



Alabama Department of Environmental Management
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June 21, 2019

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Scott Brasfield
Supt. Facilities & EHS
PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

RE: Draft Permit
Virginia Mines
NPDES Permit No. AL0060771
Jefferson County (073)

Dear Mr. Brasfield:

Transmitted herein is a draft of the above referenced permit. Please review the enclosed draft permit carefully. If previously permitted, the draft may contain additions/revisions to the language in your current permit. Please submit any comments on the draft permit to the Department within 30 days from the date of receipt of this letter.

Since the Department has made a tentative decision to reissue the above referenced permit, ADEM Admin. Code r. 335-6-6-.21 requires a public notice of the draft permit followed by a period of at least 30 days for public comment before the permit can be issued. The United States Environmental Protection Agency will also receive the draft permit for review during the 30-day public comment period.

The Department utilizes a web-based electronic environmental (E2) reporting system for electronic DMR submittal. Please read Part I.F of the permit carefully and visit <https://e2.adem.alabama.gov/npdes>.

Should you have any questions concerning this matter, please contact Clint Dear by email at clint.dear@adem.alabama.gov or by phone at (334)274-4238.

Sincerely,

A handwritten signature in blue ink that reads "Catherine A. McNeill".

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

CAM/cdd File: DPER/4403

Enclosure

cc: Clint Dear, ADEM
Environmental Protection Agency Region IV
Alabama Department of Conservation and Natural Resources
U.S. Fish and Wildlife Service
Alabama Historical Commission
Advisory Council on Historic Preservation





NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

FACILITY LOCATION: Virginia Mines
White Oak Lane
Adger, AL 35006
Jefferson County
T17S, R4W, Sections 3-11, 14-22, 27-34
T18S, R4W, Sections 3, 4, 5, 6
T18S, R5W, Sections 1-36
T19S, R5W, Sections 1-12

PERMIT NUMBER: AL0060771

DSN RECEIVING STREAM
001-1 Valley Creek

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

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

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PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

Produced and/or Process Wastewater 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 ¹
pH 00400	6.0 s.u.	-----	9.0 s.u.	Grab	2/Month
Oil & Grease 00556	-----	-----	15.0 mg/L	Grab	2/Month
Chloride, Dissolved in Water 00941	-----	Report mg/L	Report mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-----	3.0 mg/L	6.0 mg/L	Grab	1/Month
Manganese, Total (As Mn) 01055	-----	2.0 mg/L	4.0 mg/L	Grab	1/Month
Flow, In Conduit or Thru Treatment Plant ² 50050	-----	Report MGD	Report MGD	Totalizer	1/Day
Toxicity, Ceriodaphnia Acute ³ 61425	-----	-----	0 pass(0)/fail(1)	24 hour Composite	1/Quarter ⁴
Toxicity, Pimephales Acute ³ 61427	-----	-----	0 pass(0)/fail(1)	24 hour Composite	1/Quarter ⁴

B. REQUIREMENTS TO ACTIVATE A PROPOSED 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.
2. Certification required by Part I.B.1. shall be submitted on a completed ADEM Form 433. The certification shall include the latitude and longitude of the constructed and certified outfall.

¹ See Part I.E.2. for further measurement frequency requirements.

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

³ See Part IV.B. for Effluent Toxicity Limitations and Biomonitoring Requirements for Acute Toxicity.

⁴ See Part IV.B.2.d. regarding Effluent Toxicity monitoring frequency reduction.

3. Discharge monitoring and Discharge Monitoring Report (DMR) reporting requirements described in Parts I.E. and I.F. 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. STORMWATER DISCHARGE MONITORING AND INSPECTION REQUIREMENTS

1. Stormwater Discharge 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 stormwater associated with the construction and operation of the facility provided that:

- a. The Permittee prepares, implements, and maintains a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 CFR 112 and Part II.A.2.d. of this Permit.
- b. Best Management Practices (BMPs) be used to prevent pollution of stormwater from construction and operation of the facility. The BMPs shall, at a minimum, meet the requirements of Part II.A.2.b.
- c. Stormwater discharge(s) shall have no sheen, and there shall be no discharge of visible oil, floating solids, or visible foam in other than trace amounts.

2. Stormwater Inspection Requirements

- a. Complete and comprehensive inspections of a minimum of four percent (4%) of all wellpads, pipeline right-of-ways, treatment ponds, compressor stations, other facilities and related appurtenances, etc. covered by this Permit, including all BMPs implemented, by a professional engineer, registered in the State of Alabama or personnel under his direct supervision shall be performed every month until expiration of coverage under this Permit. The Permittee shall inspect different or additional 4% increments until all facilities (100%) have been inspected prior to repeating inspections.
- b. Inspections shall be performed as often as is necessary to determine if, and ensure that, appropriate BMPs have been fully implemented and properly maintained and that stormwater runoff from the facility complies with limitations pursuant to Part I.C. of this Permit.

3. Recording of Results

For each inspection conducted pursuant to the requirements of Part I.C.2. of this Permit, the Permittee shall record on a Department approved form the following information:

- a. The NPDES#, facility name, and location, source identifier (wellpad, compressor station, pipeline, etc.), and source location;
- b. The name(s) of person(s) who performed the inspection;
- c. The date and time the inspection was performed;

- d. Any deficiencies noted during the inspection, any corrective action or mitigation needed to correct the deficiencies, and a proposed compliance schedule for deficiencies noted as requiring significant maintenance not to exceed 14 days, unless approved in writing by the Department.

4. Reporting of Inspection and Monitoring Requirements

- a. Inspection Summary Reports (Form 343) for stormwater discharges shall be submitted to the Director or his designee:
 - (1) By July 28 of each year for all inspections and monitoring performed during the preceding 12 month period ending on the last day of the month of June.
 - (2) With any Noncompliance Notification Form submitted pursuant to Part I.F.2. of this Permit.
- b. Results of all inspections and monitoring shall be summarized on an appropriate form approved by the Department, and shall be available for inspection no later than 21 days following the date of the inspection or monitoring. Reports must be legible and bear original signature(s). Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.

D. LAND APPLICATION OF TEMPORARY PIT WASTEWATERS

1. Administrative and Reporting Requirements

- a. Notwithstanding any other provisions of this Permit, one-time land application of temporary pit wastewater in conjunction with pit closure from any pit which is associated with any drilling, wellpad construction, well stimulation, collecting, land application, transport, treatment, storage, discharge, or other facility(s) and associated appurtenances for each development or production field or permitted area whose waste stream or produced water is authorized by this Permit is prohibited unless conducted or operated in accordance with all provisions of this Permit, Departmental regulations and good engineering practices.

With the exception of a one-time land application of pit wastewater in conjunction with pit closure, land application of produced water and other wastewaters generated during drilling, well stimulation, well completion, and well development is not authorized.
- b. The Permittee shall prepare and submit to the Department a comprehensive, detailed operations management plan for **ONE-TIME** land application of pit wastewater in conjunction with pit closure. As a minimum, this plan must address the types of equipment utilized, application rates and procedures, and site preparation and revegetation. Application of wastewater for dust suppression or other purposes on private or public roadways, access roads, trails, or other areas must also be addressed.
- c. The plan shall be prepared and certified by a professional engineer, registered in the State of Alabama.
- d. The Permittee shall notify the Department at least **48 hours** prior to beginning land application. The Permittee shall re-notify the Department if land application operations are not completed within **7 days** of the initial 48 hour notification. The Permittee must report the field name, county name, wellpad number, township-range-section, nearest surface stream, and the anticipated time of application.

e. The Permittee shall complete and make available for inspection at the facility office, or at a Department-approved alternate location, the appropriate Department-approved **Land Application Certification**. The Permittee shall submit such certification(s) as required to the Department - Attn. Chief, Mining and Natural Resource Section, Water Division - within 14 days of completion of land application operations for each pit which is associated with any drilling, well stimulation, construction, collecting, transport, treatment, storage, discharge, or other facility(s) and associated appurtenances for each development or production field or permitted area whose waste stream or produced water discharge is authorized by this Permit.

(1) The certification form must be complete and correct. Forms that contain missing or incomplete responses are not acceptable. The certification must be signed by a registered professional engineer, registered in the State of Alabama, along with the registration number and stamped with the professional seal. In addition, the certification must be signed by a Responsible Corporate Official (RCO) of the level of vice-president or above with the authority to prevent and abate possible violations. The RCO may designate an employee such as a project manager with environmental experience who is familiar with the plan to sign the certification form as an agent of the RCO. The RCO must notify the ADEM in writing with the name of the designated employee.

(2) The certification shall contain at a minimum the name of the Permittee, field name, NPDES number, county, wellpad name and number, latitude and longitude, township-range-section to the nearest 1/4 section, nearest surface receiving stream, pH (s.u.), TDS (mg/l), and the date and the name of the Department representative that was notified.

(3) In addition the certification shall contain the following statement:

"Based upon the inspections of (dates and times) _____ performed prior to and during land application of pit wastewater from the pit(s) located at the site referenced above, which I or personnel under my direct supervision (list: _____) conducted, I certify that each land application site and all application equipment was in accordance with the land application procedures plan filed with the Department, that the pumped pit wastewater did not contain visible, floating material or oil & grease, and that all application procedures and operations were conducted in accordance with the above-referenced NPDES permit and ADEM regulations.

I further certify that no unauthorized discharge to surface or ground waters has occurred as a result of these activities."

f. The Permittee shall **IMMEDIATELY** notify the Department upon learning of any possible or probable discharge to State waters resulting from land application or any other activities associated with coalbed methane operations.

2. Technical Requirements

a. Approval of a land application plan assumes that a relatively small volume of wastewater will be disposed of and, due to the small quantity involved, groundwater quality will be unaffected. Land application of pit sludge, solids or other wastes is prohibited.

b. Only wastewater having a total dissolved solids concentration (TDS) of 2,000 mg/l or less and a pH between 6.0 and 9.0 standard units may be land applied. Wastewater must be free of visible, floating solids or oil and grease. The Permittee must ensure that **ONLY** wastewater is land applied and that all solids and sediments remain in the pit. It

may be necessary to filter the wastewater during land application to ensure compliance. Land application **MUST** cease immediately if at any time the applied effluent does not comply or will not comply, if application continues, with the minimum standards as stated above.

- c. Wastewater must be uniformly applied over an area of sufficient expanse and at such a rate to prevent runoff of applied wastewater. Wastewater may be land applied **ONLY** to areas that wastewater has not previously been applied, unless re-application is specifically authorized in writing by the Department.
- d. Application of wastewater is prohibited during rain events or when the soil is saturated or sufficiently moist as to prevent percolation of all wastewater applied.
- e. Wastewater shall not be applied in such a manner that natural vegetation is discolored, killed, or otherwise adversely impacted. If the natural vegetation is adversely impacted, the Permittee shall ensure that the application area is revegetated to pre-spray conditions.
- f. Wastewater shall not be applied on severe slopes, near sink holes, near natural drainage courses, near streams or other water bodies, nor in any other manner that will allow runoff of the wastewater from the application area.
- g. The Permittee shall maintain a record of the results of the tests performed prior to land application to include the date the sample was collected, the name of the person performing the analysis, method of analysis, the date that the analysis was performed, the last date on which any substance was placed in the pit, the date that the wastewater was land applied, the amount of wastewater applied, and the location of the area on which the pit wastewater was land applied. This record shall be signed by the appropriate representative of the Permittee and retained for a period of at least three years after pit closure. Land application records shall be made available on request to the Department.
- h. In recognition that land application is site specific in nature the Department reserves the right to require the operator to provide additional information or implement added measures in addition to the above described minimum standards to ensure compliance with this Permit, State law, and Departmental regulations.

3. Prohibitions

Unless specifically authorized elsewhere in this Permit, Part I.D. of this Permit does not authorize the Permittee to land apply produced water from coalbed methane production operations.

E. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Sampling Schedule and Frequency

- a. The Permittee shall collect samples of the discharge from each constructed and certified point source identified on Page 1 of this Permit and described more fully in the Permittee's application, at the frequency specified in Part I.A. Analysis of the samples shall be conducted for the parameters specified in Part I.A.
- b. The Permittee may increase the frequency of sampling listed in Parts I.E.1.a; 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, and are no less than seven days apart. However, if discharges occur only during one seven-day period in a month, then two days per month shall mean sample collection on any two days during that seven-day period.
- 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 twelve (12) month period following the effective date of this Permit and is then required to monitor once during each calendar 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.E.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 certified 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.A. 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, 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 in accordance with Part I.E.9.a. 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.

F. **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 28th day of the month following the quarterly reporting period (i.e., on the 28th 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.G.1.c. or d., the Permittee shall submit all DMRs required by Part I.G.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.G.1.i.

- e. If the Permittee, using approved analytical methods as specified in Part I.F.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. Each DMR Form submitted by the Permittee to the Department in accordance with Part I.G.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.
- h. 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."
- i. 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

- j. 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.
- k. 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.G.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 or contributes to an exceedance of an in-stream water quality standard or causes or contributes to an exceedance the EPA suggested chronic criteria for total chlorides of 230 mg/L at the downstream edge of the regulatory mixing zone, when the discharge is mixed with the receiving stream by a high rate diffuser, the EPA suggested acute criteria for total chlorides of 860 mg/l at the downstream edge of the zone of initial dilution;
 - (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.F.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.F.2.c. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Part I.F.1. of this Permit after becoming aware of the occurrence of such noncompliance.
- c. Form 401 or Form 421 must be submitted to the Director in accordance with Parts I.F.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 noncompliance and to prevent its recurrence.
3. **Modification, Reduction, Suspension, or Termination of Monitoring and/or Reporting Requirements**
 - 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 modify, reduce, suspend, or terminate the monitoring and/or reporting required by this Permit upon the submission of a written request for such modification, reduction, suspension, or termination by the Permittee, supported by sufficient data as provided in applicable sections of this Permit.
 - b. It remains the responsibility of the Permittee to comply with the monitoring and reporting requirements of this Permit until written authorization to modify, reduce, suspend, or terminate such monitoring and/or reporting is received by the Permittee from the Director.

G. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Well Drilling Notification Requirements

Notification shall be provided to the Department at least seven days prior to the commencement of the well drilling phase of construction of each well.

2. 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.

3. 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. This notification shall serve as sufficient cause for instituting procedures for termination of the Permit.

4. 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.

5. 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.

H. 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.

2. Best Management Practices (BMPs)

- a. 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.
- b. No later than ninety (90) days after the issuance date of this Permit, the Permittee shall prepare, submit to the Department, and implement a Best Management Practices (BMPs) Plan that addresses the control of all nonpoint source pollution that is or may be associated with the Permittee's operations. These BMP plans should be based on best available technology, and include, but not be limited to, containment of any or all process liquids or solids in a manner such that these materials do not present a potential for discharge; stormwater runoff associated with wellpad construction and maintenance, roads, borrow pits less than 5 acres in size, and dirt or other material stockpiles; and water, wastewater, and other fluids acquisition operations that is or may be associated with the Permittee's operations. Protection and preservation of all surface waters onsite should be discussed, including (but not limited to) stream crossing(s), access roads, and other construction activities adjacent to waters of the State. When submitted, the BMP Plan shall become a part of this Permit and all requirements of the BMP Plan shall become requirements of this Permit. The BMPs shall include at a minimum:
 - (1) Plans to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with this Permit and water quality standards;
 - (2) Plans to prevent the spillage or loss of any fluids, oil, grease, etc. and thereby prevent the contamination of stormwater from these substances;
 - (3) Plans to provide for the disposal of all used oils, hydraulic fluids, solvent degreasing materials, etc. in accordance with good management practices and any applicable state or federal regulations;
 - (4) Plans to prevent or minimize stormwater contact with any pollutants present at the facility;
 - (5) Descriptions of stormwater volume and velocity controls within the site to minimize soil erosion;
 - (6) Plans to minimize the amount of soil exposed during construction activity through the use of project phasing or other appropriate techniques;
 - (7) Plans to minimize the disturbance of steep slopes, unless infeasible;

- (8) Plans to minimize sediment discharges from the site;
 - (9) Plans to minimize the generation of dust;
 - (10) Descriptions of construction entrance and exit stabilization to minimize off-site tracking of sediment from vehicles;
 - (11) Plans to minimize soil compaction and, unless infeasible, preserve topsoil;
 - (12) If applicable, the location and description of each borrow pit, a description of the stormwater discharge controls, and how the borrow pits will be reclaimed or closed in order to remediate any potential adverse impacts on water quality;
 - (13) If applicable, the exact location of each water, wastewater, and other fluids acquisition site and the method of withdrawal;
 - (14) If applicable, plans for the protection and preservation of all surface waters at all fluids acquisition sites or other waters which might be impacted, including, but not limited to, rivers, perennial and intermittent streams, lakes or impoundments, ponded areas, old treatment lagoons and sedimentation basins, dry hollows, subsurface wells, and all areas adjacent to waters of the State that are disturbed during water acquisition.
- c. All borrow pits authorized by this permit must at all times total less than five unreclaimed acres, and must be used exclusively by the Permittee for the permitted facility. In addition to the inspections conducted by the Permittee referenced in Part I.C.2., of this Permit, the Permittee must conduct, at a minimum, monthly inspections of the borrow pits. The inspections of the borrow pits may not be used when calculating the monthly 4% increments of the Permitted facility.
- d. 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.

3. 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:
- (1) Name and general composition of biocide or chemical;
 - (2) 96-hour median tolerance limit data for organisms representative of the biota of the water(s) which the discharge(s) enter(s);
 - (3) Quantities to be used;
 - (4) Frequencies of use;
 - (5) Proposed discharge concentrations; and
 - (6) 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.

4. 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(s).

5. 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.

6. 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.

7. **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. 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:
 - (a) An upset occurred;
 - (b) The Permittee can identify the specific cause(s) of the upset;
 - (c) The Permittee's treatment facility was being properly operated at the time of the upset; and
 - (d) The Permittee promptly took all reasonable steps to minimize any adverse impact to waters resulting from the upset.
- b. The Permittee has the burden of establishing that each of the conditions of Part II.B.2.a. 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, any discharge(s) from any point source(s) from the permitted facility which was not certified to the Department by a professional engineer, registered in the State of Alabama, as being designed, constructed, and able to be operated in accordance with design plans reviewed by the Department, terms and conditions of this Permit, Departmental regulations and good engineering practices, is prohibited until the Permittee submits to the Department, on a form approved by the Department, a certification by a professional engineer certifying that all such facility(s) have been constructed and are able to be operated in accordance with design plans reviewed by the Department, terms and conditions of this Permit, Departmental regulations and good engineering practices.

