explosion and/or vapor hazards.
2. If the spill breaches containment, end loaders may be used to build sand dikes to contain the spill. If containment is not possible and the spill threatens a flowing body of water, diverting the flow to a low point or non-discharging pond may be appropriate.
3. Sand and/or lime or absorbent socks (such as PIGS) may be utilized to absorb the spill.
4. If the spill enters or is about to enter a flowing water course, a skimming system which retains the oil and allows clean water to flow underneath should be implemented.
5. In the event of contained leaks and/or spills, liquid will be removed from the containment in such a manner so as to minimize the possibility of additional spills and mitigate fire, explosion, and vapor hazards. If the product can be reused, it will be filtered as necessary and pumped back into tanks for reuse.
6. Sand or other contaminated materials will be either treated on-site or transported to an approved disposal site in accordance with applicable local, state and federal regulations and in a manner to minimize Unimin's future liability.



## DESCRIPTION OF FACILITY

The Tuscaloosa, Alabama plant is a Silica Sand mining and processing facility located off Crabtree Road.

The nearest navigable waterway is the Black Warrior River located two miles southeast of the plant.

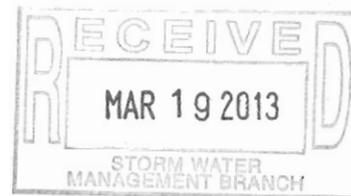
All tanks are located inside a concrete containment system. There are two sections to the containment system. The largest holds all tanks except the 500 gallon gasoline tank which is in its own containment section. Both sections have been designed to hold 110% of the largest tank's volume. Rainwater may be released from the containment system by opening a 2" manual brass ball valve. This valve will be left open only in the presence of a Unimin employee. At all other times, the valve will remain locked.

### FIXED STORAGE

<u>Tank Number</u>	<u>Size</u>	<u>Location</u>	<u>Contents</u>
1	12,000 gal.	Concrete	Diesel Fuel
2	500 gal.	Containment	Gasoline
3	500 gal.	System	30 Wt Oil (Not in use)
4	500 gal.	"	10 Wt Oil (Not in use)
5	500 gal.	"	90 Wt Oil (Not in use)
6	350 gal.	"	CXT 15-40 Oil (Not in use)
7	55 gal.	"	Tellus 68 Oil (Removed from Site)
8	900 gal.	"	Waste Oil

#### Total

15,305 gallons of petroleum products



The accompanying map or photo shows the property boundaries and adjacent highway, drain ditches, and on site buildings.

## SPILL REPORTING PROCEDURE

Spills should be reported as soon as possible to the employee's supervisor, who then will contact the plant manager.

It is the responsibility of the Plant Manager to report all spills of oil, gasoline, or hazardous materials occurring outside of contained areas or which have escaped containment as soon as possible to:

Bill Shalter: Office Phone #: (815) 434-4042 x 222  
Home Phone #: (815) 795-4707

Drew Bradley: Office Phone #: (203) 966-8880 x 275  
Home Phone #: (203) 855-0865

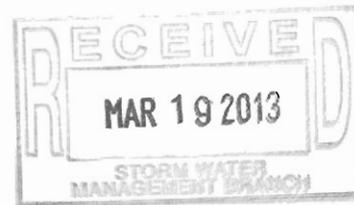
Susan Armentrout Office Phone #: (815) 434-4042 x 224  
Home Phone #: (815) 434-4067

who will be responsible for contacting the necessary/appropriate federal and state agencies or will designate another person to do so.

**It is your first priority to manage the spill.**

Please be ready to supply the following information:

1. time spill occurred or was discovered
2. location of the spill
3. name and source of material spilled
4. amount of material spilled
5. current status of spill (e.g., is it contained; if it is not contained, direction and towards what the spill is moving - be especially cognizant of possible pollution of lakes, streams, etc.)
6. cause of spill
7. media affected (air, surface water, ground water)
8. current weather conditions (e.g., is it raining? snow melting? etc.)
9. clean-up action taken and disposal options, if known or considered.
10. other agencies which have been or will be notified of the spill.



**The plant manager may contact a local spill response and clean up firm if necessary.**

S.P.C.C. ALERT NOTIFICATION LIST

U.S. ENVIRONMENTAL PROTECTION AGENCY – SPILL EMERGENCY CENTER

816/374-3778

LOCAL SPILL RESPONSE/CLEAN-UP FIRM (if required)

Tony Booth Construction Company  
(205) 339-9014

LOCAL FIRE DEPARTMENT# (if the spill can create a fire or explosion)

911 or  
Tuscaloosa Fire Department  
(205) 349-1100

RESCUE SQUAD/AMBULANCE SERVICE# (as needed)

911 or  
Careline Ambulance Service  
(205) 759-4443

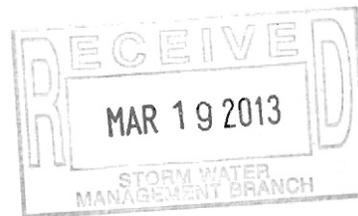
PLANT MANAGER Glenn Robertson

(205) 758-8353 (OFFICE)  
(205) 349-5713 (HOME)

OR: ~~Joe Hughes~~

(205) 758-8353 (OFFICE)  
~~(205) 759-4828~~ (HOME)

Ty Owens  
(205) 758-8353



ENVIRONMENTAL AFFAIRS OR THE PLANT MANAGER, IF SO DESIGNATED, WILL THEN CALL THE FOLLOWING. (AS MUCH AS A SHEEN MAY BE REPORTABLE.)

U.S. COAST GUARD NATIONAL RESPONSE CENTER

1-800-424-8802

STATE AGENCY

Alabama Department of Environmental Management (ADEM) at (800) 843-0699  
or (205) 271-7847, or (205) 942-6168.

**ATTACHMENT C-II - Certification of the Applicability of the Substantial Harm Criteria**

Facility Name: Unimin Corporation - Tuscaloosa, AL Facility

Facility Address: P.O. Box 1746 Tuscaloosa, AL 35403

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

                   YES      X                 NO

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

                   YES      X                 NO

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula<sup>1</sup>) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.

                   YES      X                 NO

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula<sup>1</sup>) such that a discharge from the facility would shut down a public drinking water intake<sup>2</sup>?