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, 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 point 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 is known or there is reason to believe:
 - 1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this Permit, if that discharge will exceed the highest of the following notification levels:
 - a. one hundred micrograms per liter;
 - b. two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dini-trophenol; and one milligram per liter for antimony;
 - c. five times the maximum concentration value reported for that pollutant in the permit application; or
 - 2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the Permit, if that discharge will exceed the highest of the following notification levels:
 - a. five hundred micrograms per liter;
 - b. one milligram per liter for antimony;
 - c. ten times the maximum concentration value reported for that pollutant in the permit application.
- c. 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 of 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.D.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 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 as 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 subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

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. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.
6. 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.
7. Daily maximum - means the highest value of any individual sample result obtained during a day.
8. Daily minimum - means the lowest value of any individual sample result obtained during a day.
9. Day - means any consecutive 24-hour period.
10. Department - means the Alabama Department of Environmental Management.
11. Director - means the Director of the Department or his authorized representative or designee.
12. 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).
13. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish monitoring report requirements of an NPDES permit.
14. 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.
15. EPA - means the United States Environmental Protection Agency.
16. Federal Water Pollution Control Act (FWPCA) - means 33 U.S.C. §§1251 *et. seq.*, as amended.
17. Flow - means the total volume of discharge in a 24-hour period.
18. 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.
19. mg/L - means milligrams per liter of discharge.
20. MGD - means million gallons per day.

21. Mixing Zone - that portion of the receiving waters where mixture of effluents and natural waters take place. Mixing zones must meet the requirements of ADEM Admin. Code r. 335-6-6-.15(10).
22. 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.)
23. New Source - means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - a. After promulgation of standards of performance under Section 306 of FWPCA which are applicable to such source; or
 - b. 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.
24. Permit application - means forms and additional information that are required by ADEM Admin. Code r. 335-6-6-.08 and applicable permit fees.
25. 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).
26. 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.
27. Pollutant of Concern - means those pollutants for which a water body is listed as impaired or which contribute to the listed impairment.
28. Process Wastewater - means any discharge(s) of water other than stormwater discharges.
29. Produced Water - means all water produced from the dewatering of coal and related seams, not to include flowback from fracturing and cement returns.
30. Receiving Stream - means the "waters" receiving a "discharge" from a "point source".
31. 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.
32. Stimulation - means any process used to clean a well bore, enlarge channels, increase permeability or increase pore spaces in a formation, thus making it possible for formation fluids to move more rapidly and greater distances through the formation, and may include surging, jetting, acidizing, or fracturing.
33. Stimulation fluids - means all fluids used for and associated with the stimulation of coal seams.
34. Stormwater discharges - means any discharges related to storm events or snow melt.

35. Treatment facility and treatment system - means all structures which contain, convey, and as necessary, chemically or physically treat coalbed methane extraction operations process wastewater, produced wastewater, or drainage from associated areas, 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.
36. 24 Hour Composite - means a 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.
37. 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.
38. 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.
39. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.
40. Weekly (7-day and calendar week) Average - 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.
41. Zone of Initial Dilution (ZID) - the area extending from the port openings of a high rate diffuser to the initial edge of the mixing zone where, due to great turbulence, a constant instream waste concentration (IWC) cannot be determined. A ZID must meet the requirements of ADEM Admin. Code r. 335-6-6-.02(ggg)

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. 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.
4. Discharges of stormwater, process water, produced water, other wastewaters, or other pollutants from exploration, development, production, closure, and associated activities, of hydrocarbons from sources other than coal seams (e.g., conventional oil and natural gas operations) are not authorized by this Permit unless specifically approved in writing by the Director. The Permittee shall submit documentation and must receive approval from the Department prior to inclusion, under this Permit discharges of stormwater, process water, and other wastewaters from any well that has been, or will be converted from conventional oil and gas exploration or other hydrocarbon development, or production operations to coalbed methane operations

PART IV SPECIAL REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

A. 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.

B. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR ACUTE TOXICITY

Except as provided below, the Permittee shall perform 48-hour acute toxicity screening tests on the discharges required to be tested for acute toxicity in Part I.A. of this Permit.

In addition to the frequency specified in Part I.A. of this Permit, acute toxicity screening tests shall be performed in conjunction with the discharge of each new formulation of stimulation fluid that is discharged through any outfall(s). The testing in conjunction with the discharge of stimulation fluid may coincide with the regularly required testing.

1. Test Requirements

- a. The tests shall be performed using effluent diluted, using appropriate control water, to the Instream Waste Concentration (IWC) which is 1% effluent for Outfall 001.
- b. Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this Permit.

2. General Test Requirements

- a. A 24 hour composite sample shall be obtained for use in the above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the Permittee and approved by the Department.
- b. Effluent toxicity tests in which the control survival is less than 90% 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.
- c. 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.
- d. Should results from four consecutive testing periods indicate that effluent from a point source identified on Page 1 of this Permit does not exhibit acute toxicity, the Permittee may request that the toxicity testing frequency be reduced to semiannual. A reduction in toxicity testing frequency will be allowed only if approved by the Department in writing. The required toxicity testing frequency will revert back to once per quarter under the following conditions:
 - (1) If effluent from a point source identified on Page 1 of this Permit continues to exhibit acute toxicity in any of the four (4) additional acute toxicity tests following the initial indication of acute toxicity as specified in Part IV.B.4., unless waived in writing by the Department; and
 - (2) If the characteristics of the effluent from a point source identified on Page 1 of this Permit changes significantly from the effluent which was discharging when the reduction in frequency was approved. Such changes in characteristics may include, but are not limited to, changes in stimulation fluids.

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 acute toxicity is indicated (noncompliance with permit limit), the Permittee shall perform four (4) additional valid acute toxicity tests in accordance with these procedures. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks after becoming aware of the acute toxicity. 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 Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

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 time suspend or reinstate this requirement or may increase or decrease 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 date (MGD, CFS, GPM)

c. Source of Effluent and Dilution Water

- (1) Effluent samples
 - (i) Sampling point
 - (ii) Sample collection date(s) and time(s)
 - (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) Sample temperature when received at the laboratory
- (vi) Lapsed time from sample collection to delivery
- (vii) Lapsed time from sample collection to test initiation
- (2) Dilution Water samples
 - (i) Source
 - (ii) Collection date(s) and time(s) (where applicable)
 - (iii) Pretreatment (if applicable)
 - (iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductivity, 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) Feeding frequency, and amount and type of food
- (12) Light intensity (mean)

e. Test Organisms

- (1) Scientific name
- (2) Life stage and age
- (3) Source

- (4) Disease treatment (if applicable)
- f. Quality Assurance
- (1) Reference toxicant utilized and source
 - (2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)
 - (3) Dilution water utilized in reference toxicant test
 - (4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.
 - (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: LC50, NOAEC, Pass/Fail (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) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD)
- h. Conclusions and Recommendations
- (1) Relationship between test endpoints and permit limits
 - (2) Action to be taken

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION

NPDES INDIVIDUAL PERMIT RATIONALE

Company Name: PGP Operating, LLC
Facility Name: Virginia Mines
County: Jefferson
Permit Number: AL0060771
Prepared by: Clint Dear
Date: 7/12/2018
Receiving Waters: Valley Creek
Permit Coverage: Coalbed Methane Exploration, Production, and Associated Areas
SIC Codes: 1311

The Department has made a tentative determination that the available information is adequate to support reissuance of this permit.

This proposed permit covers stormwater and produced water discharges from coalbed methane exploration, production, and associated areas.

This proposed permit authorizes treated discharges into a stream segment, other State water, or local watershed that currently has a water quality classification of Fish and Wildlife (F&W) (ADEM Admin. Code r. 335-6-10-.09).

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 for the receiving stream.

The Instream Waste Concentration (IWC) calculated based on the average discharge flow (Q_w) from January 2007 through December 2010 and the receiving stream's $7Q_{10}$ (seven-day 10-year low flow) is:

$$\text{Instream Waste Concentration (IWC)} = \frac{Q_w}{7Q_{10} + Q_w} = \frac{.057 \text{ cfs}}{(37.3 + .057) \text{ cfs}} = 0.15\%$$

The instream water quality standards for pH in streams classified as Fish and Wildlife is 6.0 – 8.5 s.u. per ADEM Admin. Code r. 335-6-10-.09. However, a discharge limitation for pH of 9.0 s.u. is imposed when the IWC indicates that enough dilution is considered to be available in-stream to allow for a discharge at 9.0 s.u. without endangering water quality. In the case of this proposed permit, the IWC indicates that dilution is available to allow a discharge of 9.0 s.u. 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.

Total iron and total manganese limitations are based on Best Professional Judgment (BPJ). These limitations have been used in previous permits and are believed to be adequate to protect water quality. The oil and grease daily maximum limit of 15 mg/L has been shown to provide a reasonable assurance of compliance with ADEM Admin. Code r. 335-6-10-.06(b) which says “State waters shall be free from floating debris, oil...”

Effluent monitoring requirements are proposed for dissolved chlorides so that the Department will have data available which may be used to develop future permit requirements.

The Department’s experience with existing discharges on receiving streams with greater than 100:1 dilution has shown that acute toxicity requirements are more stringent than chronic requirements. This permit proposes discharges with a flow rate of 0.057 cfs with the receiving streams 7Q10 of 37.3 cfs resulting in greater than 100:1 dilution. Therefore, acute toxicity testing with two species (*Ceriodaphnia dubia* and *Pimephales promelas*) is required by this permit. The acute toxicity testing is required using effluent diluted to the IWC using the 1Q₁₀ flow (ADEM Admin. Code r. 335-6-6-.15(11)). The 1Q₁₀ is estimated to be 75% of the 7Q₁₀, and in this case is 27.98 cfs.

$$\text{Instream Waste Concentration (IWC)} = \frac{Q_w}{1Q_{10} + Q_w} = \frac{0.057 \text{ cfs}}{(27.98 + 0.057) \text{ cfs}} = 0.20\% \text{ (round to 1\%)}$$

The acute toxicity testing at the 1Q₁₀ IWC of 1% is required once per quarter. In addition, since limited information is available concerning the aquatic toxicity of the chemicals used in the stimulation fluids or the exact ratios and combinations of these chemicals, Part IV.B. of the permit requires the Permittee to conduct toxicity testing in conjunction with the discharge of any new stimulation fluids into the waste stream.

The Department completed a reasonable potential analysis (RPA) of the discharges based on the laboratory data provided in the application. The RPA indicates whether or not pollutants in treated effluent have the potential to contribute to excursions of Alabama’s in-stream WQS. Based on the analytical data submitted by the Permittee, the RPA indicates that there was no reasonable potential for instream WQS to be exceeded.

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.

A Best Management Practices (BMP) Plan is required for the control of all nonpoint sources of pollution from all areas that are or may be associated with the Permittee’s operations. This plan must be based on best available technology and include, but not be limited to, containment of process liquids and solids such that these do not present a potential for discharge; stormwater runoff associated with wellpad construction and maintenance; roads, borrow pits, and dirt or other material stockpiles; and water, wastewater, and other fluids acquisition operations that may be associated with the Permittee’s operations. The Permittee is required to inspect a minimum of 4% of its facilities each month to ensure that their BMPs are effective in minimizing pollutants in stormwater runoff and are adequate for compliance with State water quality standards.

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 1 water.

The proposed permit action does not authorize new or increased 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 to support recreation in and on the water (Tier 2). Therefore, the Antidegradation Policy as described by ADEM Admin Code 335-6-10.04 and .12 does not apply.

Facility Name: PGP Operating, LLC

NPDES No.: AL0060771

Outfall: 001-1^{1,2,3,4,5,6}

														Human Health Consumption Fish only (µg/l)					
Freshwater F&W classification.				Freshwater Acute (µg/l) Q _s = 1Q10					Freshwater Chronic (µg/l) Q _s = 7Q10					Carcinogen Q _s = Annual Average Non-Carcinogen Q _s = 7Q10					
ID	Pollutant	RP?	Carcinogen yes	Background Instream (Cs) Daily Max ²	Max Daily Discharge as reported by Applicant ³ (C _{DMAX}) ⁴	Water Quality Criteria (C _c)	Draft Permit Limit (C _{DRAFT})	20% of Draft Permit Limit	RP?	Background Instream (Cs) Monthly Ave ⁵	Avg Daily Discharge as reported by Applicant ³ (C _{DRAV}) ⁴	Water Quality Criteria (C _c)	Draft Permit Limit (C _{DRAV})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C _c)	Draft Permit Limit (C _{DRAV})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-		0	0	-	-	-		3.73E+02	2.44E+05	4.87E+04	No
2	Arsenic		YES	0.61	0.054	340.000	166188.984	33237.797	No	0.61	0.054	150.000	97486.122	19497.224	No	3.03E-01	3.03E-01	6.06E-02	No
3	Beryllium			0	0	-	-	-		0	0	-	-	-		-	-	-	-
4	Cadmium			0	0	2.014	986.058	197.212	No	0	0	0.246	160.527	32.105	No	-	-	-	-
5	Chromium/ Chromium III			0	0.125	569.763	278994.860	55799.972	No	0	0.125	74.115	48363.961	9672.792	No	-	-	-	-
6	Chromium/ Chromium VI			0	0.125	16.000	7834.686	1566.937	No	0	0.125	11.000	7178.129	1435.626	No	-	-	-	-
7	Copper			1.36	1.023	13.439	5916.114	1183.223	No	1.36	1.023	8.956	4958.022	991.604	No	1.30E+03	8.47E+05	1.69E+05	No
8	Lead			0	0.126	64.581	31623.427	6324.685	No	0	0.126	2.517	1642.254	328.451	No	-	-	-	-
9	Mercury			0.00133	0	2.400	1174.553	234.911	No	0.00133	0	0.012	6.964	1.393	No	4.24E-02	2.68E+01	5.36E+00	No
10	Nickel			1.45	0.151	468.236	228571.443	45714.289	No	1.45	0.151	52.007	32992.481	6598.496	No	9.93E+02	6.47E+05	1.29E+05	No
11	Selenium			0.55	0	20.000	9524.590	1904.918	No	0.55	0	5.000	2904.429	580.886	No	2.43E+03	1.59E+06	3.17E+05	No
12	Silver			0	0	3.217	1575.143	315.029	No	0	0	-	-	-		-	-	-	-
13	Thallium			0	0	-	-	-		0	0	-	-	-		-	-	-	-
14	Zinc			9.55	0.698	355.092	169210.501	33842.100	No	9.55	0.698	118.139	70870.068	14174.014	No	2.74E-01	1.79E+02	3.57E+01	No
15	Cyanide			0	0	22.000	10772.693	2154.539	No	0	0	5.200	3393.297	678.659	No	1.49E+04	9.71E+06	1.94E+06	No
16	Total Phenolic Compounds			0	0	-	-	-		0	0	-	-	-		-	-	-	-
17	Hardness (As CaCO ₃)			0	0	-	-	-		0	0	-	-	-		-	-	-	-

¹ Outfall 001-1 discharges to Valley Creek. The 7Q10 for the receiving stream is 37.3 cfs. The Mean Annual Flow for the receiving stream is 260.01 cfs.

This is the receiving stream flow value used in the calculations.

² Outfall 001-1 has a discharge flow rate of 0.037 MGD. This is the discharge flow rate used in the calculations.

³ A hardness of 100 mg/L was used in the calculations based on expected stream hardness in this portion of the state.

⁴ Discharge data for all parameters are a result of samples obtained from Outfall 011-1 at Virginia Mines on October 26, 2017.

⁵ Additional discharge data for all parameters are the results of 18 samples obtained from Outfall 001 from 2017-2019.

⁶ Instream samples taken from Valley Creek on October 26, 2017.

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

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

INSTRUCTIONS: 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.

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PURPOSE OF THIS APPLICATION

- "P" Outfall Change Information Update Change of Address
 Permit Transfer Change of Officers Other: _____

JUN 29 2018

I. GENERAL INFORMATION

**STORM WATER
MANAGEMENT BRANCH**

NPDES Permit Number (Not applicable if initial permit application): <u>AL 0060771</u>	County(s) in which Facility is Located: Jefferson
--	---

Company/Permittee Name: PGP Operating, LLC		Facility Name (e.g., Mine Name, Pit Name, etc.): Virginia Mines	
Mailing Address of Company/Permittee: 17300 Brookwood Parkway		Physical Address of Facility (as near as possible to entrance): White Oak Lane	
City: Vance	State: AL	Zip: 35490	City: Bessemer
			State: AL
			Zip: 35023
Permittee Phone Number: 205-554-3100	Permittee Fax Number: 205-553-5252	Latitude and Longitude of entrance: 33.415778 & -87.077315	



Responsible Official (as described on page 13 of this application): Scott Brasfield		Responsible Official Title: Supt. Facilities & EHS	
Mailing Address of Responsible Official: 17300 Brookwood Parkway		Physical Address of Responsible Official: 17300 Brookwood Parkway	
City: Vance	State: AL	Zip: 35490	City: Vance
			State: AL
			Zip: 35490
Phone Number of Responsible Official: 205-554-3137	Fax Number of Responsible Official: 205-553-5252	Email Address of Responsible Official: sbrasfield@pgpoperating.com	

Facility Contact: Scott Brasfield		Facility Contact Title: Supt. Facilities & EHS	
Physical Address of Facility Contact: 7300 Brookwood Parkway		Phone Number of Facility Contact: 205-554-3137	Fax Number of Facility Contact: 205-553-5252
City: Vance	State: AL	Zip: 35490	Email Address of Facility Contact: sbrasfield@pgpoperating.com



II. MEMBER INFORMATION

A. 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:	Physical Address of Residence (P.O. Box is Not Acceptable)
Susan Reeves	President	5027 Chapel Crossing Douglasville, GA 30135
Mike Frey	VP Operations	4369 Dunmore Road Marietta, GA 30068
Chris Howell	VP Finance	3284 Standing Peach Tree Trail, GA 30152

B. Other than the "Company/Permittee" listed in Part I., identify the name of each corporation, partnership, association, and single proprietorship for which any individual identified in Part II.A. 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, that had an Alabama NPDES permit at any time during the five year (60 month) period immediately preceding the date on which this form is signed:

Name of Corporation, Partnership, Association, or Single Proprietorship:	Name of Individual from Part II.A.:	Title/Position in Corporation, Partnership, Association, or Single Proprietorship:
_____	_____	_____
_____	_____	_____
_____	_____	_____

III. LEGAL STRUCTURE OF APPLICANT

A. Indicate the legal structure of the "Company/Permittee" listed in Part I:

Corporation
 Association
 Individual
 Single Proprietorship
 Partnership
 LLP
 LLC
 Government Agency: _____ Other: _____

B. If not an individual or single proprietorship, is the "Company/Permittee" listed in Part I. properly registered and in good standing with the Alabama Secretary of State's Office? (If the answer is "No," attach a letter of explanation.) Yes No

C. Parent Corporation and Subsidiary Corporations of Applicant, if any: Public Gas Partners Inc. & PGP Gas Supply Pool No. 3

D. Land Owner(s): Available upon request

E. Mining Sub-contractor(s)/Operator(s), if known: NA

IV. COMPLIANCE HISTORY

A. Has the applicant ever had any of the following:

	Yes	No
(1) An Alabama NPDES, SID, or UIC permit suspended or terminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) An Alabama license to mine suspended or revoked?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) An Alabama or federal mining permit suspended or terminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) A reclamation bond, or similar security deposited in lieu of a bond, or portion thereof, forfeited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) 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"/>

(If the response to any item of Part IV.A. is "Yes," attach a letter of explanation.)

B. Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, or litigation issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC member and filed by ADEM or EPA during the three year (36 months) period preceding the date on which this form is signed. 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. CURRENT NPDES PERMIT RECENT APPLICATION INFORMATION

If permit transfer, list company name and facility name of current Permittee: _____

Yes No A copy of the current permit, compliance history information, and the information used to complete the most recent application for issuance or modification of this NPDES permit has been obtained and reviewed.

If "No." Please explain: Updating company contact information

Yes No If "P" outfall deletion or upgradient relocation, a copy of the p outfall additional information addendum form is attached.

IV. OTHER PERMITS/AUTHORIZATIONS

A. List any other NPDES or other environmental permits (including permit numbers), 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, revoked, or terminated:
See attached Table I

B. List any other NPDES or other ADEM permits (including permit numbers), 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, revoked, or terminated:
See attached Table II

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) Scott Brasfield Official Title Superintendent-Facilities & EHS
 Signature *Scott Brasfield* Date Signed 6/27/18

*335-6-6-.09 Signatories to Permit Applications and Reports.
 (1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:
 (a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;
 (b) In the case of a partnership, by a general partner;
 (c) In the case of a sole proprietorship, by the proprietor; or
 (d) In the case of a municipal, state, federal, or other public entity by either a principal executive officer, or ranking elected official.

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

**COALBED METHANE OPERATIONS – EXPLORATION, DEVELOPMENT, OPERATION, CLOSURE, AND
ASSOCIATED ACTIVITIES AND AREAS**

R# 18-45362

INSTRUCTIONS: 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 THE EFFECTIVE DATE OF PERMIT COVERAGE ISSUED BY THE DEPARTMENT.

PLEASE TYPE OR PRINT IN INK ONLY.

\$ 7,875.00

PURPOSE OF THIS APPLICATION

- Initial Permit Application for New Operations Modification of Existing Permit Reissuance of Existing Permit
 Reissuance & Modification of Existing Permit Reissuance & Transfer of Existing Permit Other: _____

I. GENERAL INFORMATION

NPDES Permit Number (Not applicable if initial permit application): <i>AL 0060771</i>	County(s) in which Operations are Located: Jefferson
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RECEIVED

FEB 20 2018

Company/Permittee Name PGP Operating, LLC.			Operations Name Virginia Mines		
Mailing Address of Company/Permittee: 17300 Brookwood Parkway			Physical Address of Operation (as near as possible to main entrance): White Oak Lane		
City: Vance	State: Al	Zip: 35490	City: Adger	State: Al	Zip: 35006
Permittee Phone Number 205-554-3100	Permittee Fax Number: 205-553-5252	Latitude and Longitude of Main Entrance: 33.4244 / -87.0671			

**STORM WATER
MANAGEMENT BRANCH**

Responsible Official (as described on Page 8 of this application): Mike Bretzke			Responsible Official Title: General Supt.		
Mailing Address of Responsible Official: 17300 Brookwood Parkway			Physical Address of Responsible Official: 17300 Brookwood Parkway		
City: Vance	State: Al	Zip: 35490	City: Vance	State: Al	Zip: 35490
Phone Number of Responsible Official: 205-554-3128	Fax Number of Responsible Official: 205-553-5252	Email Address of Responsible Official: mbretzke@pgpoperating.com			

Operations Contact: Scott Brasfield			Operations Contact Title: EH&S / Facilities Superintendent		
Physical Address of Operations Contact: 17300 Brookwood Pkwy.			Phone Number of Operations Contact: 205-554-3137	Fax Number of Operations Contact: 205-553-5252	
City: Vance	State: Al	Zip: 35490	Email Address of Operations Contact: sbrasfield@pgpoperating.com		

II. MEMBER INFORMATION

A. Identify the name, title/position, and unless waived in writing by the Department, the resident 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 operations:

Name	Title/Position	Physical Address of Residence (P.O. Box is Not Acceptable)
<u>Susan Reeves</u>	<u>President</u>	<u>5027 Chapel Crossing Douglasville, GA 30135</u>
<u>Mike Frey</u>	<u>VP-Operations</u>	<u>4369 Dunmore Rd. Marietta, GA 30068</u>
<u>Chris Howell</u>	<u>VP-Finance</u>	<u>3284 Standing Peach Tree Trail, GA 30152</u>

B. Other than the "Company/Permittee" listed in Part I, identify the name of each corporation, partnership, association, and single proprietorship for which any individual identified in Part II.A. 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, that had an Alabama NPDES permit at any time during the five year (60 month) period immediately preceding the date on which this form is signed:

Name of Corporation, Partnership, Association, or Single Proprietorship:	Name of Individual from Part II.A.:	Title/Position in Corporation, Partnership, Association, or Single Proprietorship:
_____	_____	_____
_____	_____	_____
_____	_____	_____

III. LEGAL STRUCTURE OF APPLICANT

A. Indicate the legal structure of the "Company/Permittee" listed in Part I:

- Corporation
 Association
 Individual
 Single Proprietorship
 Partnership
 LLP
 LLC
- Government Agency _____
 Other _____

B. If not an individual or single proprietorship, is the "Company/Permittee" listed in Part I properly registered and in good standing with the Alabama Secretary of State's office. (If the answer is "No," attach a letter of explanation.) Yes No

C. Parent Corporation and Subsidiary Corporations of Applicant, if any: Public Gas Partners Inc. and PGP Gas Supply Pool

D. Land owner(s): Available on Request No.3 LLC.

E. Mining Sub-contractor(s)/Operator(s), if known: NA

IV. COMPLIANCE HISTORY

A. Has the applicant ever had any of the following:

- | | Yes | No |
|---|--------------------------|-------------------------------------|
| (1) An Alabama NPDES, SID, or UIC permit suspended or terminated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (2) An Alabama or federal environmental permit suspended/terminated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (3) An Alabama State Oil & Gas Board permit or other approval suspended or terminated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (4) An Alabama or federal performance/environmental bond, or similar security deposited in lieu of a bond, or portion thereof, forfeited? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

(If the response to any item of Part IV.A. is "Yes," attach a letter of explanation.)

B. Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, or litigation issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC Member and filed by ADEM or EPA during the three year (36 month) period preceding the date on which this form is signed. 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. OTHER PERMITS/AUTHORIZATIONS

A. List any other NPDES, State Oil & Gas Board (OGB) Class II Injection wells, or other environmental permits (including permit numbers), 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 these operations whether presently effective, expired, suspended, revoked or terminated:

Refer to Table I

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

Refer to Table II

VI. PROPOSED SCHEDULE

Anticipated Activity Commencement Date: September 3, 1985 Anticipated Activity Completion Date: 2040

VII. ACTIVITY DESCRIPTION & INFORMATION

A. Proposed Total Area of the Permitted Site: 50,000 acres Proposed Total Disturbed Area of the Permitted Site: N/A acres

B. Township(s), Range(s), Section(s): See Table III Refer to Attachment A

C. Detailed Directions to Site: N/A

D. Is/will this operation:

Yes No

- (1) an existing operation which currently results in discharges to State waters? Yes No
- (2) a proposed operation which will result in a discharge to State waters? Yes No
- (3) be located within any 100-year flood plain? Yes No
- (4) discharge to Municipal Separate Storm Sewer? Yes No
- (5) discharge to waters of or be located in the Coastal Zone? Yes No
- (6) need/have ADEM UIC permit coverage? Yes No
- (7) be located on Indian/historically significant lands? Yes No
- (8) need/have ADEM SID permit coverage? Yes No
- (9) need/have State Oil & Gas Board coverage? Yes No
- (10) need/have ADIR permit coverage? Yes No
- (11) generate, treat, store, or dispose of hazardous or toxic waste? (If "Yes," attach a detailed explanation.) Yes No
- (12) be located in or discharge to a Public Water Supply (PWS) watershed or be located within 1/2 mile of any PWS well? Yes No

VIII. PROPOSED ACTIVITY TO BE CONDUCTED

A. Type(s) of activity presently conducted at applicant's existing operations or proposed to be conducted at operations (check all that apply):

- CBM exploration/production (drilling, fracturing, etc.) Surface water withdrawal
- Land application of temporary pit waters Conventional Oil & Gas exploration
- Creek/stream pipeline or road crossings Gob well development
- Construction related temporary borrow pits/areas Chemicals used in process or wastewater treatment (coagulant, biocide, etc.)
- Onsite construction debris or equipment storage/disposal Construction Excavation
- Grading, clearing, grubbing, etc. Reclamation of disturbed areas
- Waterbody relocation or other alteration Other (describe): _____
- Other beneficiation/manufacturing operations. If "Yes", please describe: _____

B. Primary SIC Code 13 Description Oil and Gas Extraction

Secondary SIC Code(s) 1311 Description Crude Petroleum and Natural Gas

C. Narrative Description of the Activity: Extraction of Methane Gas form Coal Seams

IX. FUEL – CHEMICAL HANDLING, STORAGE & SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC) PLAN

A. Will fuels, chemicals, compounds, or liquid waste be used or stored onsite? Yes No

B. If "Yes," identify the fuel, chemicals, compounds, or liquid waste and indicate the volume of each:

Volume	Contents	Volume	Contents	Volume	Contents
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____

C. If "Yes", a detailed SPCC Plan with acceptable format and content, including diagrams, must be attached to application in accordance with 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, Material Safety Data Sheets (MSDS) for chemicals/compounds used or proposed to be used at the operations must be included in the SPCC Plan submittal.

Refer to Attached SPCC Plan

X. 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, operations name, county, and township, range, & section(s) where the operations are 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 operations (property lines and lease boundaries) | (k) All surrounding unimproved/improved roads |
| (b) Compressor stations | (l) High-tension power lines and railroad tracks |
| (c) All existing and proposed disturbed areas | (m) Buildings and structures, including fuel/water tanks |
| (d) Operations gas and water pipelines | (n) Contour lines, township-range-section lines |
| (e) Proposed and existing discharge points | (o) Drainage patterns, swales, washes |
| (f) Perennial, intermittent, and ephemeral streams | (p) All drainage conveyance/treatment structures (ditches, berms, etc.) |
| (g) Lakes, springs, water wells, and wetlands | (q) Any other pertinent or significant structure/feature |
| (h) All known dirt/improved access roads for operations | (r) Location of any waste storage/disposal areas |
| (i) Wellpads and service roads | (s) Location of operations sign showing Permittee name, operations name, and NPDES Number |
| (j) Other information relevant to operations | |

XI. RECEIVING WATERS

List the requested permit action for each outfall (issue, reissue, add, delete, move, etc.), outfall designation including denoting "E" for existing and "P" for proposed outfalls, name of receiving water(s), latitude and longitude (to seconds) of location of each discharge point, the receiving water(s) use classification, whether or not the outfall discharges to an ADEM listed CWA Section 303(d) waterbody segment at the time of application submittal, and whether or not the stream is included in a TMDL.

Action	Outfall E/P	Receiving Water	Latitude	Longitude	ADEM WUC	303(d) Segment (Y/N)	TMDL Segment* (Y/N)
Reissue	001E	Valley Creek	N33°24' 53"	W-87°04'39"	LWF	N	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 TMDL limitations; and (5) Any other additional information available to support the requested compliance schedule.

TABLE I
PGP Operating, LLC.
ENVIRONMENTAL PERMITS AND CERTIFICATIONS FOR VIRGINIA MINES

PERMIT TYPE	PERMIT /CERTIFICATION NUMBERS	FACILITY LOCATION
NPDES*	AL0060771	Virginia Mines
Regulated Waste	ALR000015925	Oak Grove Comp. Sta. #7
Regulated Waste	ALR000015917	Oak Grove Comp. Sta. #8
Air	4-07-0535-006-01	Oak Grove Comp. Sta. #7
Air	4-07-0535-007-01	Oak Grove Comp. Sta. #7
Air	4-07-0543-001-04	Oak Grove Comp. Sta. #8
Air	4-07-0543-007-02	Oak Grove Comp. Sta. #8
Air	4-07-0543-008-02	Oak Grove Comp. Sta. #8
Air	4-07-0543-009-01	Oak Grove Comp. Sta. #8
Air	4-07-0569-004-01	Oak Grove Comp. Sta. #15
Air	4-07-0569-005-01	Oak Grove Comp. Sta. #15

*ACTIVE NPDES PERMITS

Revised: October 25, 2017

TABLE II
PGP Operating, LLC.
ENVIRONMENTAL PERMITS AND CERTIFICATIONS

PERMIT TYPE	PERMIT /CERTIFICATION NUMBERS	FACILITY LOCATION
NPDES	IU35370071 - Expired	Oak Grove
NPDES	IU3937383 - Expired	Oak Grove
NPDES	AL0067673 - Expired	CTOP
NPDES	AL0049476 - Expired	Hurricane Creek
NPDES	AL0056529 - Expired	Big Sandy Creek
NPDES	AL0049760 -Transferred	Deerlick Creek
NPDES	AL0058742 - Expired	Cut Off Lake
NPDES	AL0060925 - Expired	Kepple Creek
NPDES	AL0058726 - Expired	Marsh
NPDES	AL0062812 - Expired	Finches Ferry
NPDES	IU9797001 - Expired	Maxwell Crossing
NPDES	IU396300512 – ERC Terminated	Maxwell Crossing
NPDES	AL0055336 – ERC Terminated	Rock Creek
NPDES*	AL0057037	TOGA
NPDES*	AL0060771	Virginia Mines
NPDES*	AL0062430	Oak Grove
NPDES*	AL0060798	Brush Creek
NPDES*	AL0052264	Big Sandy Creek #1
NPDES*	AL0058734 - Terminated	Big Bend
NPDES*	AL0056791	Maxwell Crossing
Regulated Waste	ALR000025494 - Terminated	Oak Grove Staging Area
Regulated Waste	ALR000015867	Oak Grove Comp. Sta. #2
Regulated Waste	ALR000032771	Oak Grove Comp. Sta. #3
Regulated Waste	ALR000015941	Oak Grove Comp. Sta. #4
Solid Waste	SW-063019-C002	Oak Grove Comp. Sta. #4
Regulated Waste	ALR000015933	Oak Grove Comp. Sta. #5
Regulated Waste	ALR000015925	Oak Grove Comp. Sta. #7
Regulated Waste	ALR000015917	Oak Grove Comp. Sta. #8
Regulated Waste	ALR000015891 - Terminated	Oak Grove Comp. Sta. #9
Regulated Waste	ALR000015909	Oak Grove Comp. Sta. #10
Regulated Waste	ALR000015883	Oak Grove Comp. Sta. #11
Regulated Waste	ALR000015875	Oak Grove Comp. Sta. #12
Regulated Waste	ALR000024471 - Terminated	Vance Staging Area
Regulated Waste	ALR000024430	Vance Comp. Sta. #1
Regulated Waste	ALR000024497	Vance Comp. Sta. #2
Regulated Waste	ALR000024422	Vance Comp. Sta. #4
Solid Waste	SW-063019-C003	Vance Comp. Sta. #4
Regulated Waste	ALR000024414	Vance Comp. Sta. #5
Regulated Waste	ALR000024406	Vance Comp. Sta. #6
Regulated Waste	ALR000024620	Vance Comp. Sta. #11
Regulated Waste	ALR000024612	Vance Comp. Sta. #12

TABLE II

PERMIT TYPE	PERMIT /CERTIFICATION NUMBERS	FACILITY LOCATION
Regulated Waste	ALR000024604	Vance Comp. Sta. #13
Regulated Waste	ALR000024463	Vance Comp. Sta. #14
Regulated Waste	ALR000024638	Vance Comp. Sta. #22
Regulated Waste	ALR000024596	Vance Comp. Sta. #31
Regulated Waste	ALR000024588	Vance Comp. Sta. #32
Regulated Waste	ALR000024570	Vance Comp. Sta. #33
Regulated Waste	ALR000024562	Vance Comp. Sta. #34
Solid Waste	SW-013105-0044 - Expired	Vance Project
Solid Waste	SW-063013-0054 - Expired	Vance Project
Solid Waste	SW-013105-A006 - Expired	Vance Project
Solid Waste	SW-013105-0045 - Expired	Oak Grove Project
Solid Waste	SW-063013-0053 - Expired	Oak Grove Project
Solid Waste	SW-063015-A007 - Expired	Oak Grove Project
Air	4-07-0538-01(001) - Terminated	Oak Grove Comp. Sta. #2
Air	4-07-0538-003-01 - Terminated	Oak Grove Comp. Sta. #2
Air	4-07-0538-005-01	Oak Grove Comp. Sta. #2
Air	4-07-0538-006-01	Oak Grove Comp. Sta. #2
Air	4-07-0539-001-01 - Terminated	Oak Grove Comp. Sta. #3
Air	4-07-0539-004-01 - Terminated	Oak Grove Comp. Sta. #3
Air	4-07-0539-008-01	Oak Grove Comp. Sta. #3
Air	4-07-0539-012-01	Oak Grove Comp. Sta. #3
Air	4-07-0539-005-01	Oak Grove Comp. Sta. #3
Air	4-07-0540-01 (001) - Terminated	Oak Grove Comp. Sta. #4
Air	4-07-0540-002-01 - Terminated	Oak Grove Comp. Sta. #4
Air	4-07-0540-002-02	Oak Grove Comp. Sta. #4
Solid Waste	SW-063019-C002	Oak Grove Comp. Sta. #4
Air	4-07-0541-01 (001)-Terminated	Oak Grove Comp. Sta. #5
Air	4-07-0541-004-01 - Terminated	Oak Grove Comp. Sta. #5
Air	4-07-0541-01 (005) - Terminated	Oak Grove Comp. Sta. #5
Air	4-07-0541-007-01	Oak Grove Comp. Sta. #5
Air	4-07-0541-008-01	Oak Grove Comp. Sta. #5
Air	4-07-0535-01 (001)-Terminated	Oak Grove Comp. Sta. #7
Air	4-07-0535-004-01 - Terminated	Oak Grove Comp. Sta. #7
Air	4-07-0535-006-01	Oak Grove Comp. Sta. #7
Air	4-07-0535-007-01	Oak Grove Comp. Sta. #7
Air	4-07-0543-01 (001) -Terminated	Oak Grove Comp. Sta. #8
Air	4-07-0543-01 (002) -Terminated	Oak Grove Comp. Sta. #8
Air	4-07-0543-005-02 - Terminated	Oak Grove Comp. Sta. #8
Air	4-07-0543-001-04	Oak Grove Comp. Sta. #8
Air	4-07-0543-007-02	Oak Grove Comp. Sta. #8
Air	4-07-0543-008-02	Oak Grove Comp. Sta. #8
Air	4-07-0543-009-01	Oak Grove Comp. Sta. #8
Air	4-07-0528-01 (001) - Terminated	Oak Grove Comp. Sta. #9
Air	4-07-0544-01 (001) -Terminated	Oak Grove Comp. Sta. #10

PERMIT TYPE	PERMIT /CERTIFICATION NUMBERS	FACILITY LOCATION
Air	4-07-0544-002-01 -Terminated	Oak Grove Comp. Sta. #10
Air	4-07-0544-003-01 - Terminated	Oak Grove Comp. Sta. #10
Air	4-07-0544-001-02	Oak Grove Comp. Sta. #10
Air	4-07-0544-002-02	Oak Grove Comp. Sta. #10
Air	4-07-0544-004-02	Oak Grove Comp. Sta. #10
Air	413-0047-X002-Terminated	Oak Grove Comp. Sta. #11
Air	413-0047-X003-Terminated	Oak Grove Comp. Sta. #11
Air	413-0047	Oak Grove Comp. Sta. #11
Air	413-0051	Oak Grove Comp. Sta. #12
Air	4-07-0569-001-01 -Terminated	Oak Grove Comp. Sta. #15
Air	4-07-0569-002-01 - Terminated	Oak Grove Comp. Sta. #15
Air	4-07-0569-004-01	Oak Grove Comp. Sta. #15
Air	4-07-0569-005-01	Oak Grove Comp. Sta. #15
Air	413-0060-X002 -Terminated	Vance Comp. Sta. #2
Air	413-0060	Vance Comp. Sta. #2
Air	413-0061	Vance Comp. Sta. #2
Air	413-0061-X002	Vance Comp. Sta. #6

*ACTIVE NPDES PERMITS
Revised: October 25, 2017

TABLE III

PGP Operating, LLC.