                   YES      X                 NO

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

                   YES      X                 NO

**Certification**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

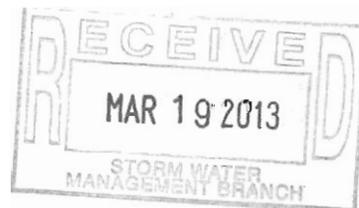
Signature *Andrew G. Bradley*

Name Andrew G. Bradley

(please print or type)

Title V.P./Environmental Affairs

Date 1/13/03



<sup>1</sup>If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

<sup>2</sup>For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

PAULS

N

HWY 69 SOUTH

SPEED MART

BANK OF TUSC. CREDIT UNION

OLD GREENSBORO ROAD

UNIMIN  
TUSCALOOSA  
2400 CRABTREE RD.  
758-8353

- 1. OFFICE
- 2. MAINTENANCE SHOP
- 3. BATH HOUSE
- 4. BUTANE STORAGE  
18,000 GALS
- 5. STORAGE TANKS, DRY SAND
- 6. BLOCK STORAGE BLDG.
- 7. SCREEN TOWER
- 8. DRYER
- 9. LOADING CHUTE
- 10. DRY SAND STORAGE SILOS
- 11. SAFETY BOAT
- 12. WELL PUMPS
- 13. FUEL STORAGE  
10,000 GAL. #2 DIESEL  
500 GAL. RU. GAS  
AND ASSORTED OILS
- 14. WASH PLANT
- 15. BOOSTER PUMP #1
- 16. BOOSTER PUMP #2
- 17. DREDGE

LAUREL WOOD

MALLARD CREEK SUB. DIV

HUNTERS RUN

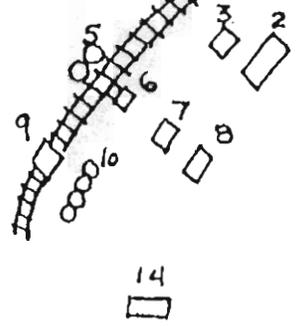
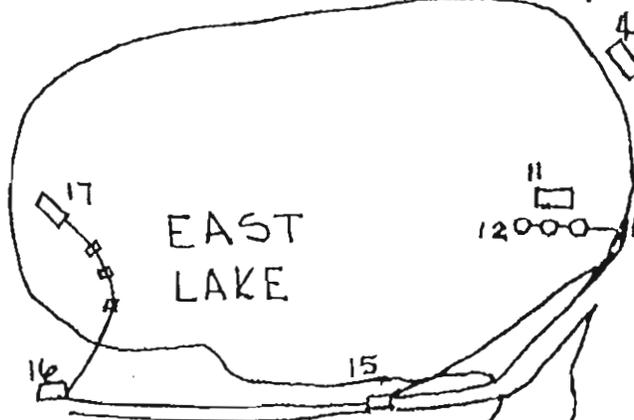
CEMENT BRIDGE

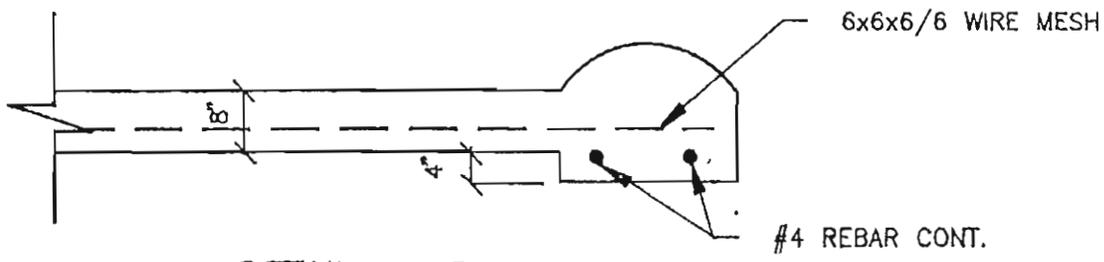
CRABTREE ROAD

GATE

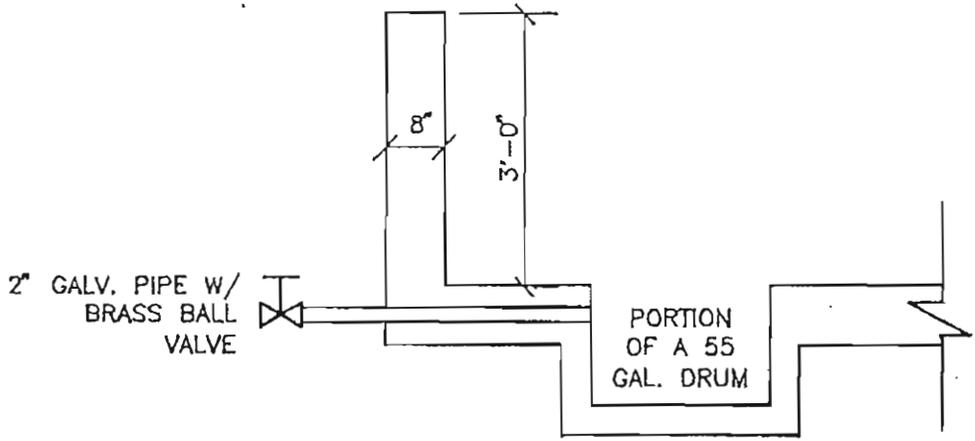


UNIMIN

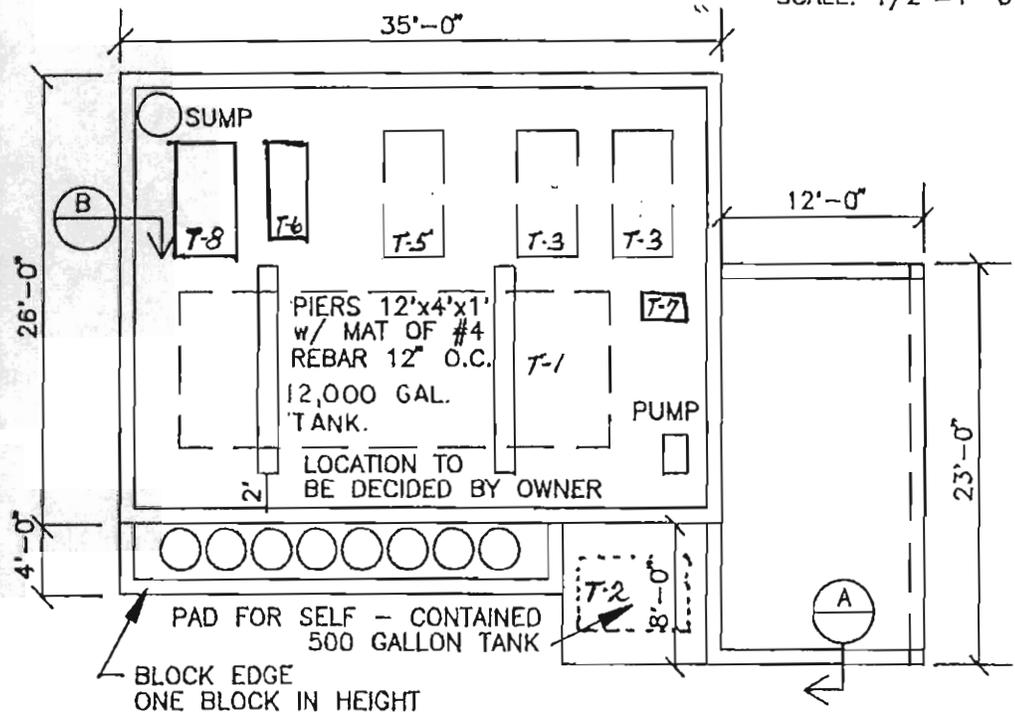




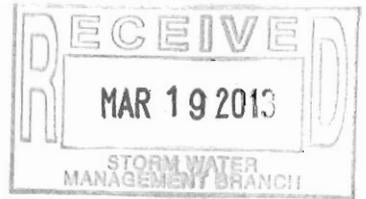
DETAIL A  
SCALE: 1/2" = 1'-0"