Virginia Mines
NPDES PERMIT #AL0060771

**LEASEHOLD LOCATIONS
(REFERENCE ATTACHED MAPS)**

COUNTY	TOWNSHIP	RANGE	SECTION
JEFFERSON	17S	4W	3,4,5,6,7,8,9,10,11,14,15,16,17,18,19,20,21,22,27,28,29,30,31,32,33,34.
JEFFERSON	18S	4W	3,4,5,6.
JEFFERSON	18S	5W	1-36.
JEFFERSON	19S	5W	1,2,3,4,5,6,7,8,9,10,11,12.

POINT OF DISCHARGE LOCATIONS

COUNTY	P.O.D.	SECTION	TOWNSHIP	RANGE	LATITUDE	LONGITUDE
JEFFERSON	DSN-001E*	5	19S	5W	N33° 24' 53"	W87° 04' 39"

* E = Existing

MAR
10/24/17

Attachment A
PGP Operating, LLC.

Item VI & VII: Schedule of Activity and Disturbed Area in Acres

PGP Operating, LLC. always applies good environmental engineering erosion control techniques as soon as practical, after an area is disturbed. Implementing Coalbed Methane (CBM) Industry Best Management Practices Plan (BMPP) minimizes the time an area is disturbed.

Depending on economic factors, new wells, pipelines, and power line rights-of-way may be constructed during the five-year time-period of this NPDES permit. In 2018, PGP Operating has no proposals for drilling or construction. Constructing facilities beyond 2018 is not known at the time of this reissuance application. The facility location of this permit consists of approximately 50,000 acres and there predicted total area of disturbance per year is zero acres.

All PGP Operating disturbed areas are monitored by company and contract personnel on a regular basis. Any potential area requiring maintenance attention is reported to the construction supervisors and resolved in a timely and prudent matter.

XII. DISCHARGE CHARACTERIZATION

EPA Form 2C/2D Submittal

Yes No A complete and correct EPA Form 2C and/or 2D or a Department-approved version of the EPA Form 2C is attached for each proposed and/or existing outfall. If "No", provide explanation:

XIII. INFORMATION

Contact the Department prior to submittal with any questions or to request acceptable alternate content/format. Be advised that you are not authorized to commence regulated activity until this application can be processed, publicly noticed, and approval to proceed is received in writing from the Department.

EPA Form(s) 1 and 2F need not be submitted unless specifically required by the Department. EPA Form(s) 2C and/or 2D (or a Department-approved version of the forms) are required to be submitted. The applicant should ensure that other than those proposed activities described in this application, there are no other potential pollutants, processes, process wastewaters or activities that require NPDES permit coverage. Permit coverage will allow for use of captive borrow areas used solely for the permitted operation. Coverage under the Department's NPDES Construction Stormwater Permit Program allows for short-lived, construction related, limited removal or relocation of fill material offsite, and does not provide coverage for coalbed methane operations.

The applicant should understand by submission of this application, that they are advised to contact:

- 1) The Alabama State Oil & Gas Board;
- 2) The Alabama Historical Commission for requirements related to any potential historic or culturally significant sites;
- 3) The Alabama Department of Conservation and Natural Resources (ADCNR) for requirements related to potential presence of threatened/endangered species; and
- 4) The US Army Corps of Engineers, Mobile or Nashville Districts, if this project could cause fill to be placed in federal waters/wetlands or could interfere with navigation.

The Department must be in receipt of a completed version of this form, including any supporting documentation, and the appropriate processing fee (including Greenfield Fee and Biomonitoring & Toxicity Limits fee(s), if applicable), prior to development of a draft NPDES permit. Send the completed form, supporting documentation, and the appropriate fees to:

Water Division—Mining and Natural Resource Section
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, AL 36130-1463
Phone: (334) 394-4372
Fax: (334) 279-3051
h2omail@adem.state.al.us
www.adem.alabama.gov

XIV. PROPOSED NEW OR INCREASED DISCHARGES

A. Pursuant to ADEM Admin. Code Ch. 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.

No. New/increased discharges of pollutants(s) or discharge locations to Tier 2 waters are not proposed.

B. If "Yes," complete this Part (XV.B.), Part XVI, and XVII. **Attach additional sheets/documentation and supporting information as needed.**

1) What environmental or public health problem will the discharge be correcting? _____

N/A: No new or increased discharges are proposed.

2) How much will the discharger be increasing employment (at its existing operations or as a result of initiating new operations)?

N/A: No new or increased discharges are proposed.

3) How much reduction in employment will the discharger be avoiding? _____

N/A: No new or increased discharges are proposed.

4) How much additional state or local taxes will the discharger be paying? _____

N/A: No new or increased discharges are proposed.

5) What public service to the community will the discharger be providing? _____

N/A: No new or increased discharges are proposed.

6) What economic or social benefit will the discharger be providing to the community? _____

N/A: No new or increased discharges are proposed.

XV. ALTERNATIVES ANALYSIS – ADEM Form 311 3/02

Pursuant to ADEM Admin. Code Ch. 335-6-10, an evaluation of the discharge alternatives identified below has been completed and the following conclusions 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 XVII) 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			
2) Land Application			
3) Pretreatment/Discharge to POTW By SID Permit			
4) Relocation of Discharge			
5) Reuse/Recycle – Pollution Prevention			
6) Other Process/Treatment Alternatives			
7) Underground Injection By UIC Permit			
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: Refer to Section XIV, which states, "no" new or increased discharge of pollutants or discharge locations to Tier 2 waters are proposed.

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 XVI. 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>N/A</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>N/A</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>N/A</u> (2)	** Or refer to Appendix B (application information) for calculated annualization factors.
Annualized Capital Cost [Calculate: (1) x (2)]	\$ <u>N/A</u> (3)	
Annual Cost of Operation & Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration & replacement) ***	\$ <u>N/A</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).
Total Annual Cost of Pollution Control Project [(3) + (4)]	\$ <u>N/A</u> (5)	

XVII. 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:

"Except for the pages, portions, maps, plans, etc. contained in this application that are specifically certified by a professional engineer registered in the state of Alabama, 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 any attached SPCC plan, maps, engineering designs, etc., has been prepared under my supervision for this operation utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6. If the treatment systems are 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 Best Management Practices must be fully implemented and regularly maintained as needed at the operation 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 Env. Testing & Eng. PO Box 715 Northport, Al 35476 PE Registration # 12998
 Name and Title (type or print) John K. Haddock Phone Number 205-339-0216
 Signature *John K. Haddock* Date Signed 2/9/18

XVIII. RESPONSIBLE OFFICIAL SIGNATURE*

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

"I certify under penalty of law that this document, including technical information and data, 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.

I understand that regular inspections must be performed by, or under the direct supervision of, a PE and all appropriate treatment 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 operation in accordance with good sediment, erosion, and other pollution control practices and ADEM requirements. I understand that the Best Management Practices 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 myself and/or the organization for which I represent to appropriate enforcement action. I understand that applicable records of data and information used to complete this application and any supplemental information submitted as part of this application must be retained pursuant to applicable requirements of ADEM Admin. Code Ch. 335-6.

I certify that this form has not been altered, and if copied, reproduced, or completed electronically, 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) Mike Bretzke Official Title General Superintendent
 Signature *Mike Bretzke* Date Signed 2/9/2018

*335-6-6-.09 Signatories to Permit Applications and Reports.

- (1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:
 - (a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;
 - (b) In the case of a partnership, by a general partner;
 - (c) In the case of a sole partnership, by the proprietor, or
 - (d) In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official.

Please print or type in the unshaded areas only.

AL 0060771

FORM
2C
NPDES



U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
DSN-001E	33.00	24.00	53.00	-87.00	4.00	39.00	Valley Creek

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

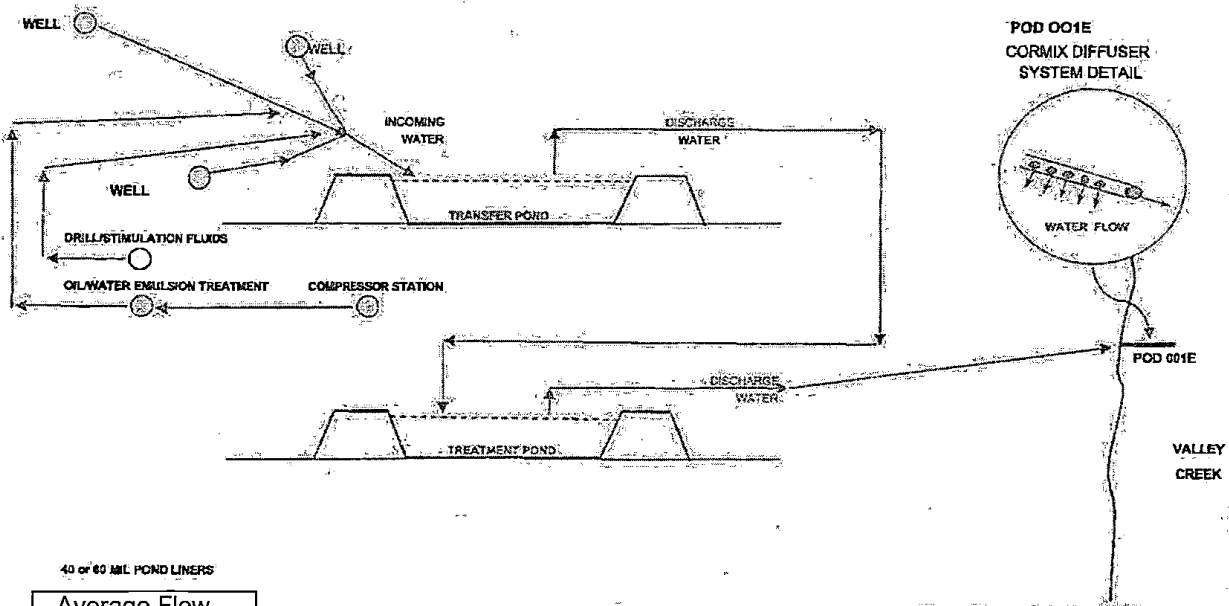
A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
DSN-001E	Treated Coalbed Methane Produced	.037mgd	Sedimentation, Chemical Precipitation,	1-U	2_C
	Water, Drill Fluids, Stimulation		Pre-Aeration, Discharge to Surface Water	3-E	4-A
	Fluids, and Oil/Water Emulsion		And Landfill	5-Q	

OFFICIAL USE ONLY (effluent guidelines sub-categories)

ITEM 2C, II, A.
VIRGINIA MINES - NPDES PERMIT AL0060771
WATER DISPOSAL FLOWCHART



40 or 60 MIL POND LINERS
Average Flow
.037 MGD

PGP Operating, LLC.
Virginia Mines
NPDES Permit No. AL0060771
Revised: 10/19/2017 Scale: NTS

ITEM 2C, II., B.

PGP Operating, LLC.

Virginia Mines

NPDES PERMIT NO. AL0060771

JEFFERSON COUNTY, ALABAMA

POND I.D.	LOCATION	CAPACITY (BARRELS)
Transfer Pond #5	S15-T17S-R4W	23,800
Transfer Pond #4	S11-T17S-R5W	20,800
Transfer Pond #3	S27-T18S-R5W	20,800
Transfer Pond #2	S33-T19S-R5W	20,800
**Transfer Pond #1	S33-T19S-R5W	20,800

NOTE:

** Primary Treatment/Discharge pond

COALBED METHANE WASTEWATER TREATMENT FACILITIES

The primary methods of treatment of water from coalbed methane operations are oxidation and settling. Produced/process wastewater is delivered from the wells, drilling pits, compressors or oil/water treatment facilities through buried water gathering pipelines. Typically, the water-gathering pipeline is constructed of polyvinyl chloride (PVC) or polyethylene (PE). In Virginia Mines, PGP Operating, LLC utilizes aeration and sedimentation ponds to treat produced/process water before surface discharge in Valley Creek. Typically, the water gathering pipeline delivers the water from all sources to a two-cell water treating pond. Aeration of the produced/process wastewater in the first cell of the treating pond is performed with a blower-based system. The purpose of aeration at this point is to raise the oxygen level within the water in order to precipitate any iron or manganese within the produced/process wastewater and to enhance the quality of the discharged water. After aeration, water enters the second cell of the treating pond to provide sufficient retention time for settling of any metal precipitates. To enhance settling and retention of water, baffles are used across some ponds. The purpose of a storage pond is to allow continued operation of all facilities in a specific permit area when operational problems exist at the POD.

Additionally, the treatment ponds are lined with a 40 or 60-mil high-density polyethylene liner. Upon completion of installing each pond liner, the fused seams were air tested by the contractor. A company representative closely monitored the tests to ensure that each pond has an impervious barrier (liner) to contain one hundred percent of all produced/process water within the PGP water handling system. Inspections of the condition of all facilities including pond liners are performed on a quarterly basis to ensure compliance with PGP's Best Management Practices Plan (BMP), Spill Prevention Control and Countermeasures Plan (SPCC) as well as all NPDES permit conditions. All ponds were certified and constructed using good sound engineering practices.

The ponds are equipped with a remote telemetry unit (RTU) which monitors the water level in each pond. The RTU uses radio transmission to transfer information back to a computer in the main office. This allows operation personnel to call any pond at any time and check on its status. If an RTU loses power, it will automatically call the pond system computer at the office, which alerts anyone at the office and/or dials the pond on call phone. All RTU's continue to monitor their respective pond or POD on a battery backup system during power failures. PGP uses mercury floats to monitor the water level in each pond. The operational purpose of a mercury float system is to provide two primary functions, 1) maintaining a consistent level of water in a given pond (which aids in quality control) and, 2) provides alarm levels (high & low) which serves as a safety backup to the pond level controls. The alarm level floats will activate emergency callout of operations personnel. Again, this alarm type can be checked via the pond system computer at the main office. After hours, operations personnel on call will carry a laptop computer, which allows them to check the status of a pond from any location.

Treated produced/process wastewater is discharged into the receiving water body via an "in-stream" diffuser installed perpendicular to the direction of stream flow. The diffuser is essentially a carrier pipe equipped with multiple nozzles to deliver the produced/process water into the receiving water body in a manner that will ensure relatively quick mixing of the produced/process water and the receiving water. The Virginia Mines permit utilizes one outfall, DSN-001E.

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal? <input type="checkbox"/> YES (complete the following table) <input checked="" type="checkbox"/> NO (go to Section III)								
1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		B. TOTAL VOLUME (specify with units)		C. DURATION (in days)
				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? <input type="checkbox"/> YES (complete Item III-B) <input checked="" type="checkbox"/> NO (go to Section IV)								
B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)? <input type="checkbox"/> YES (complete Item III-C) <input checked="" type="checkbox"/> 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 operations 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. <input type="checkbox"/> YES (complete the following table) <input checked="" type="checkbox"/> NO (go to Item IV-B)								
1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE				
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED			
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. <input type="checkbox"/> MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED								

EPA I.D. NUMBER (copy from Item 1 of Form 1)
AL 0060771

CONTINUED FROM PAGE 2

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
None			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a 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 and providing details.

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 purposes below)

NO (go to Section VIII)

Acute Toxicity testing to comply with existing NPDES permit.

VIII. CONTRACT ANALYSIS INFORMATION

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

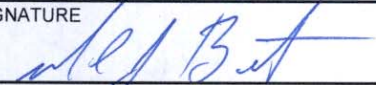
YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
TTL-Tuscaloosa Testing Lab.	3516 Greensboro Ave. PO Box 1128 Tuscaloosa, Al 35403	205-345-0816	Refer to Form 2C Item V.

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) Mike Bretzke Gen. Supt.	B. PHONE NO. (area code & no.) 205-554-3128
C. SIGNATURE 	D. DATE SIGNED 2/15/18

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)

AL 0060771

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

OUTFALL NO.

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						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)		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. Biochemical Oxygen Demand (BOD)												
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)												
e. Ammonia (as N)												
f. Flow	VALUE		VALUE		VALUE					VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS				

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)														
b. Chlorine, Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

NPDES MINING AND PREPARATION PLANT OUTFALL DATA FOR METALS, CYANIDE, AND TOTAL PHENOLS

NPDES Permit No.: AL0060771		Applicant: PGP OPERATING, LLC.			Facility: VIRGINIA MINES	
Outfall Sampled ¹ : DSN-001E	Date of Sampling: 10-26-2017	Was Sample Taken In-Pond? 	Was Sample Taken from Discharge? YES	Substantially Identical Outfalls: 	Description of Discharge: TREATED CBM PRODUCED WATER	

Please supply the following information separately for every P or E outfall evaluated or tested. If necessary, attach extra sheets. If you are a coal facility, mark "X" in appropriate column for all listed metals, cyanide, and total phenols. If the outfall is existing, you must provide the results of at least one representative analysis for that pollutant for a substantially identical existing outfall at the facility. If the outfall is proposed, you must either submit at least one representative analysis for a substantially identical existing outfall at the facility or, if not available, at least one representative analysis for a substantially identical outfall at another similar facility.