SECTION B  
SCALE: 1/2" = 1'-0"

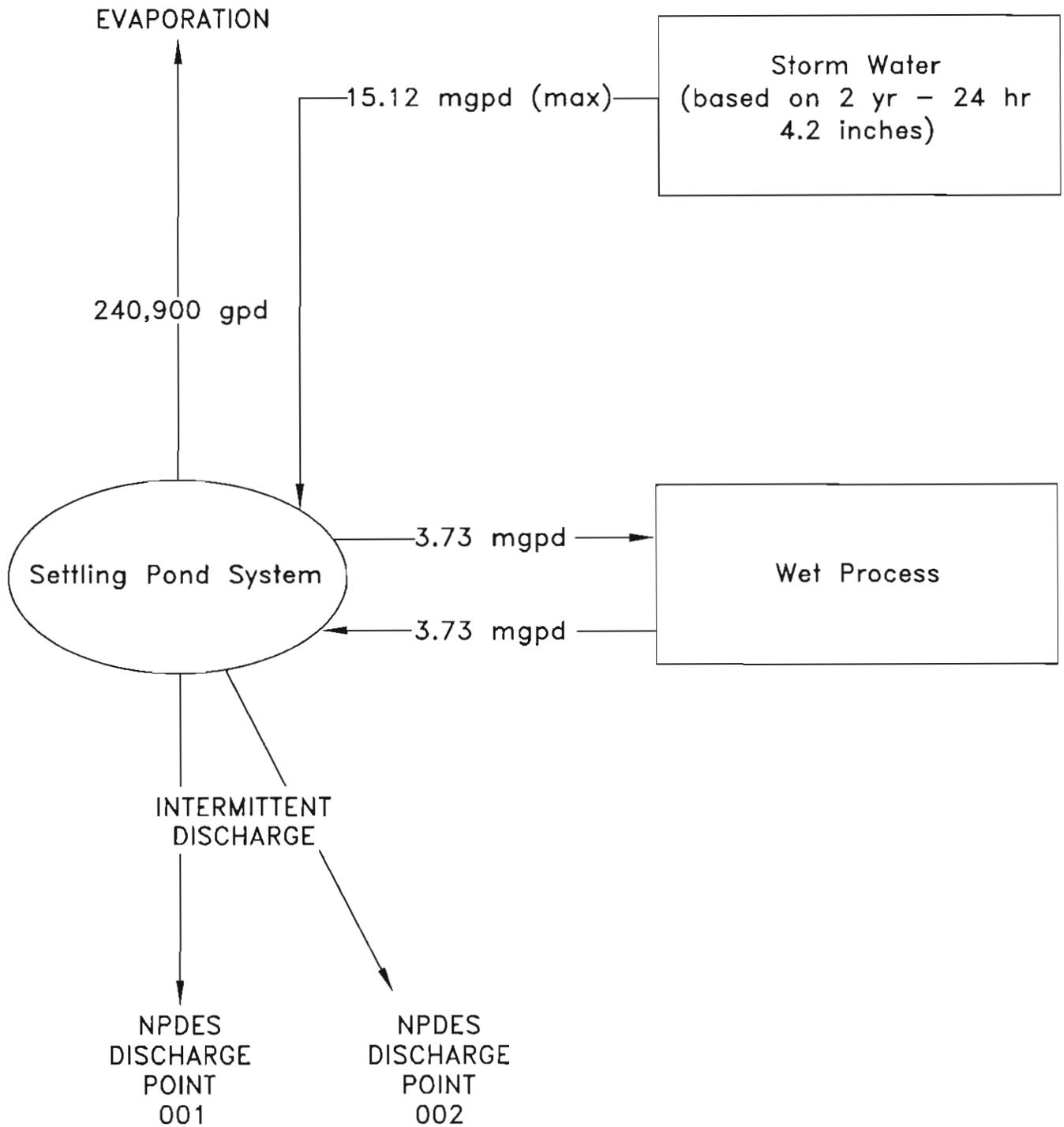


SCALE: 1/8" = 1'-0"