Pollutant and CAS No. (if available)	Mark "X"			Effluent										Instream				
	Existing Outfall (Testing Required)	Proposed Outfall—Parameter Believed Present	Proposed Outfall—Parameter Believed Absent	Maximum Daily Value		Maximum 30 Day Value (if available)		Long Term Average Value (if available)		# of Analyses	Frequency of Discharge (Days/Month Hours/Day)	EPA Approved Method Analysis Used ²	Method Detection Limit (µg/L)	Receiving Water 7Q10 Flow (cfs)	Discharge Flow (cfs)	Background Instream Concentration (µg/L)	Instream Hardness (optional) (mg/L CaCO ₃) ³	Instream Flow (optional) (cfs)
				Concentration (µg/L)	Mass (lbs)	Concentration (µg/L)	Mass (lbs)	Concentration (µg/L)	Mass (lbs)									
1M. Antimony, Dissolved (7440-36-0)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
2M. Arsenic, Trivalent (7440-39-2)	X			0.54	.000609	0.54	.000293	0.54	.0001448	1	24/7	EPA 200.8	0.3	5.50	.059832	0.61	NA	NA
3M. Beryllium, Dissolved (7440-41-7)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
4M. Cadmium, Dissolved (7440-43-9)	X			<.5	<.000564	<.5	<.000272	<.5	<.000134	1	24/7	EPA 200.8	0.5	5.50	.059832	<0.5	NA	NA
5M. Chromium, Dissolved (744-47-3)	X			1.25	.001410	1.25	.0006789	1.25	.0003342	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
6M. Copper, Dissolved (7440-50-8)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	1.36	NA	NA
7M. Lead, Dissolved (7439-92-1)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
8M. Mercury, Total (7439-97-6)	X			<.0005	<.000001	<.0005	<2.7E-07	<.0005	<1.3E-07	1	24/7	EPA 245.2 1691E	0.0005	5.50	.059832	.00133	NA	NA
9M. Nickel, Dissolved (7440-02-0)	X			1.51	.001703	1.51	.000820	1.51	.000404	1	24/7	EPA 200.8	1	5.50	.059832	1.45	NA	NA
10M. Selenium, Total (7782-49-2)	X			<.5	<.000564	<.5	<.000271	<.5	<.000134	1	24/7	EPA 200.8	0.5	5.50	.059832	0.55	NA	NA
11M. Silver, Dissolved (7440-22-4)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
12M. Thallium, Dissolved (7440-28-0)	X			<1	<.001128	<1	<.000543	<1	<.000267	1	24/7	EPA 200.8	1	5.50	.059832	<1	NA	NA
13M. Zinc, Dissolved (7440-66-6)	X			6.98	.007873	6.98	.003791	6.98	.001866	1	24/7	EPA 200.8	1	5.50	.059832	9.55	NA	NA
14M. Cyanide, Total (57-12-3)	X			<10	<.011280	<10	<.005431	<10	<.002673	1	24/7	4500 CNE	10	5.50	.059832	<10	NA	NA
15M. Phenols, Total	X			<100	<.11280	<100	<.054310	<100	<.026738	1	24/7	EPA 420.1	100	5.50	.059832	<100	NA	NA

*Note, (<) indicates below detection limits, therefore mass is calculated using the minimum detection limit value.

¹ Sampling results must be representative of the discharge.

² Test methods used must be in accordance with 40 CFR Part 136 and 40 CFR 122.21(g)(7)(i).

³ Instream Hardness (CaCO₃) will be assumed to be either 50 mg/L or 100 mg/L based on the location of the discharge if Hardness data is not submitted.



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 1/31/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19020109-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	2/7/2019	KyleThomas
Arsenic, Dissolved	0.57	0.27 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Cyanide, Total	BML	3.0 µg/L	SM4500-CN-E	2/20/2019	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Mercury, Total	BML	0.010 µg/L	EPA245.2	2/27/2019 12:42:00 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Phenols, Total	BML	6.0 µg/L	EPA420.1	2/19/2019	KyleThomas
Selenium, Total	BML	0.95 µg/L	EPA200.8	2/4/2019 12:06:09 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/4/2019 12:10:10 PM	KyleThomas

Analysis Approved: 3/12/2019

John Morris
Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 2/7/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19020816-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/11/2019	KyleThomas
Arsenic, Dissolved	0.63	0.27 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Cyanide, Total	BML	3.0 µg/L	SM4500-CN-E	2/20/2019	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Mercury, Total	BML	0.010 µg/L	EPA245.2	2/27/2019 1:21:00 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Phenols, Total	BML	6.0 µg/L	EPA420.1	2/19/2019	KyleThomas
Selenium, Total	BML	0.95 µg/L	EPA200.8	2/11/2019 12:12:56 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/11/2019 12:16:57 PM	KyleThomas

Analysis Approved: 3/14/2019

John Morris
Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 2/14/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19021510-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/11/2019	KyleThomas
Arsenic, Dissolved	0.44	0.27 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/18/2019 1:09:25 PM	KyleThomas

Analysis Approved: 3/14/2019

John Morris
Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 2/21/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19022207-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/11/2019	KyleThomas
Arsenic, Dissolved	0.66	0.27 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Copper, Dissolved	1.13	0.90 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/4/2019 11:28:28 AM	DrewBentley

Analysis Approved: 3/14/2019

John Morris
Laboratory Manager

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JUN 11 2019

STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 2/28/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19030110-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/11/2019	KyleThomas
Arsenic, Dissolved	0.37	0.27 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/5/2019 9:20:47 PM	DrewBentley

Analysis Approved: 3/14/2019

John Morris
Laboratory Manager

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JUN 11 2019
STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 3/7/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19030816-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/25/2019	KyleThomas
Arsenic, Dissolved	0.51	0.27 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/12/2019 2:09:49 PM	DrewBentley

Analysis Approved: 3/29/2019

John Morris
Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 3/14/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19031806-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/25/2019	KyleThomas
Arsenic, Dissolved	0.36	0.27 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/19/2019 12:02:05 PM	KyleThomas

Analysis Approved: 3/29/2019

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Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Upstream

Sample Date: 3/21/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19032205-02

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Arsenic III	BML	0.30 µg/L	EPA200.8/HPLC	3/25/2019	KyleThomas
Arsenic, Dissolved	0.65	0.27 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/22/2019 3:55:13 PM	KyleThomas

Analysis Approved: 3/29/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 1/31/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19020109-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Copper, Dissolved	2.14	0.90 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Cyanide, Total	BML	3.0 µg/L	SM4500-CN-E	2/20/2019	KyleThomas
Lead, Dissolved	0.40	0.31 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Mercury, Total	BML	0.010 µg/L	EPA245.2	2/27/2019 12:39:00 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Phenols, Total	BML	6.0 µg/L	EPA420.1	2/19/2019	KyleThomas
Selenium, Total	BML	0.95 µg/L	EPA200.8	2/4/2019 11:45:57 AM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/4/2019 11:49:59 AM	KyleThomas

Analysis Approved: 3/12/2019

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Laboratory Manager

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 2/7/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19020816-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Copper, Dissolved	2.28	0.90 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Cyanide, Total	BML	3.0 µg/L	SM4500-CN-E	2/20/2019	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Mercury, Total	BML	0.010 µg/L	EPA245.2	2/27/2019 1:18:00 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Phenols, Total	BML	6.0 µg/L	EPA420.1	2/19/2019	KyleThomas
Selenium, Total	BML	0.95 µg/L	EPA200.8	2/11/2019 12:04:53 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/11/2019 12:08:55 PM	KyleThomas

Analysis Approved: 3/14/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

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Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 2/14/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19021510-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	2/18/2019 1:05:24 PM	KyleThomas

Analysis Approved: 3/14/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 2/21/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19022207-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Copper, Dissolved	1.02	0.90 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Lead, Dissolved	0.86	0.31 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/4/2019 11:24:27 AM	DrewBentley

Analysis Approved: 3/14/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 2/28/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19030110-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/5/2019 9:04:37 PM	DrewBentley

Analysis Approved: 3/14/2019

John Morris
Laboratory Manager

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JUN 11 2019

STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 3/7/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19030816-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/12/2019 2:05:48 PM	DrewBentley

Analysis Approved: 3/29/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 3/14/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19031806-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Copper, Dissolved	1.12	0.90 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/19/2019 11:58:03 AM	KyleThomas

Analysis Approved: 3/29/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 3/21/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19032205-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Copper, Dissolved	1.46	0.90 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	3/22/2019 3:50:52 PM	KyleThomas

Analysis Approved: 3/29/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Page 1 of 1



Date Printed: 4/5/2019

Client: PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490

Location: Virginia Mines -- Effluent

Sample Date: 3/28/2019

Sampled By: McGehee Engineering Corp.

REPORT OF FINDINGS

Lab ID: 19032915-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Copper, Dissolved	2.21	0.90 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Nickel, Dissolved	BML	6.86 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	4/1/2019 2:10:37 PM	KyleThomas

Analysis Approved: 4/5/2019

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STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

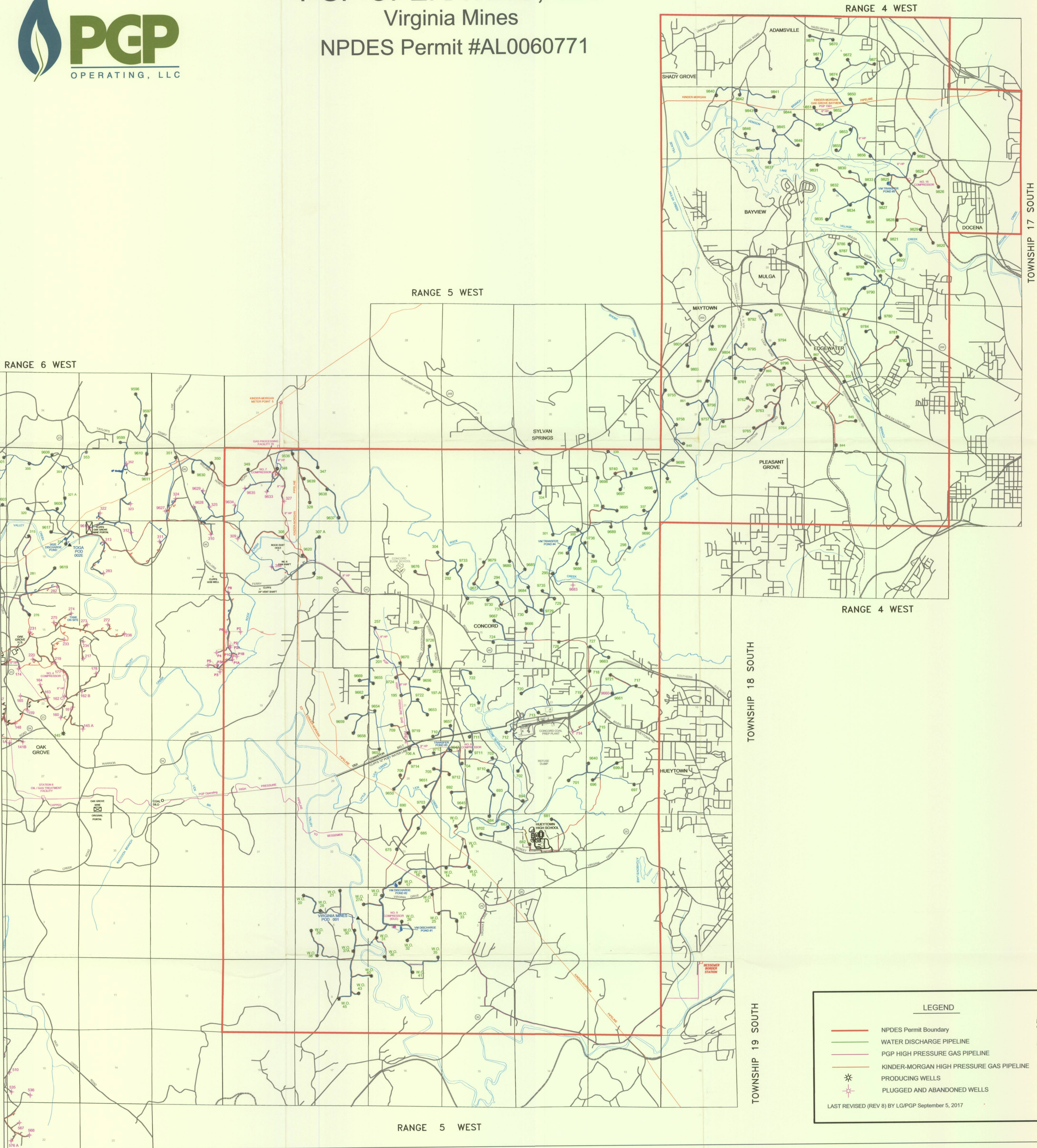
Page 1 of 1



PGP OPERATING, LLC

Virginia Mines

NPDES Permit #AL0060771



LEGEND

- NPDES Permit Boundary
- WATER DISCHARGE PIPELINE
- PGP HIGH PRESSURE GAS PIPELINE
- KINDER-MORGAN HIGH PRESSURE GAS PIPELINE
- * PRODUCING WELLS
- * PLUGGED AND ABANDONED WELLS

LAST REVISED (REV 8) BY LG/PGP September 5, 2017

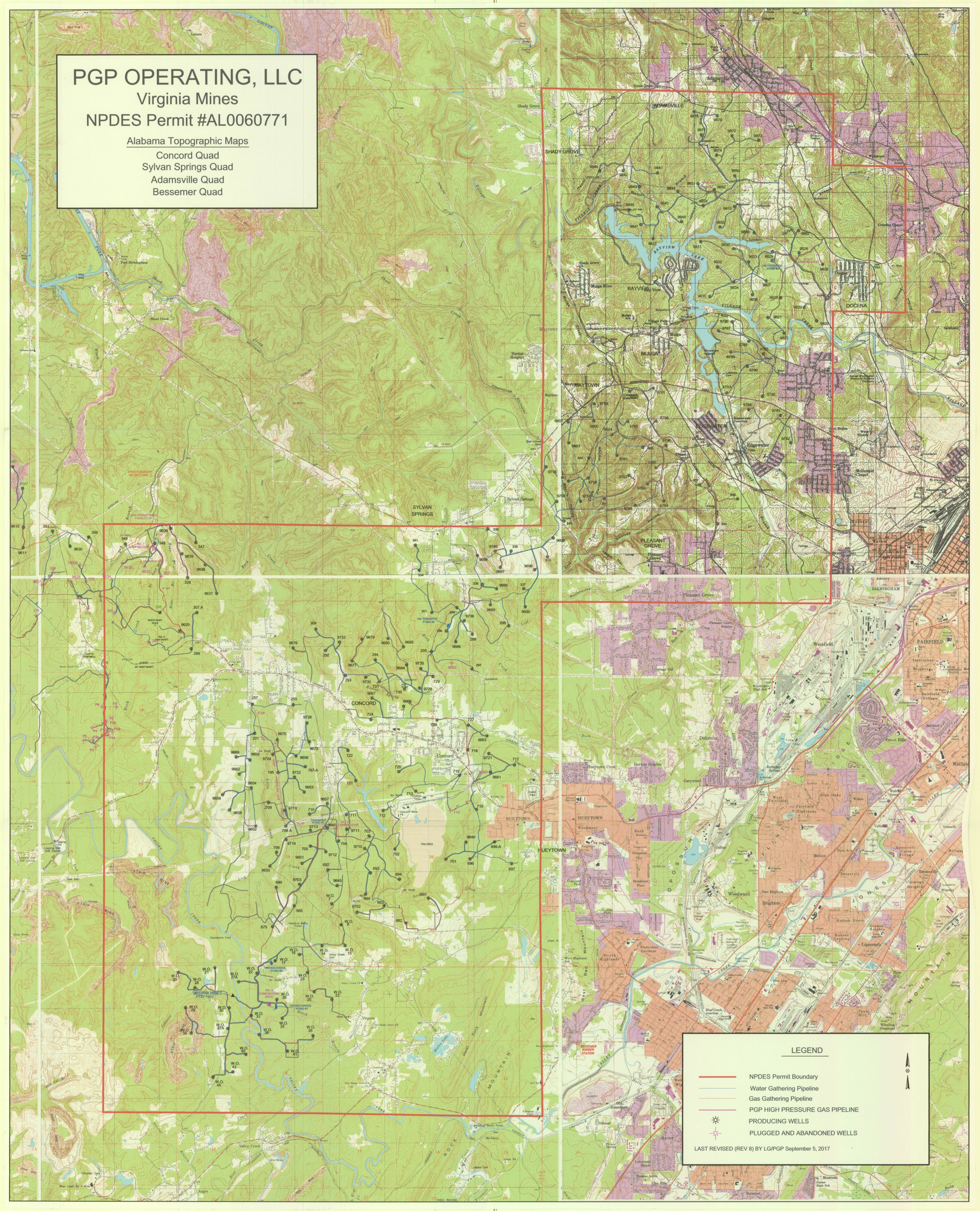
PGP OPERATING, LLC

Virginia Mines

NPDES Permit #AL0060771

Alabama Topographic Maps

Concord Quad
Sylvan Springs Quad
Adamsville Quad
Bessemer Quad



LEGEND

- NPDES Permit Boundary
- Water Gathering Pipeline
- Gas Gathering Pipeline
- PGP HIGH PRESSURE GAS PIPELINE
- PRODUCING WELLS
- PLUGGED AND ABANDONED WELLS

LAST REVISED (REV 8) BY LG/PGP September 5, 2017

ENVIRONMENTAL TESTING & ENGINEERING

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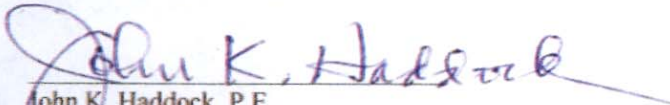
**BEST MANAGEMENT PRACTICES (BMP) PLAN
FOR STORMWATER NON-POINT SOURCE DISCHARGE
AT PGP OPERATING, LLC'S
VIRGINIA MINES COALBED METHANE PROJECT
IN JEFFERSON COUNTY, ALABAMA
January 31, 2018**

The following is a general Best Management Practices (BMP) plan for El Paso Production Company's Short Creek Coalbed Methane Project in Jefferson County, Alabama. The plan was prepared by the Coalbed Methane Association and accepted by its members, including PGP Operating, LLC.

CERTIFICATION

I, John K. Haddock, a registered Professional Engineer in the State of Alabama, being experienced in the field of erosion/sediment control and being familiar with the non-point source discharge permit requirements of the subject facility, hereby certify that the enclosed plan has been prepared under standard and accepted procedures to meet the regulatory requirements. The plan, prepared by the Coalbed Methane Association of Alabama references various standard and accepted documents and recognized experts in the field of erosion and sediment control in the construction industry and is applicable to the conditions of the subject facility.

Environmental Testing & Engineering
(A Division of Engineering Plus, Inc.)