TUSCALOOSA SPEC PLAN

# EXHIBIT 1

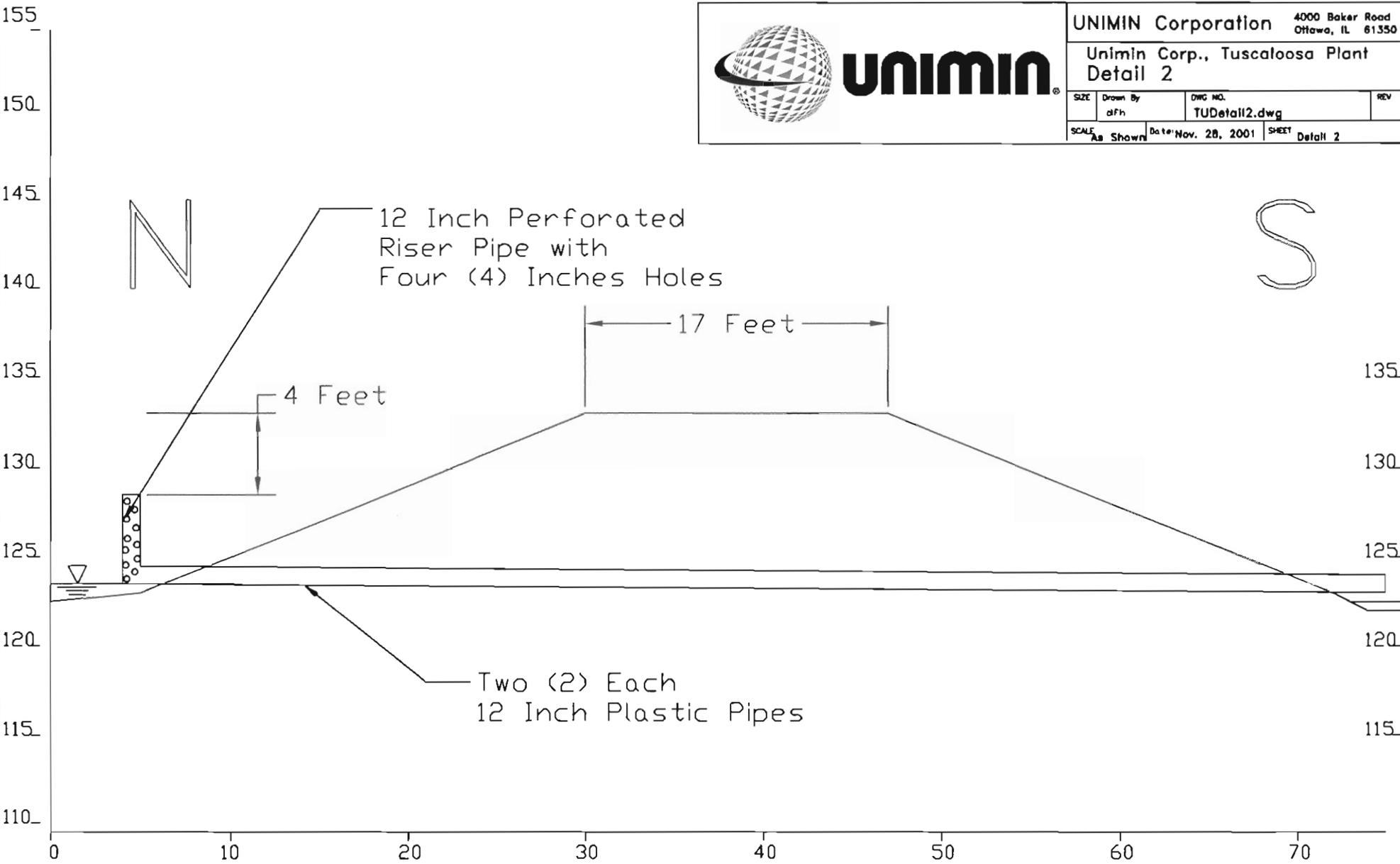


## IIA TUSCALOOSA WATER FLOW



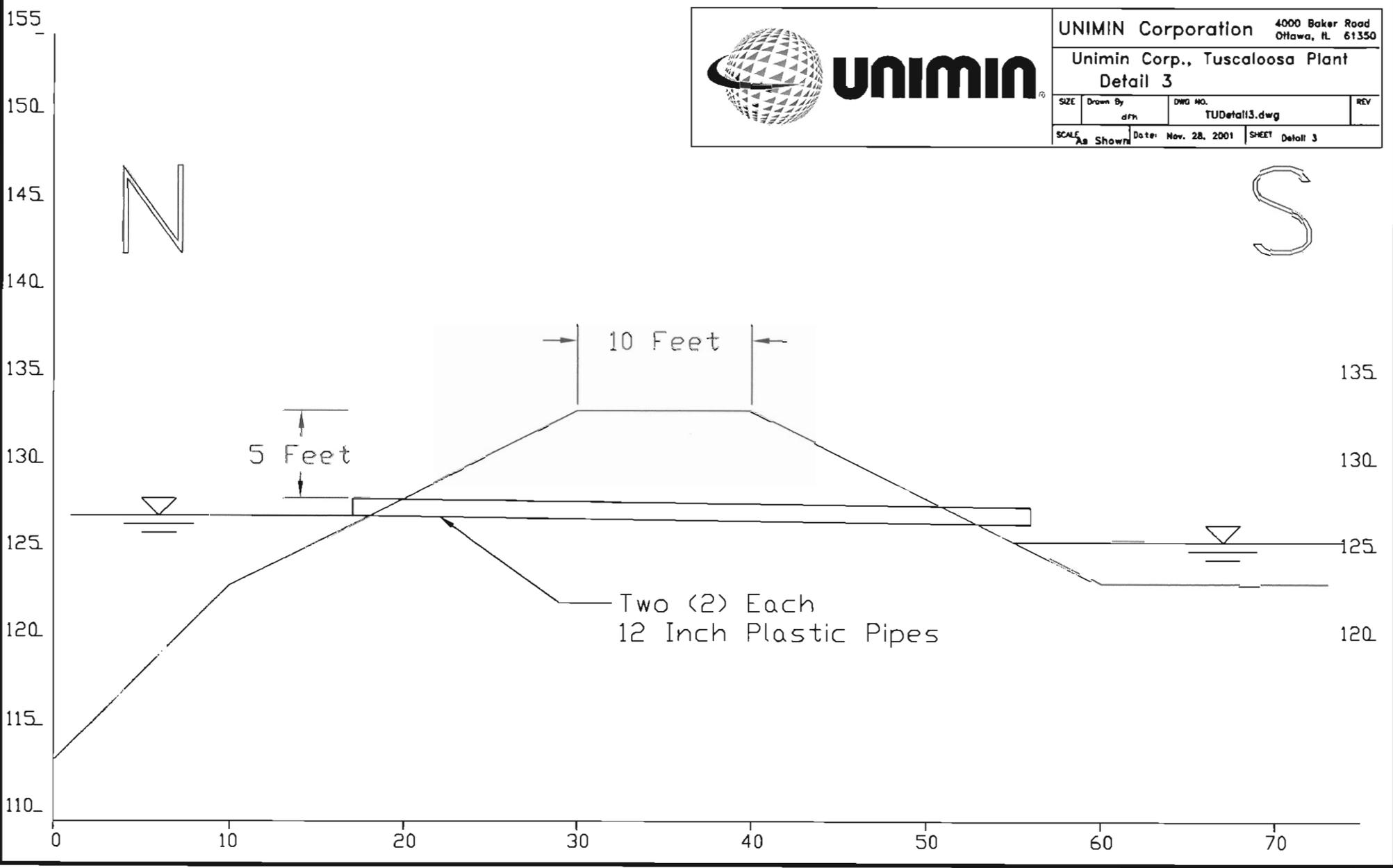
**UNIMIN**

UNIMIN Corporation		4000 Baker Road Ottawa, IL 61350	
Unimin Corp., Tuscaloosa Plant Detail 2			
SIZE	Drawn By dFh	DWG NO. TUDetail2.dwg	REV
SCALE As Shown	Date Nov. 28, 2001	SHEET Detail 2	





UNIMIN Corporation		4000 Baker Road Ottawa, IL 61350	
Unimin Corp., Tuscaloosa Plant Detail 3			
SIZE	Drawn By dfh	DWG NO. TUDetail3.dwg	REV
SCALE As Shown	Date: Nov. 28, 2001	SHEET Detail 3	



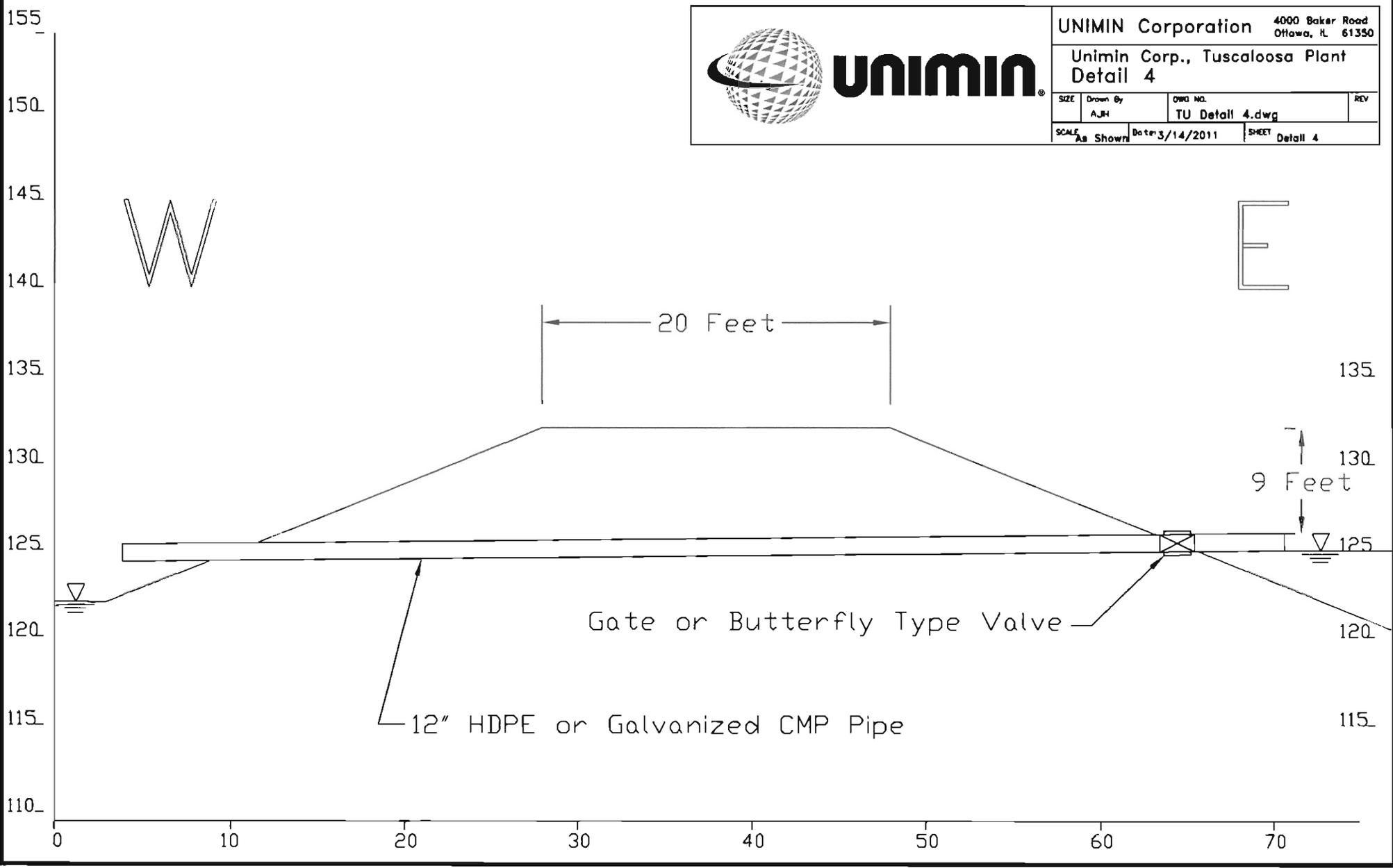


**UNIMIN**

UNIMIN Corporation 4000 Baker Road  
Ottawa, IL 61350

Unimin Corp., Tuscaloosa Plant  
Detail 4

SIZE	Drawn By	DRWG NO.	REV
	A.J.H.	TU Detail 4.dwg	
SCALE As Shown	Date: 3/14/2011	SHEET Detail 4	



(Via Email)



Unimin Corporation  
4000 Baker Road · Ottawa, IL 61350  
(Phone) 815/434/4178 · (Fax) 815/434/3828

September 13, 2012

Chase Gamble  
Mining & Natural Resources  
NPDES Stormwater Management Branch  
Phone: 334-270-5622  
Email: [mcgamble@adem.state.al.us](mailto:mcgamble@adem.state.al.us)



**RE: NPDES Permit Renewal Application - NPDES Permit AL0063649  
Unimin Corporation – Tuscaloosa Facility - Tuscaloosa County**

Dear Mr. Gamble:

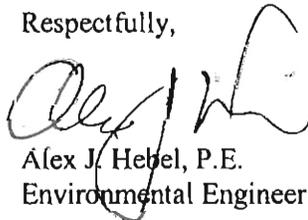
Please find enclosed the amended application to modify and renew NPDES Permit AL0063649 for the discharge from a sand and gravel mining operation in Tuscaloosa County. The submittal includes:

ADEM Field Operations Division NPDES base application form (ADEM Form 315)  
Amended Pages 1, 5 and 8

As discussed during our phone conversation, a check request has been made for the remaining fees due (\$1360) and shall be submitted to your attention as soon possible. When convenient, please provide me with the address in which the check should be forwarded to.

If you have any questions, or require any additional information, please contact me at [ahebel@unimin.com](mailto:ahebel@unimin.com), phone: 815 431-2241, or at the above address.

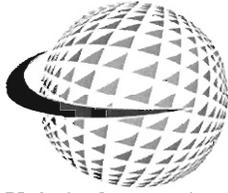
Respectfully,



Alex J. Hebel, P.E.  
Environmental Engineer

Enclosures

CC: G. Robertson, B. Shalter, S. Hudgens (Letter Only)



**UNIMIN**

Corporate Environmental Affairs

Unimin Corporation  
4000 Baker Road · Ottawa, IL 61350  
(Phone) 815/434/4178 · (Fax) 815/434/3828

September 25, 2012

Chase Gamble  
Mining & Natural Resources  
NPDES Stormwater Management Branch  
1400 Coliseum Blvd.  
Montgomery, AL 36110-2059  
Phone: 334-270-5622  
Email: [mcgamble@adem.state.al.us](mailto:mcgamble@adem.state.al.us)

**RE: NPDES Permit Renewal Application - NPDES Permit AL0063649  
Unimin Corporation – Tuscaloosa Facility - Tuscaloosa County**

Dear Mr. Gamble:

Please find enclosed check number 652781, in the amount of \$1,360.00, for the supplemental fees required to modify and renew NPDES Permit AL0063649 for the discharge from a sand and gravel mining operation in Tuscaloosa County.

Check number 628511, in the amount of \$1,840.00, was included with the original March 28, 2011 submittal. A total of \$3,200.00 has now been paid for fees required to modify and renew the subject permit.

If you have any questions, or require any additional information, please contact me at [ahebel@unimin.com](mailto:ahebel@unimin.com), phone: 815 431-2241, or at the above address.