John K. Haddock, P.E.
Alabama Reg. No. 12998, President



PGP OPERATING, LLC

BEST MANAGEMENT PRACTICES PLAN

FOR

NON-POINT SOURCE DISCHARGE CONTROL

COALBED METHANE RESOURCE EXTRACTION INDUSTRY

Original: January 1, 2014

Revised October 19, 2017

**BEST MANAGEMENT PRACTICES PLAN
FOR
NON-POINT SOURCE DISCHARGE CONTROL
COALBED METHANE RESOURCE EXTRACTION INDUSTRY**

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BEST MANAGEMENT PRACTICES PLAN
FOR
NON-POINT SOURCE DISCHARGE CONTROL
COALBED METHANE RESOURCE EXTRACTION INDUSTRY

**BEST MANAGEMENT PRACTICES PLAN
FOR
NON-POINT SOURCE DISCHARGE CONTROL
COALBED METHANE RESOURCE EXTRACTION INDUSTRY**

I. INTRODUCTION

The Federal Clean Water Act of 1972 established water quality goals for all waters of the United States. Nationwide, these goals were not being completely met. In 1987, Congress amended the Clean Water Act to provide a renewed effort to meet water quality goals. One area targeted for renewed emphasis in this Act is under Section 319 which deals with non-point source pollution (NPS).

Since non-point source problems originate from many different sources, the Alabama Department of Environmental Management through its Non-point Source Management Program wished to cooperate with various industries and government agencies to successfully manage these pollution problems. One of the best ways to manage potential NPS discharge is through cooperative establishment and implementation of best management practices (BMPs) that lessen the probability of initial causes of non-point source pollution. BMPs for the Coalbed Methane Industry involve various methods of erosion and non-point source pollution controls in well drilling, construction of roads, well pads, drilling pits, pipelines, and stream crossings.

Non-point source pollution may result from other contaminants which are carried by runoff (usually storm water) to waterbodies, either surface waters or ground water. This may include (but not be limited to) household trash, sewage, paints and solvents, oil and grease, and even items such as fertilizers, pesticides, and detergents. It could be stated that items entering bodies of water that changes the composition of the water is a pollutant. If this enters the body of water through a National Pollutant Discharge Elimination System (NPDES) permitted discharge, then it is considered a point source. However, if it reaches the body of water by other means that are not traceable to an identifiable facility, such as runoff seepage, percolation, etc., it is considered non-point source discharge.

The major components that may cause non-point source pollution resulting from operations by the coalbed methane industry include:

- 1) Sedimentation - Sedimentation of waterbodies due to soil erosion is the largest single pollution problem in the United States. Sedimentation reduces stream capacities, interrupts ecosystems, carries other pollutants into a body of water and may cause other potential environmental problems.
- 2) Oil and Grease - Machinery used to extract coalbed methane utilizes hydrocarbon products. Handling of these products and the machinery using these products should be done with care and with desire to prevent these components from entering waterbodies. Coalbed methane itself does not produce oil and grease in the production stream.

- 3) Fertilizers (Nutrients) - Nutrients, primarily phosphorous and nitrogen fertilizers, are sometimes applied to the construction area to stimulate vegetation growth. Both elements occur naturally in soils. Research has shown that a large increase of nutrient levels in water does not occur in drainage water where artificial fertilizers are applied except when fertilizers are allowed to fall directly into the body of water. Proper application will alleviate this situation as will erosion control measures during high flow periods of runoff where sediments may transport nutrients.

An existing industry for over thirty years, the coalbed methane industry has attempted to prevent contamination of water bodies caused by sedimentation and other pollutants. This has resulted in individual BMP's being developed by operators. To establish an industry wide cooperation, a more intense effort to accomplish control of non-point source discharges, the following Best Management Practices Plan is adopted by the Coalbed Methane Extraction Industry. Existing facilities currently utilized that may cause pollutant discharges will be upgraded to the guidelines as set forth in this document, to ensure that water quality is maintained.

II. GENERAL EROSION CONTROL TECHNIQUES

- A. Erosion control implementation will be conducted under the guidelines of persons experienced in construction techniques and erosion controls. The person(s) will have authority to take special actions as necessary to prevent water quality deterioration. It is recognized that soil types are site specific and contribute significantly to erosion characteristics and will be a factor in design and implementation of BMP's. Erosion control techniques to be used to prevent or control NPS pollution to maintain water quality standards during coalbed methane facilities construction may include.
1. Water diversion and energy dispersion structures located at the discharge end of the diversion that will divert runoff into level, vegetated areas, terracing, riprap, drop structures, or other satisfactory areas of dispersion.
 2. Temporary erosion controls such as hay bales and/or silt fences will be installed in the natural drainage areas before or during the time of disturbance.
 3. Erosion control methods of a more permanent nature, i.e., geotextiles, riprap, matting, etc., may be considered in areas necessitating more drastic controls such as steep slopes and soft soil conditions.
 4. Roadsides, drilling locations, and pipelines where slopes are sufficient to induce high velocity flow and erosion, should be limed, fertilized, seeded, and/or mulched as necessary and as soon as practical after construction and in accordance with accepted soil conservation practices.
 5. All areas that are disturbed, regardless of location, will be paved, covered with gravel, or vegetated as soon as practical. All erosion controls will be maintained until the disturbed area is covered or permanent vegetation is re-established.

6. To aid in maintenance of vegetation in disturbed areas, on site topsoil if available, should be reused on the surface of each site.
7. Plans to prevent the spillage of oils chemicals are detailed in the SPCC Plan.
8. Disposal of regulated waste will be in accordance with applicable state or federal regulations.
9. To minimize storm water contact from pollutant at compressor stations, the units are place under steel framed cover.

III. ROAD CONSTRUCTION

Road construction is necessary to provide access to each well and facilities and usually will be of permanent type to allow movement of equipment in and out of the locations as required initially and during subsequent maintenance. These will also provide access for periodic monitoring.

A. Consideration of the following, to the extent practical, shall be utilized during Road siting:

1. Existing roads should be used, where suitable, to prevent further soil disturbance.
2. Ridge lines should be followed to minimize road grades and lessen the potential of water course disturbance.
3. Road grades should be minimized whenever practical.

B. Consideration of the following, to the extent practical, shall be utilized during road construction:

1. To control high velocity flow and potential erosion, velocity breakers (stabilized water bars) should be utilized.
2. Whenever feasible, road construction should avoid areas of easily eroded soils, wetlands, or wet meadows. However, if necessary to construct roads in these areas, erosion control methods, as well as wetland road construction techniques, should be utilized to minimize the disturbance to these areas. If operations are not permitted under Section 404 of the Clean Water Act (Nationwide permit) the operator must obtain individual permits from Corps of Engineers (COE) prior to the disturbance of any wetland area. Additionally, a COE permit may be necessary under the Requirements of Section 10 of the Rivers and Harbors Act of 1899 and/or Section 103 of the Marine Protection, Research and Sanctuaries Act.
3. Mine tailings (i.e., black or red rock), if used in road bed construction, will be tested for pH. Records shall be maintained for a period of 3 years. This testing shall be for each source of "black or red" rock and shall be in a pH range of 6 to 9. No known hazardous or toxic materials will be utilized in roadbed construction.

4. Vegetated filter strips of sufficient length to assist sediment deposition shall be maintained between streams and roads. If terrain limitations necessitate, other permanent methods (geo-textiles, riprap, matting, etc.) may be used instead of or in conjunction with vegetated filter strips, provided the water course is not altered or diverted (see VIII, page 14).
 5. Measures will be taken to prevent construction materials, (dirt, boulders, rock, trees, etc.) from being deposited into waterbeds. However, if these materials inadvertently enter the body of water, measures will be taken to remove those immediately. These measures should be of such to prevent further environmental damage.
 6. Road construction and roadway drainage should be conducted under the guidance of a person experienced in construction techniques and erosion control.
- C. Due to the topography of the coal degas operation area, stream crossings will be necessary by roads. Roadways may cause more water course disturbance, redirect flow, potentially limit movement of biota, and are more permanent above stream level structures. It is possible through careful planning and careful construction that potential environmental damage can be lessened significantly and possibly eliminated.

The following guidelines, where practical, should be used in developing road-stream crossings:

1. Stream crossings should be minimized as practical. Existing culverts, bridges, fords and/or other crossings should be employed whenever possible.
2. Crossings, where practical and/or limiting environmental damage, should be made at right angles to the main stream channel.
3. Each source of mine tailings (black or red rock), if used for fill material during construction of the stream crossing, will be tested quarterly for pH and shall be in a pH range of 6 to 9 pH units. Records shall be maintained for a period of 3 years. No known hazardous or toxic materials shall be used.
4. Typical crossing plans will be submitted to ADEM for per-approval. These plans are based upon mean stream water flow (based on best available historical data) of less than 10 cfs. This typical plan will include the following:
 - a. Crossing plan will be prepared and certified by a professional engineer registered in the State of Alabama.
 - b. Crossing plan will contain a brief narrative description of the project.
 - c. The plan will include a 1"-2,000' (or larger) USGS topographic map showing the location of area operations.
 - d. The plan will include plan and profile drawings of the typical crossing and associated water quality control protection measures based on various flow rates.

- e. The typical designs will be of such to allow an opening large enough to pass mean water flow.
 - f. Placement of rock fill without opening for passage of water and biota is not acceptable.
 - g. The crossing if considered to be permanent (greater than 120 days) then the design criteria shall be based on a 25-year flood event.
 - h. If the crossing is considered to be a temporary structure (less than 120 days) then the design criteria shall be based on a 2-year flood event.
 - i. If operations are not permitted under Section 404 of the Clean Water Act (Nationwide permit) the Operator must obtain individual permits from the Corps of Engineers prior to the disturbance of any wetland area.
 - j. After approval of these typical plans by ADEM no notification will be required to ADEM before construction.
5. Crossing plans for mean water flow of streams of 10 cfs or greater or where there is greater than 200 cubic yards of fill below the plane of the ordinary high-water mark shall require the following.
- a. Crossing plan prepared and certified by a professional engineer registered in the State of Alabama.
 - b. Crossing plan will contain a brief narrative description of the project.
 - c. The plan will include a 1"-2,000' USGS (or larger) topographic map showing the location of the crossing.
 - d. The plan will contain plan profile drawings of the crossing and associated water quality control protection measures.
 - e. The design will be of such to allow an opening large enough to pass mean water flow.
 - f. Placement of rock fill without opening for passage of water or biota is unacceptable. A culvert should not be placed in such a manner to inhibit passage of water and biota during normal stream flows.
 - g. The structure, if permanent (greater than 120-day life), must be designed in accordance with engineering standards to ensure structural integrity and stability for safe passage of water during 25-year interval flood events.
 - h. Temporary structures, (less than 120-day life) can be designed in accordance with engineering standards based on a 2-year interval flood event.
 - i. Applications should be submitted at least 30 days in advance of the beginning date. A minimum of 14 days is required by ADEM, after a complete and non-deficient

plan is received, for application processing to make determination of administrative approval of the plan. The ADEM will make every effort to make the determination within 14 days of submission. The ADEM will make every effort to process emergency request on an individual basis.

- j. If operations are not permitted under Section 404 of the Clean Water Act (Nationwide permit) the operator must obtain individual permits from the Corps of Engineers prior to the disturbance of any wetland. (If fill is greater than 200 cubic yards below the ordinary high water mark an individual permit will be required).
- k. After approval of these plans by ADEM, 48 hour verbal notification will be required to ADEM before construction begins. This notification requires no action by ADEM before construction begins.
- l. As built certification shall be submitted by a registered professional engineer, registered in the State of Alabama, within 45 calendar days of completion of the stream crossing.
- m. It is noted that projects of this nature are site specific and ADEM reserves the right to request submission of information or accept reasonable alternatives on an individual basis, in order to make water quality certification determination.

IV. DRILLING PAD AND DRILLING PIT CONSTRUCTION

Drilling pad construction is necessary to allow the movement of a drilling rig into the location to drill a hole into the coal. This location is usually an all weather installation to provide access for maintenance and observation of the well. The drilling pad is kept as small as possible to lessen the environmental disturbance.

A drilling or reserve pit is a temporary earthen pit used to store materials used or generated in the drilling or workover operation. These materials usually consist of water, soil and rock removed from the drill hole, drilling fluids which normally are formulated using clay, water, and pH adjustment materials, and/or workover fluids which normally consist of water, clay, and biodegradable, environmentally safe polymers. The reserve pit may also be used as an emergency catch basin for such items as location runoff, water produced during drilling operations and/or oil from equipment which may be accidentally spilled. This pit essentially prevents fluids and solids from being discharged off the drilling pad and preventing potential environmental damage.

The following guidelines will be implemented where practical in drilling pad and pit construction:

- A. Pad size will be minimized to an extent practical to lessen the amount of surface area disturbed.
- B. All slopes should be minimized and/or appropriate erosion control and construction techniques utilized to minimize erosion of those slopes.

- C. Pads and/or pits should be constructed a sufficient distance from a body of water for maintenance of a streamside management zone (SMZ). Where pads and/or pits are necessarily constructed adjacent to waterbeds, appropriate measures shall be taken to protect that body of water and water quality. A streamside management zone is an area along a stream bank where existing vegetation is not disturbed which helps prevent soil from moving into the stream. Where sufficient SMZ area is not available, other measures of erosion control may be utilized in conjunction with available SMZ to lessen potential water quality and body of water damage, provided the water course is not altered or diverted.
- D. Measures will be taken to prevent construction materials, (dirt, boulders, rock, trees, etc.) from being deposited into waterbeds. However, if these materials inadvertently enter the body of water, measures will be taken to remove those immediately. These measures should be of such to prevent further environmental damage.
- E. Sites should be contoured during construction to prevent storm-water runoff from creating erosion paths.
- F. Materials that adversely affect pit wall integrity, i.e., trees, tree stumps, large boulders, etc., will not be used.
- G. Pits should, if practical, be constructed in cut or not disturbed areas, instead of fill areas. If necessary to construct pits in fill, measures will be taken to provide compaction of the pit walls to ensure structural integrity. All fill areas should be compacted, and all containment pits built in fill material will be compacted.
- H. Pits should be lined with polyethylene or other non-permeable material in areas where soil types do not prevent potential contamination of ground water.
- I. Pit waste waters will be disposed under the guidelines established by the current NPDES permit.
- J. No siphons or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination.
- K. Liquid levels in pits shall not be permitted to rise within two (2) feet of top of pit levees or walls. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overflow, and leakage of contents to the environment.
- L. Pits may be closed after removal of liquids by burial after the liner is sufficiently perforated or otherwise modified.
- M. Operators shall prevent, as practical, the placing of oil, trash, or other materials into a reserve pit which would increase the difficulty in cleanup of the pit or otherwise harm the environment. Such material shall be properly stored and disposed of according to applicable State or Federal regulations. No garbage is to be burned on site. All garbage and trash will be disposed of at an approved landfill site.
- N. Trees and stumps (not household garbage) may be burned on location after notice to the Alabama Forestry Commission and under local, State and Federal regulations.

- O. On some occasions the construction of a drill pad may create a need to stabilize off-site tracking of sediment from vehicles on to paved roads. When this occurs sufficient amount and size of stone will be placed to control and minimize off-site tracking of sediment.

V. PIPELINE CONSTRUCTION

Pipelines are necessary in coalbed methane operations to allow for the collection of produced water to a central facility and to discharge sites. Pipelines collect gas from individual wells to compression facilities and to high pressure gas sales lines. Depending on burial procedures, pipelines usually generate a very short time or no disturbance to water courses. Through proper erosion/sedimentation control techniques, as previously outlined, limited environmental damage should occur.

- A. Consideration of the following, to the extent practical, shall be utilized during pipeline siting:

- 1) Gathering lines should follow road rights-of-way.
- 2) Stream crossings should be minimized if roadways cannot be followed. This may not be possible with high pressure line routing. If necessary to conduct stream crossings during pipeline construction care should be taken to minimize stream disturbance and erosion controls shall be used to prevent sedimentation of the stream body downstream of the crossing. If operations are not permitted under Section 404 of the Clean Water Act (Nationwide permit) the operator must obtain individual permits from the Corps of Engineers prior to the disturbance of any wetland area.
- 3) Grades should be minimized where practical.
- 4) Rights-of-way should be minimized within acceptable pipeline construction techniques.

- B. Consideration of the following, to the extent practical, shall be utilized during pipeline construction:

- 1) One extreme pipeline right-of-way grades, water bars shall be used to reduce runoff velocities.
- 2) Whenever feasible pipeline construction should avoid areas of soil which are easy to erode, wetlands, and wet meadows. However, if necessary to construct pipelines in these areas, erosion control methods, as well as, wetland pipeline construction techniques should be utilized to minimize the disturbance to these areas.
- 3) Vegetated filter strips of sufficient length to assist sedimentation deposition shall be maintained between streams and pipelines. If terrain limitations necessitate, other permanent methods (geotextiles, riprap, matting, etc.) may be used instead of or in conjunction with vegetated filter strips.

- 4) Trenches will be back filled with soil according to accepted pipeline construction techniques.
- 5) To the extent practical, pipeline surface disturbance shall be minimized.
- 6) Pipeline construction should be conducted under the guidance of a person experienced in pipeline construction techniques and erosion control.

VI. ENGINEERING AND TECHNICAL SPECIFICATIONS

A. Pipe Material Specifications

1. Circular concrete pipe shall be bell and spigot in accordance with ASTM Designation C76.
2. Corrugated metal pipe shall be in accordance with AASHTO Designation M 190.
3. Pre-cast reinforced concrete box sections shall be in accordance with ASTM C789 (AASHTO 259).
4. Steel culvert pipe shall be in accordance with ASTM A139, Grade "B", or ASTM A53.
5. Rip-rap shall conform to Alabama Highway Department Specifications, 1989 Edition, Section 814.

B. Silt Fence Material Specifications

1. Silt fences consist of a geotextile filter fabric mounted on post, or a geo-textile filter fabric attached to posts by means of adjustable belts or loops or other means that will securely hold the fabric in an upright position.
2. Filter fabric shall be a polymeric fabric formed from a plastic yarn of a long-chain synthetic polymer composed of at least 85% by weight of propylene ethylene, amide, ester or vinylidene chloride and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure for at least six months.
3. After forming, the fabric shall be processed so that the filaments retain their relative positions with respect to each other. The fabric shall be free of defects or flaws which significantly affect its physical and/or filtering properties. Geo-textile fabrics shall retain at least 80% of the minimum specified Grab Strength at the end of the six month test.

C. Seeding and Soil Nutrient Specifications

1. Seed. All seed used shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act. All seed shall be furnished in sealed

bags. Seed which has become wet and moldy or otherwise damaged in transit or storage will not be used.

2. Seed Mixtures are Recommended as follows:

Spring and Summer Mixture (April – August)

Pensacola Bahiagrass	-	20 lbs./acre
Hulled Common Bermudagrass	-	5 lbs./acre
Hulled Sericea Lespedeza	-	5 lbs./acre
Browntop Millet	-	15 lbs./acre
Crimson Clover	-	5 lbs./acre

Fall and Winter Mixture (September – March)

Pensacola Bahiagrass	-	18 lbs./acre
Unhulled Common Bermuda	-	7 lbs./acre
Unhulled Sericea Lespedeza	-	5 lbs./acre
Kentucky 31 Fescue	-	7 lbs./acre
Common Annual Rye	-	7 lbs./acre
Crimson Clover Inoculated	-	3 lbs./acre
Ladina Clover Inoculated	-	3 lbs./acre

Note: These are recommended blends. Other blends of seeds may be utilized.