R#12-26091

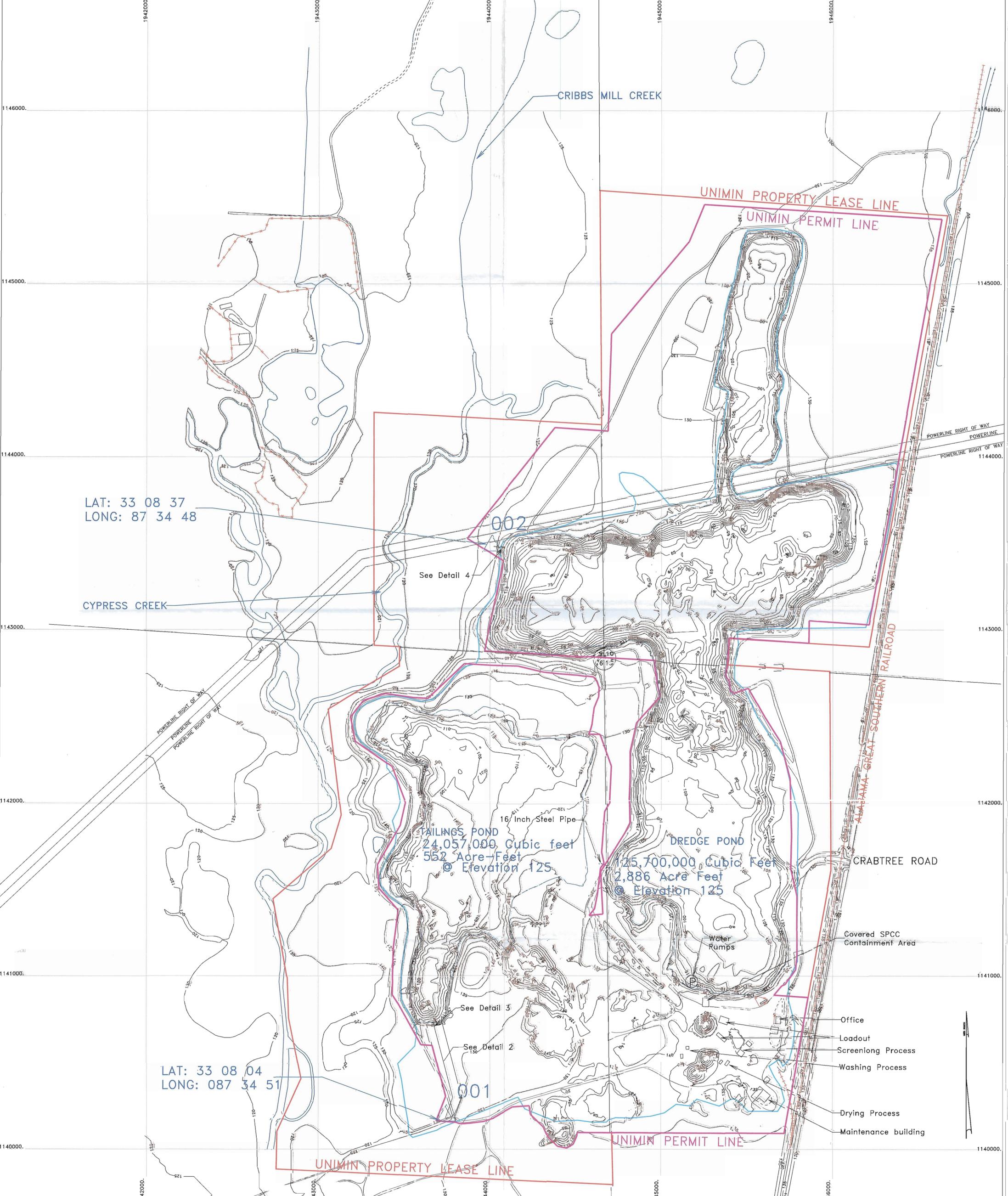
Respectfully,

Alex J. Hebel, P.E.  
Environmental Engineer

Enclosures

CC: G. Robertson, B. Shalter, S. Hudgens (Letter Only)





LAT: 33 08 37  
LONG: 87 34 48

CYPRESS CREEK

See Detail 4

16 Inch Steel Pipe  
TAILINGS POND  
24,057,000 Cubic Feet  
552 Acre-Feet  
@ Elevation 125

001

LAT: 33 08 04  
LONG: 087 34 51

DREDGE POND  
125,700,000 Cubic Feet  
2,886 Acre Feet  
@ Elevation 125

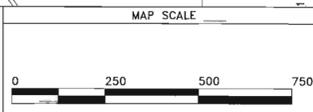
CRABTREE ROAD

Covered SPCC  
Containment Area

- Office
- Loadout
- Screening Process
- Washing Process
- Drying Process
- Maintenance building

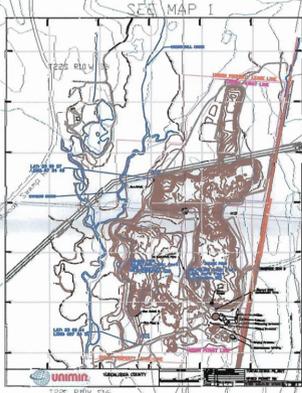
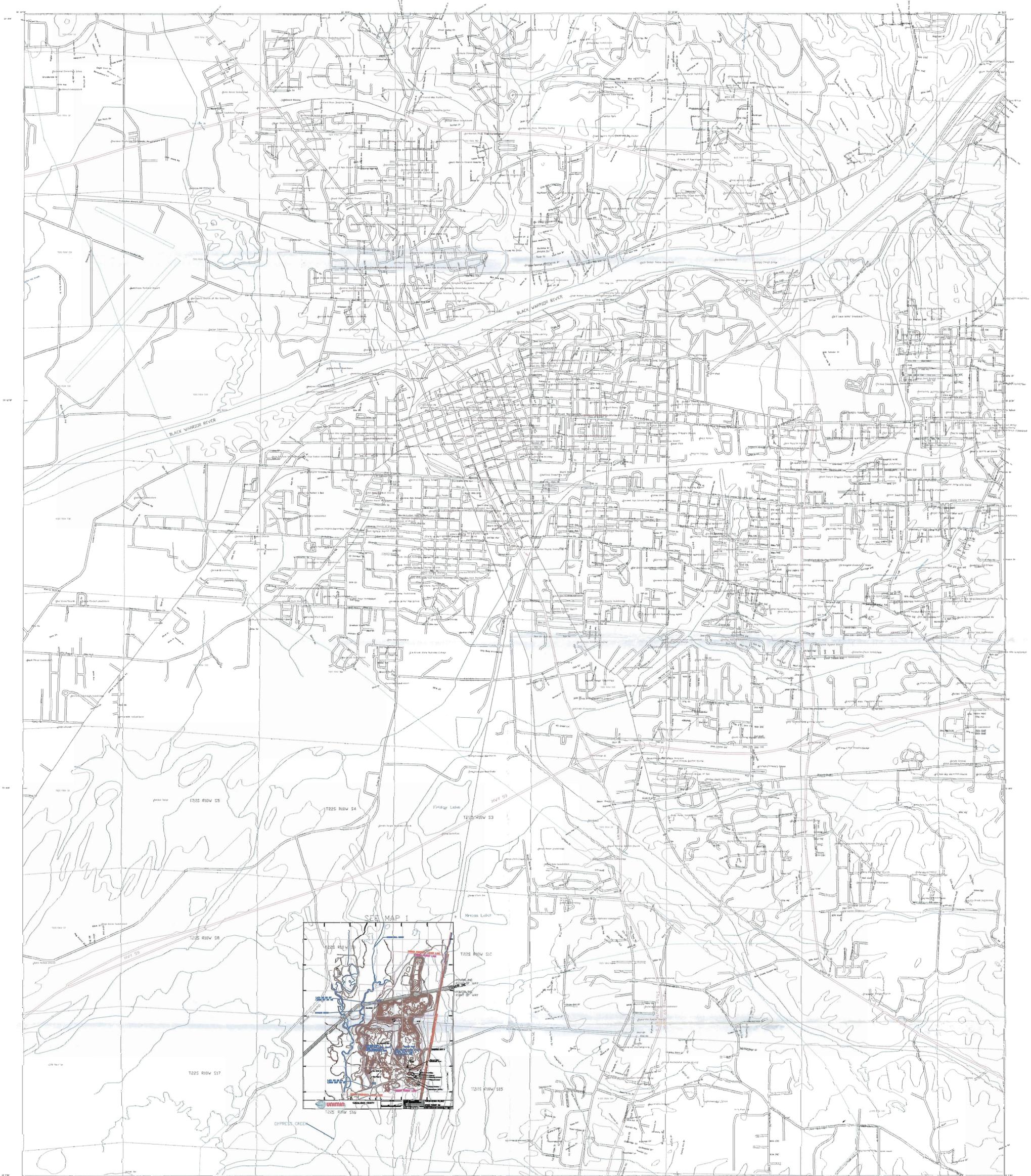


TUSCALOOSA COUNTY

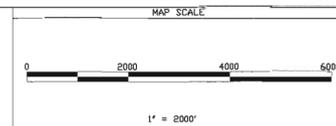


REV	DATE	BY	DESCRIPTION
1	10/15/07	dfh	Revised Topo and Permit line
2	5/9/11	AJH	Revised Topo and added Outfall 002
3			
4			
5			

TUSCALOOSA PLANT  
NPDES PERMIT MAP  
DRAWING FILE NAME: TU NPDES - Modification 2011 - Add Outfall 002 - Map1.dwg  
DRAWING REFERENCE: MAP 1



100K Topography from 100K USGS DLG Files. Elevations are in FEET.  
 Section Township Lines (PLSS) from 100K and 24K USGS DLG Files.  
 Feature Names from USGS Geographical Names Information System (GNIS).  
 Map Accuracy is identical with that specified for these source files.  
 See Sylvan Ascent Inc. TopoDePot(tm) Documentation for details. (www.topodepot.com)  
 North American Datum of 1983.  
 X and Y Units are in US Feet.  
 Coordinate System: Alabama west ..... 102  
 Scale depends on final plotted size. See source documentation for recommended plotting scales.  
 (c)Copyright 2002 Sylvan Ascent Inc. See your license agreement for specifics. (www.topodepot.com)  
 Sylvan Ascent Inc. P.O. Box 2478 Taos NM, 87571 1-800-362-8971. support@sylvanmaps.com

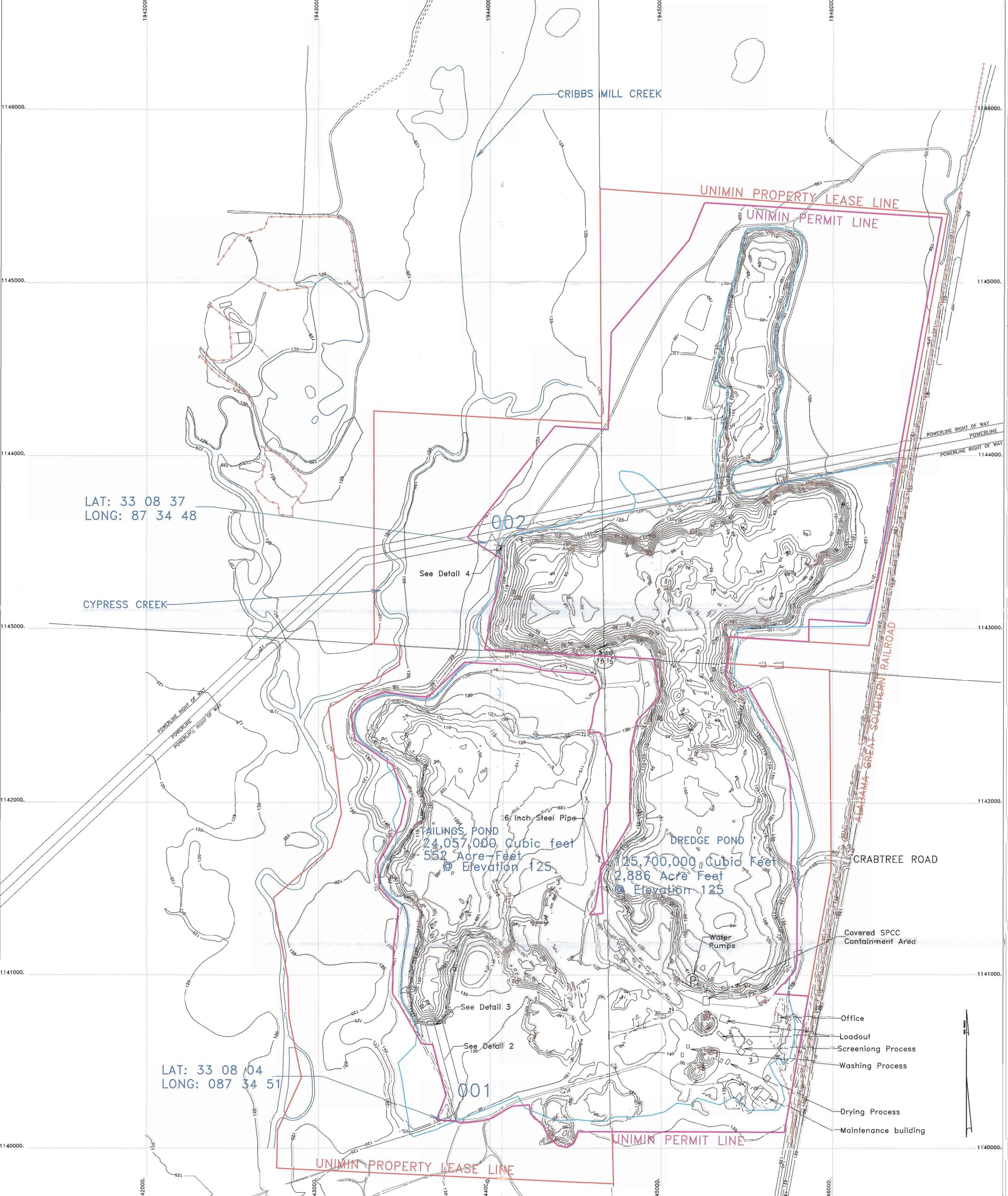


NO	DATE	MADE BY	DESCRIPTION
1	07-06-02	BRS	Property Line & New Disturbance
2	10-16-07	AKH	Revised Topo & Accuracy
3	3-15-11	AKH	Rev. Topo. Add Outfall 002
4			
5			

DATE	DRAWN BY	DRAWING FILE NAME	DRAWING REFERENCE
09-06-02	BRS	TU NPDES - Modification 2011 - Add Outfall 002 - Map2.dwg	MAP 2