3. Fertilizer shall be 13-13-13 or equivalent grade, (1-1-1-ratio), pelletized, uniform in composition, free flowing, and suitable for application with approved equipment. The fertilizer shall be delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable state fertilizer laws, and bearing the name, trade name or trademark and warranty of the producer. Rate should be equivalent to 500 lbs. per acre of actual fertilizer (13-13-13) or adjusted accordingly depending on fertilizer blend used and/or soil composition.
4. Dolomitic Limestone – Lime shall be applied at the rate of 2000 lbs. per acre or required by soil composition.
5. Mulch – For use in hydraulic application of seed, lime and fertilizer, shall consist of a pulped ecology by-product made from printer's scrap paper which contains wood cellulose. The mulch shall contain no growth or germination-inhibiting factors and shall, after application, assume a contrasting color to the soil to facilitate visual metering to aid in applying the product over the area to be seeded. On an air-dry weight basis, the fiber shall contain a maximum of 8% moisture. The pH ratio shall be applied at the rate of 1200 lbs. per acre. The mulch shall, after additional and agitation in slurry tanks with fertilizers, grass seeds, water, and other approved additives, become uniformly suspended to form a homogeneous slurry. Hay or straw mulch may also be an acceptable method of mulching.

VII. GOOD HOUSEKEEPING

Good housekeeping as defined in this plan is the preservation of the environment in as near an undisturbed condition as before the project began. This includes removal of all trash, litter, and other potential sources of pollution to the environment or waterways. Construction materials and sites should be maintained in a visually acceptable manner.

VIII. GENERAL USE WATER

Due to the nature of operations, it is often necessary to use large volumes of water for use in drilling and completions of the coalbed methane well. Water used in drilling and completion will be obtained from public water supplies.

Small volumes of water are used during various maintenance operations. Majority of the time produced water from holding ponds will be used for these operations. However, on occasions some water from waters of the STATE (lakes, ponds, streams, rivers, etc.) will be used under the following guidelines:

- A. Trucks will avoid damage to shore lines and banks of streams. (i.e., TRUCKS WILL NOT be backed to the edge of the water) Suction lines will be laid to prevent SMZ damage.
- B. Suction lines will not be allowed to back flush.
- C. Damages that may result from this practice will be remedied as per this BMP plan.

IX. DUST SUPPRESSION

Dust is generated from the driving on lease roads to coalbed methane facilities. Due to the many miles of lease roads it would not be practical to use water as dust suppression. To minimize the generation of dust in the coalbed methane operations lease roads are graveled and driving speeds are reduced.

X. MAINTENANCE

Stream crossings, roads, road sides, pipelines and drilling pads will be maintained to prevent erosion and degradation. A visually acceptable standard will be maintained during the entire life of the project.

XI. INSPECTION

A monthly inspection will be performed and an accurate and complete record kept which contains the name of the person performing the inspection, when the inspection took place, what was noted during the inspection, and what corrective actions were taken. Such records will be retained for at least 3 years and be made available to the ADEM upon request. This should not be deemed to be all inclusive of inspections. Each operator shall be responsible for maintaining the area of operation to be following other provisions of this BMP plan on a continuous basis.

XII. EXCEPTIONS AND CHANGES TO BMP

Due to the site specific nature of many operations of the coalbed methane industry and growth within that industry (both regulatory and technical), alternate plans and changes to this plan may be submitted by individual operators and/or industry to ADEM for review and subsequent approval or disapproval on a case by case basis. These plans may be in lieu and/or in addition to this Best Management Practices Plan.

XIII. ADEM ASSISTANCE

ADEM shall furnish, at the request of the operator, assistance in pre-assessing a project and/or operations to provide for minimization of non-point source discharge and reduce non-compliance or violations to the Clean Water Act.

The ADEM will review, on a case by case basis, new technology or innovative designs proposed to be implemented in conjunction with or in addition to accepted practices, which are not detailed or covered under this document.

In areas where watercourses must be altered or diversions are necessary, coordination with the ADEM is required and will be on a case by case basis.

It should be noted that other local, State, and Federal agencies may provide additional assistance upon request in planning and implementing best management practices. This includes Local and County Commissions, Local Soil and Water Commissions, State of Alabama Department of Conservation and Natural Resources, Alabama Forestry Commission, Alabama Surface Mining Commission, and the USDA Soil Conservation Service.

It will be the obligation of each operator and subcontractor to be familiar with this plan and follow the guidelines set forth herein. Cooperation by the Coalbed Methane Industry, subcontractors, and ADEM will result in little difficulty in the implementation of this plan.

XIV. OPERATOR RESPONSIBILITY

The ADEM will recognize good faith efforts undertaken by or on the behalf of the operator. However, it is the responsibility of the operator to implement and maintain all measures necessary to ensure compliance with applicable State Law and ADEM regulations.

XV. WELL CLOSURE

The well bore will be plugged in accordance with the State of Alabama Oil and Gas Board Regulations. Reclamation of the wellpad shall be in accordance with existing lease or surface owner provisions, unless in conflict with State and/or Federal regulations. If in conflict, the State and/or Federal Regulation shall control.

XVI. EMERGENCY RESPONSE AND NOTIFICATION

In an emergency, i.e., oil or chemical spills, treatment facility upset or bypass, pit failure, stream crossing failure, etc. The personnel listed in Section XVIV should be contacted.

XVII. TYPICAL SILT FENCE/EROSION CONTROL DIAGRAMS

Appendix A

XVIII. TYPICAL STREAM CROSSINGS FOR STREAMS WITH FLOWS OF LESS THAN TEN (10) CUBIC FEET PER SECOND

Appendix B

XVIV. Emergency Notification Call Out

VANCE

Name	Office #	Home #	Mobile #	S-LINC #
1. Rose, Mark	554-3133		242-7328	1*1042*22
2. Louis Guidroz	554-3107	491-9005	344-1878	1*1042*366
3. Brasfield, Scott	554-3137	759-2215	349-7388	1*1042*73
4. Bishop, James	554-3108		960-8944	1*1042*315
5. Willingham, Phil	554-3113	556-7994	799-1166	1*1042*70

Oak Grove

Name	Office #	Home #	Mobile #	S-LINC #
1. Rose, Mark	554-3133		242-7328	1*1042*22
2. Louis Guidroz	554-3107	491-9005	344-1878	1*1042*366
3. Brasfield, Scott	554-3137	759-2215	349-7388	1*1042*73
4. Bishop, James	554-3108		960-8944	1*1042*315
5. Willingham, Phil	554-3113	556-7994	799-1166	1*1042*70

APPENDIX A

INSTALL SEDIMENT BARRIER
VELOCITY BREAKS ALONG
LENGTH OF DIVERSION BERM.
(SEE NOTE 1)

VEHICLE ACCESS

SLOPE

TOP OF RIDGE

CONTOURS

(SEE NOTE 2)

SLOPE

SWALE OR STREAM

LIMITS OF CONSTRUCTION
DISTURBANCE

BERM BREAK WITH SEDIMENT
BARRIER AT LOW POINT
(SEE DETAIL SB1)

20' MIN.

5' MIN. (TYP.)

10'±

BERM OR SEDIMENT BARRIER
INSTALLED WHEN MINIMAL
VEGETATIVE FILTER STRIP
IS NOT AVAILABLE AS
INDICATED IN SECTION 2.1
(SEE DETAIL SB1, SB2, DB)

TEMPORARY AND OR PERMANENT
DIVERSION TERRACES AS INDICATED
IN DETAIL DT.

OPTIONAL HARROWING OR
EQUIPMENT TRACTS PARALLEL
WITH CONTOURS.

NOTES:

1. VELOCITY BREAK SPACING

LONGITUDINAL SLOPE		BREAK SPACING
%	DEGREES	
<10	< 6±	150'
10-20	6± - 11±	75'
20-30	11± - 17±	50'
>30	>17±	40'

2. DO NOT INSTALL TEMPORARY
DIVERSION TERRACES ACROSS
VEHICLE ACCESS AREA.

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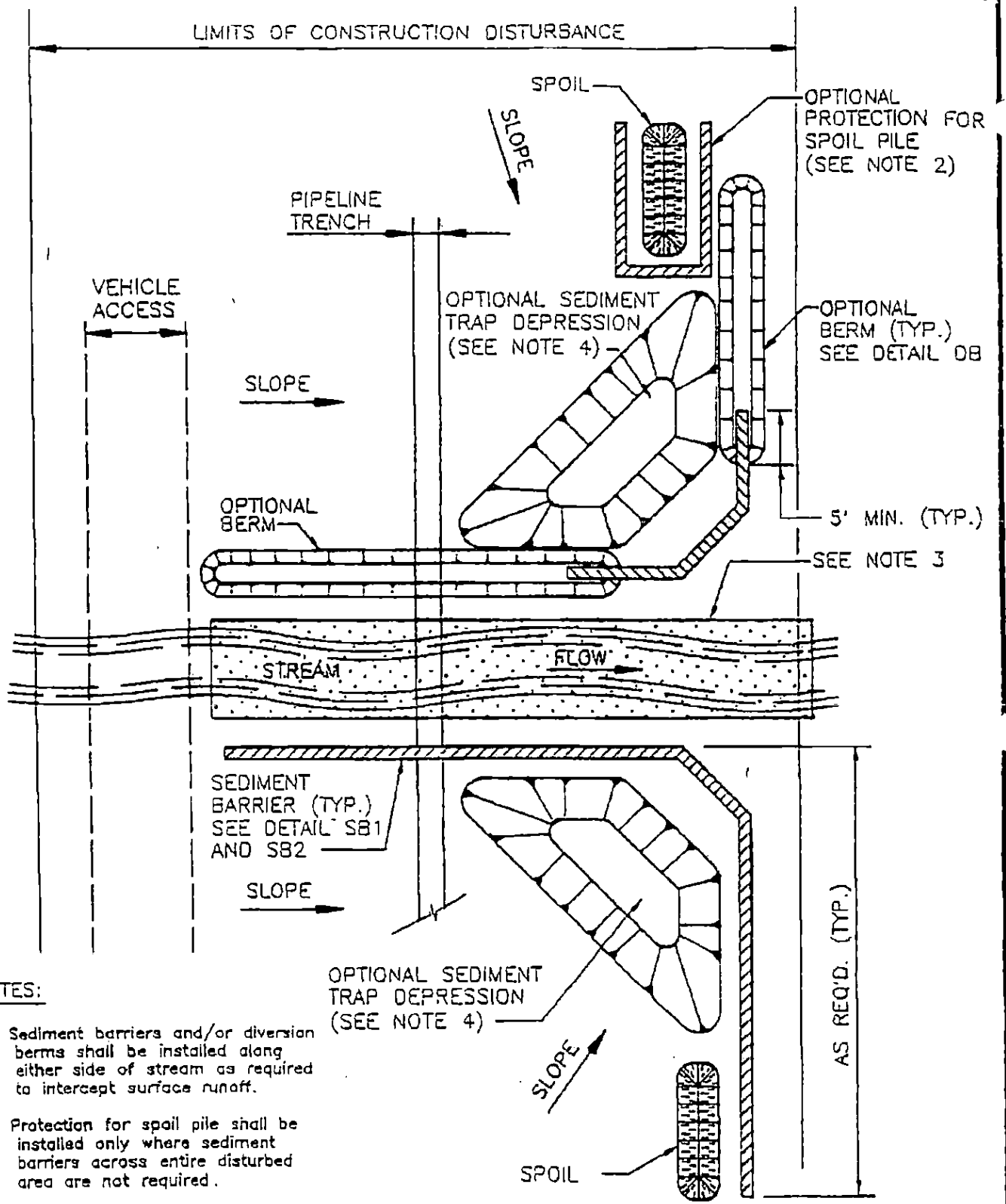
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BEST MANAGEMENT PRACTICES PLAN
DETAIL OC

TYPICAL OVERLAND CONTROL MEASURES

OCTOBER, 2017

SCALE: N.T.S.



NOTES:

1. Sediment barriers and/or diversion berms shall be installed along either side of stream as required to intercept surface runoff.
2. Protection for spoil pile shall be installed only where sediment barriers across entire disturbed area are not required.
3. For intermittent streams servicing drainage basins greater than 10 acres channel lining erosion control fabric may be installed in the flow channel in order to prevent erosion of the channel bed
4. Construct depression as surface area is available. Construct side slopes at 3:1 and depth at 2 feet to 3 feet.

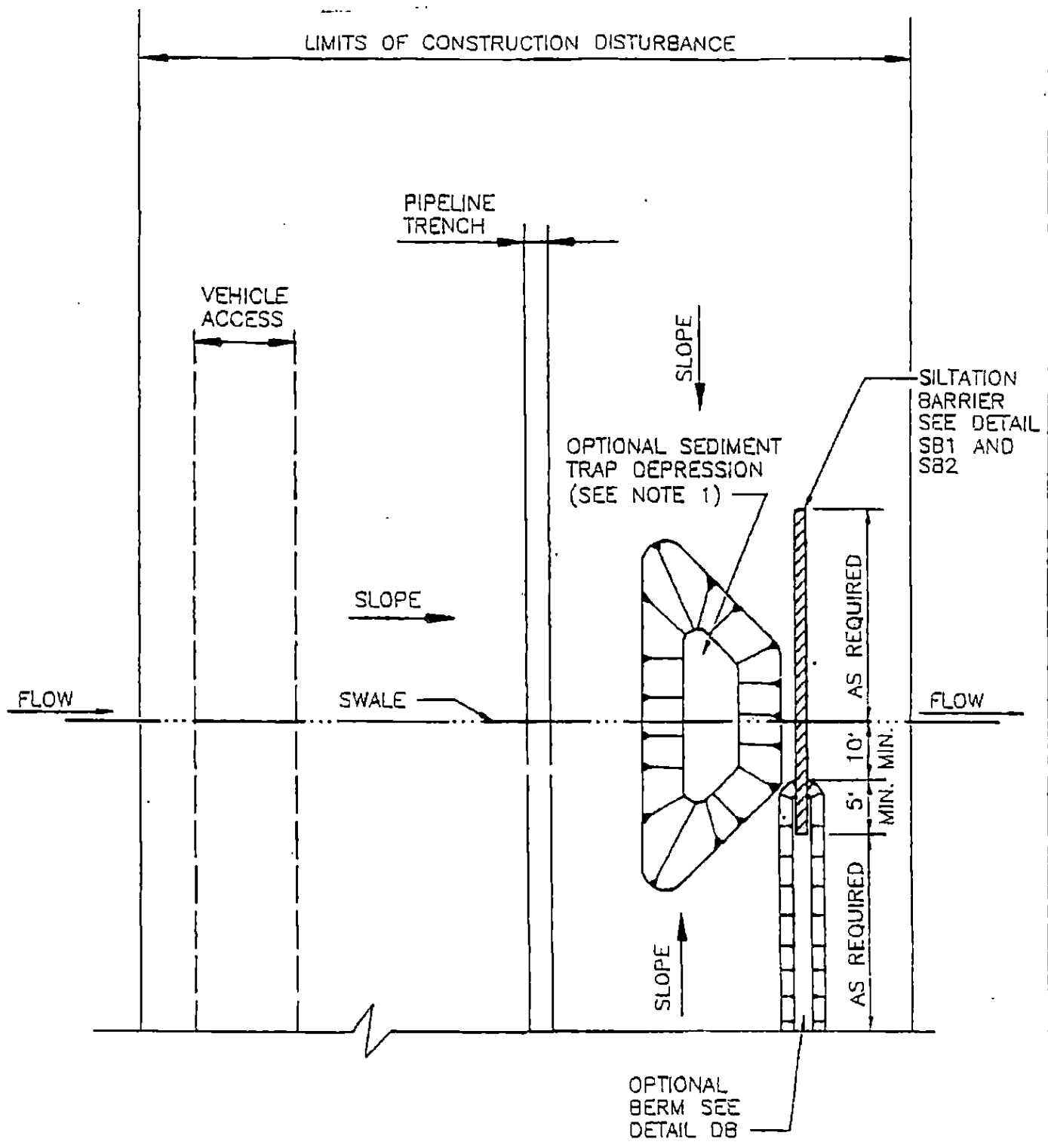
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DETAIL OC
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OCTOBER, 2017

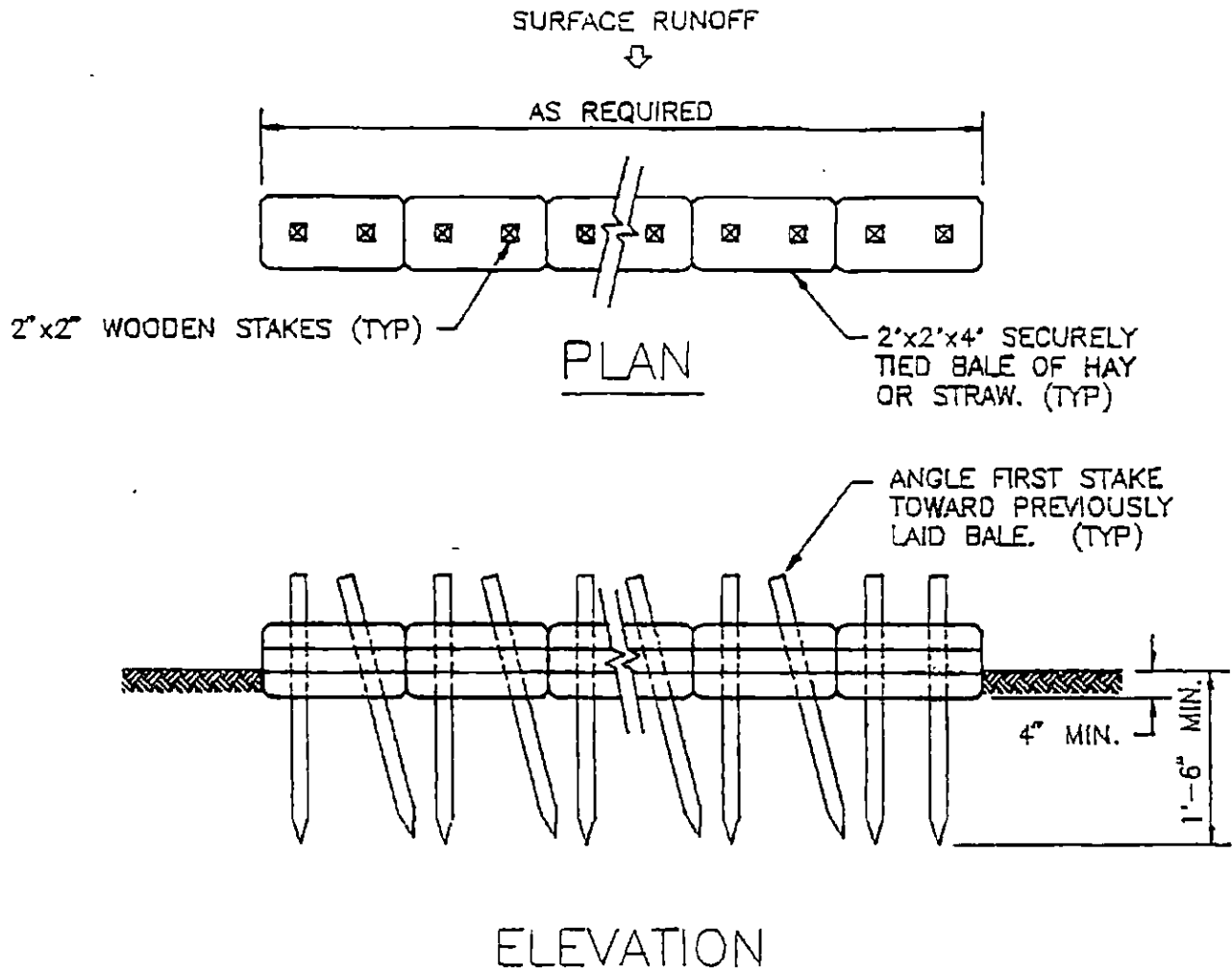
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NOTE:

1. Construct depression as surface area is available. Construct side slope at 3:1 and depth at 2 feet to 3 feet.

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	<p>BEST MANAGEMENT PRACTICES PLAN DETAIL OC TYPICAL OVERLAND CONTROL MEASURES</p>
<p>OCTOBER, 2017</p>	<p>SCALE: N.T.S.</p>



NOTES:

1. BALE BARRIERS OR SILT FENCES SHALL BE INSTALLED TO FILTER SEDIMENT FROM SURFACE RUNOFF.
2. INSTALLATIONS SHALL BE PERIODICALLY CHECKED AND IF FLOW IS OBSTRUCTED, BUILD-UP OF SEDIMENT SHALL BE REMOVED.
3. SEDIMENT BARRIERS SHALL BE REMOVED TO RESTORE NATURAL DRAINAGE PATTERN AFTER AREA IS STABILIZED. HAY OR STRAW FROM BALE BARRIERS MAY BE SCATTERED OVER THE SURROUNDING AREA.