TUSCALOOSA PLANT  
 USGS TOPOGRAPHIC MAP  
 NPDES PERMIT MAP



LAT: 33 08 37  
LONG: 87 34 48

CYPRESS CREEK

See Detail 4

TAILINGS POND  
24,057,000 Cubic Feet  
552 Acre-Feet  
@ Elevation 125

6 Inch Steel Pipe

DREDGE POND  
125,700,000 Cubic Feet  
2,886 Acre Feet  
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Water Pumps

CRABTREE ROAD

Covered SPCC  
Containment Area

Office

Loadout

Screening Process

Washing Process

Drying Process

Maintenance building

LAT: 33 08 04  
LONG: 087 34 51

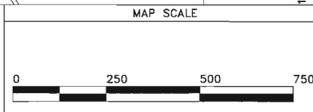
001

UNIMIN PROPERTY LEASE LINE

UNIMIN PERMIT LINE



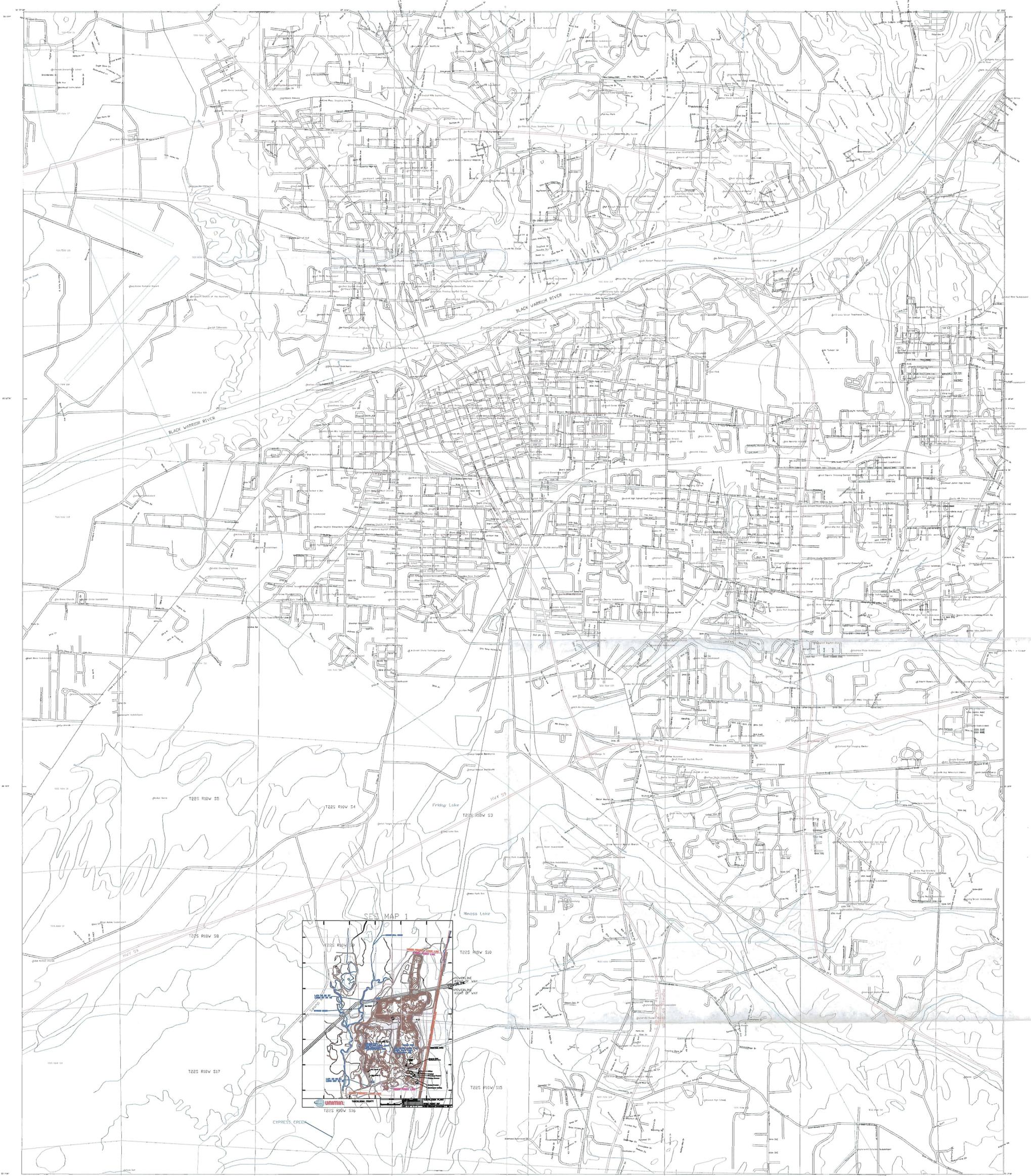
TUSCALOOSA COUNTY



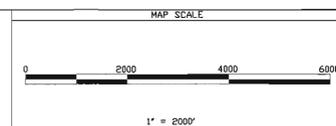
NO.	DATE	BY	DESCRIPTION
1	10/15/07	djh	Revised Topo and Permit line
2	3/9/11	AJH	Revised Topo and Added Outfall 002
3			
4			
5			

TUSCALOOSA PLANT  
NPDES PERMIT MAP

DATE	DRAWN BY	DRAWING FILE NAME	DRAWING REFERENCE
11-10-97	Jef	TU NPDES - Modification 2011 - Add Outfall 002 - Map1.dwg	MAP 1



100K Topography from 100K USGS DLG Files. Elevations are in FEET.  
 Section Township Lines (PLSS) from 100K and 24K USGS DLG Files.  
 Feature Names from USGS Geographical Names Information System (GNIS).  
 Map Accuracy is identical with that specified for these source files.  
 See Sylvan Ascent Inc. TopoDepot(tm) Documentation for details. (www.topodepot.com)  
 North American Datum of 1983.  
 X and Y Units are in US Feet.  
 Coordinate System: Alabama west ..... 102  
 Scale depends on final plotted size. See source documentation for recommended plotting scales.  
 (c)Copyright 2002 Sylvan Ascent Inc. See your license agreement for specifics. (www.topodepot.com)  
 Sylvan Ascent Inc. P.O. Box 2478 Taos NM, 87571 1-800-362-8971, support@sylvanmaps.com



NO	DATE	MADE BY	DESCRIPTION
1	09-06-02	BRS	Property Line & New Disturbance
2	10-16-07	djh	Revised Topo & Disturbance
3	3-15-11	AJH	Rev. Topo. Add Outfall 002
4			
5			

DATE	DRAWN BY	DRAWING FILE NAME	DRAWING REFERENCE
09-06-02	BRS	TU NPDES - Modification 2011 - Add Outfall 002 - Map2.dwg	MAP 2

TUSCALOOSA PLANT  
 USGS TOPOGRAPHIC MAP  
 NPDES PERMIT MAP