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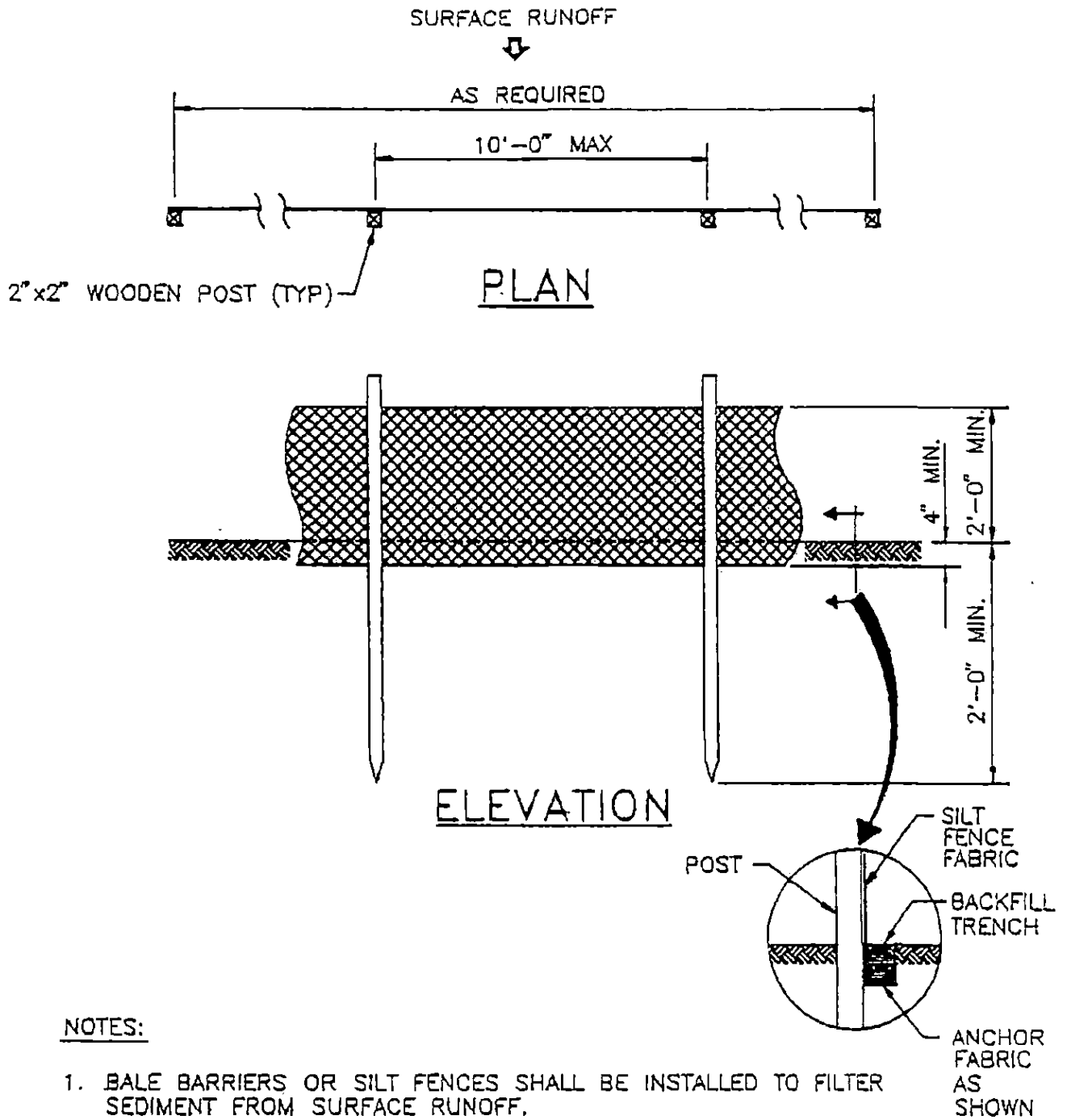
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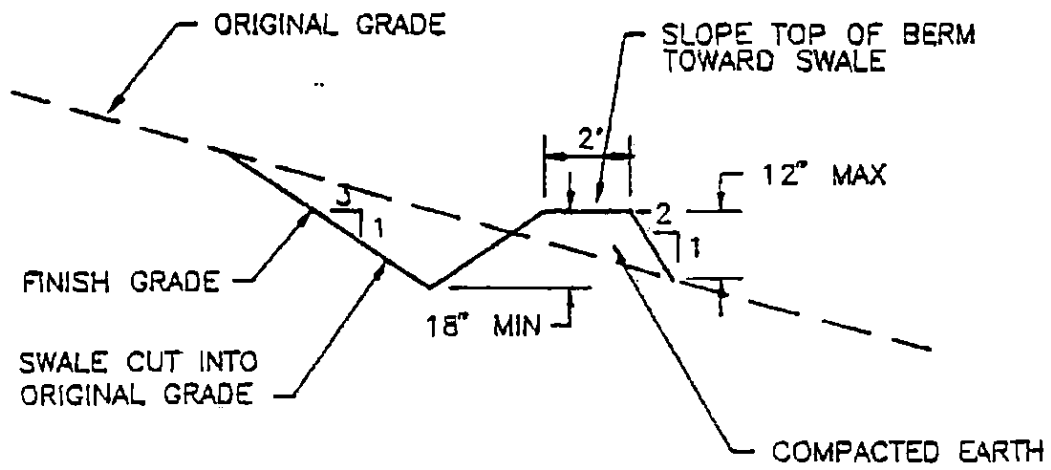
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NOTES:

1. BALE BARRIERS OR SILT FENCES SHALL BE INSTALLED TO FILTER SEDIMENT FROM SURFACE RUNOFF.
2. INSTALLATIONS SHALL BE PERIODICALLY CHECKED AND IF FLOW IS OBSTRUCTED, BUILD-UP OF SEDIMENT SHALL BE REMOVED.
3. SEDIMENT BARRIERS SHALL BE REMOVED TO RESTORE NATURAL DRAINAGE PATTERN AFTER AREA IS STABILIZED.

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SECTION

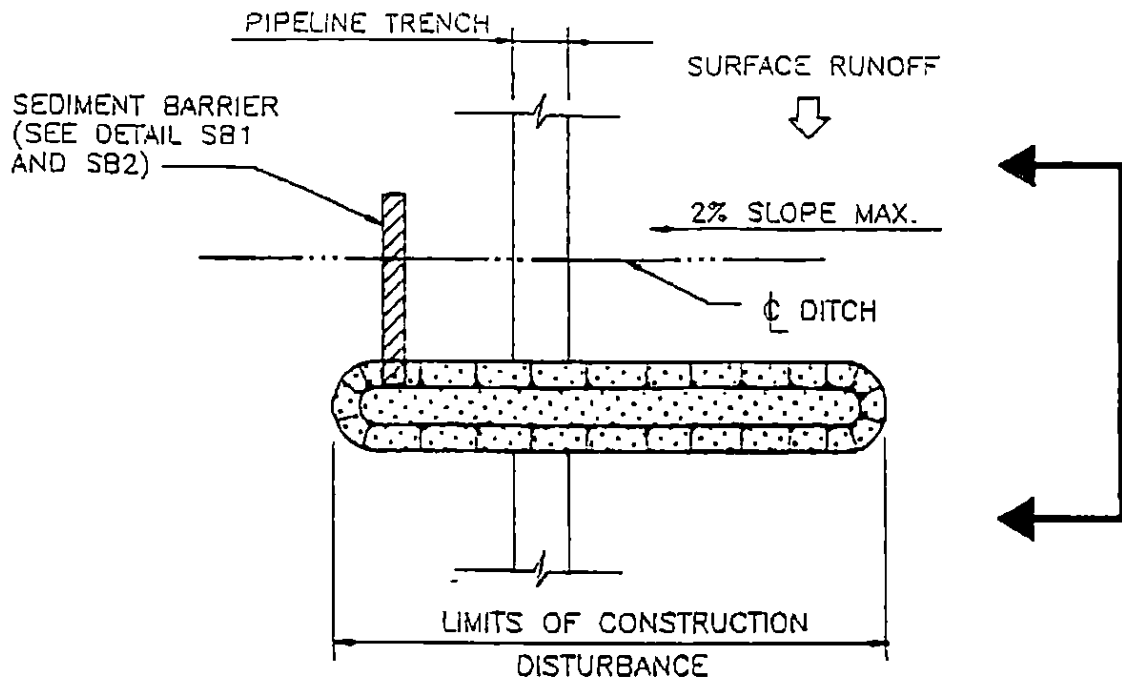
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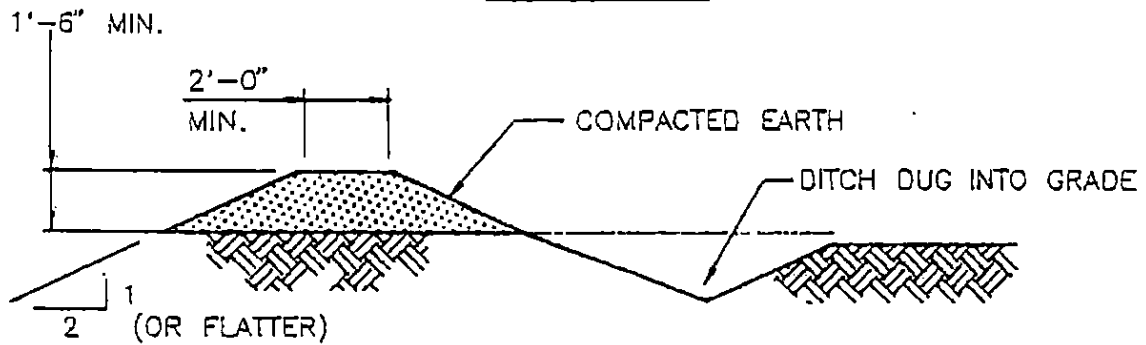
BEST MANAGEMENT PRACTICES PLAN
DETAIL OC
TYPICAL OVERLAND CONTROL MEASURES

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PLAN



SECTION

NOTES:

1. DIVERSION TERRACES SHALL BE INSTALLED AND MAINTAINED DURING CONSTRUCTION AND AFTER CLEAN-UP OPERATIONS ON LONG UNINTERRUPTED SLOPES.
2. WHERE SLOPE OF CONSTRUCTION AREA EXCEEDS THAT FOR SAFE INSTALLATION, TERRACES SHALL BE INSTALLED AT BASE OF SLOPE ONLY.

TYPICAL SPACING:

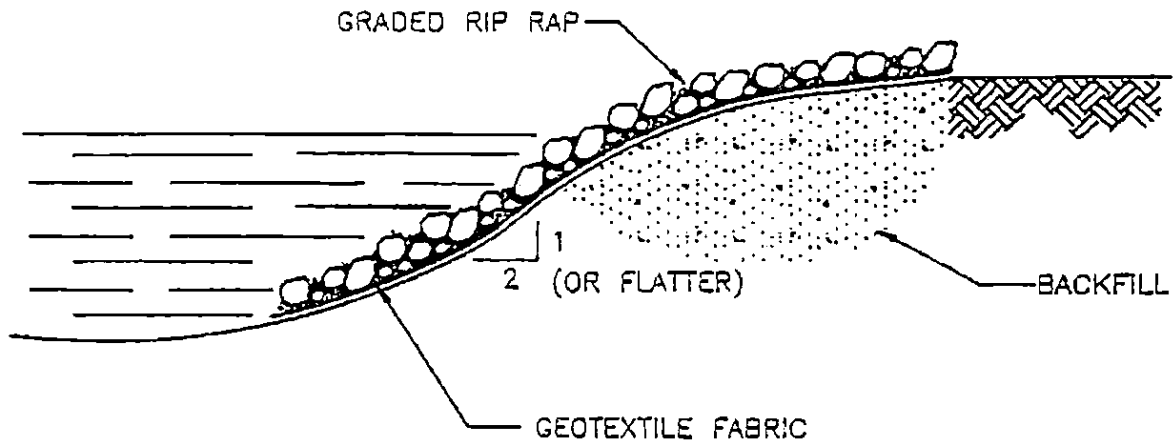
<u>ROW SLOPE ABOVE TERRACE</u>		<u>SPACING (FT.)</u>
<u>%</u>	<u>DEGREES</u>	
< 5	< 3±	250
5 - 10	3± - 6±	175
10 - 20	6± - 11±	150
20 - 30	11± - 17±	100
>30	>17±	75

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BEST MANAGEMENT PRACTICES PLAN
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TYPICAL OVERLAND CONTROL MEASURES

OCTOBER, 2017 SCALE: N.T.S.



NOTES:

1. RIP RAP SHALL EXTEND COMPLETELY ACROSS DISTURBED AREA TO PROTECT ERODIBLE SURFACES WHEN STREAM VELOCITIES EXCEED 9 FEET PER SECOND AND WHERE DIRECTED BY PROJECT ENVIRONMENTAL INSPECTOR.
2. ROCK SHALL BE DURABLE FIELD OR QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE AND SIZED TO RESIST MOVEMENT BY FLOWING WATER.
3. RIP RAP SHALL BE OF THE FOLLOWING GRADATION:

STONE SIZE (IN.)			MIN. THICKNESS OF RIP RAP LAYER (IN.)
MIN.	AVG.	MAX.	
3	6	12	12

4. AT LEAST 25% OF STONE SHALL BE LARGER THAN OR EQUAL TO SPECIFIED MAXIMUM STONE SIZE.
5. AT LEAST 50% OF STONE SHALL BE LARGER THAN SPECIFIED AVERAGE STONE SIZE.
6. CEMENT BAGS OR SAND BAGS MAY BE SUBSTITUTED FOR ROCK RIP RAP AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.

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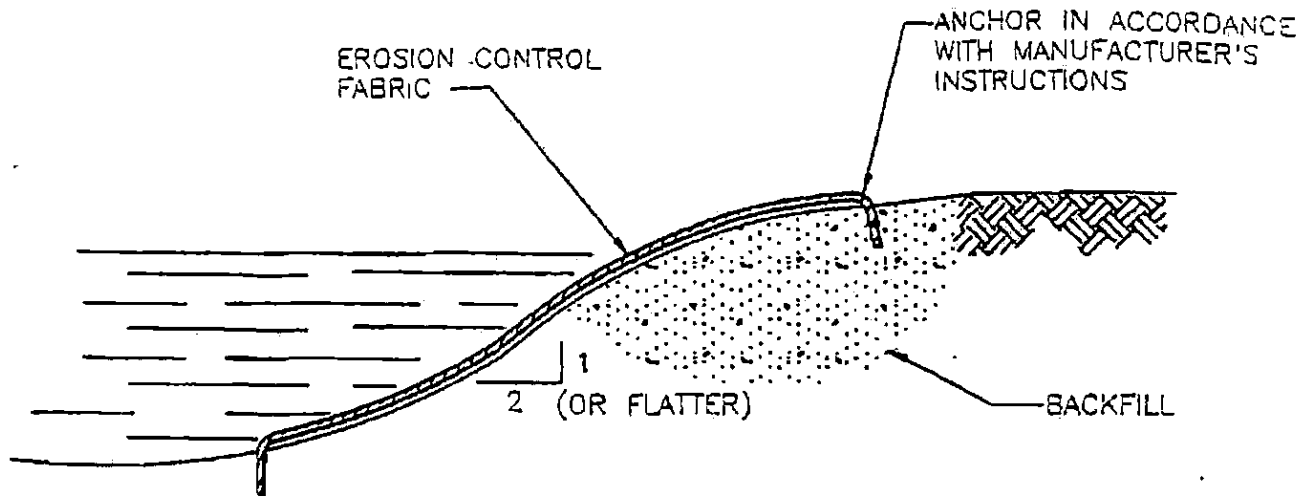
BEST MANAGEMENT PRACTICES PLAN

DETAIL OC

TYPICAL OVERLAND CONTROL MEASURES

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NOTES:

1. EROSION CONTROL FABRIC SHALL EXTEND COMPLETELY ACROSS DISTURBED AREA TO PROTECT ERODIBLE SURFACES.
2. INSTALL ON FRESHLY GRADED EMBANKMENTS TO SUPPORT VEGETATION.
3. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. WHEN DETERMINED NECESSARY BY THE PROJECT ENVIRONMENTAL INSPECTOR THE FOLLOWING EROSION CONTROL FABRICS (OR EQUAL) GUIDELINES ARE TO BE USED.

<u>WATER VELOCITY (FPS)</u>	<u>MATERIAL</u>
<5	CURLEX BLANKET
5-10	HI-VELOCITY CURLEX BLANKET
>10	ENKAMAT 7010 OR 7030

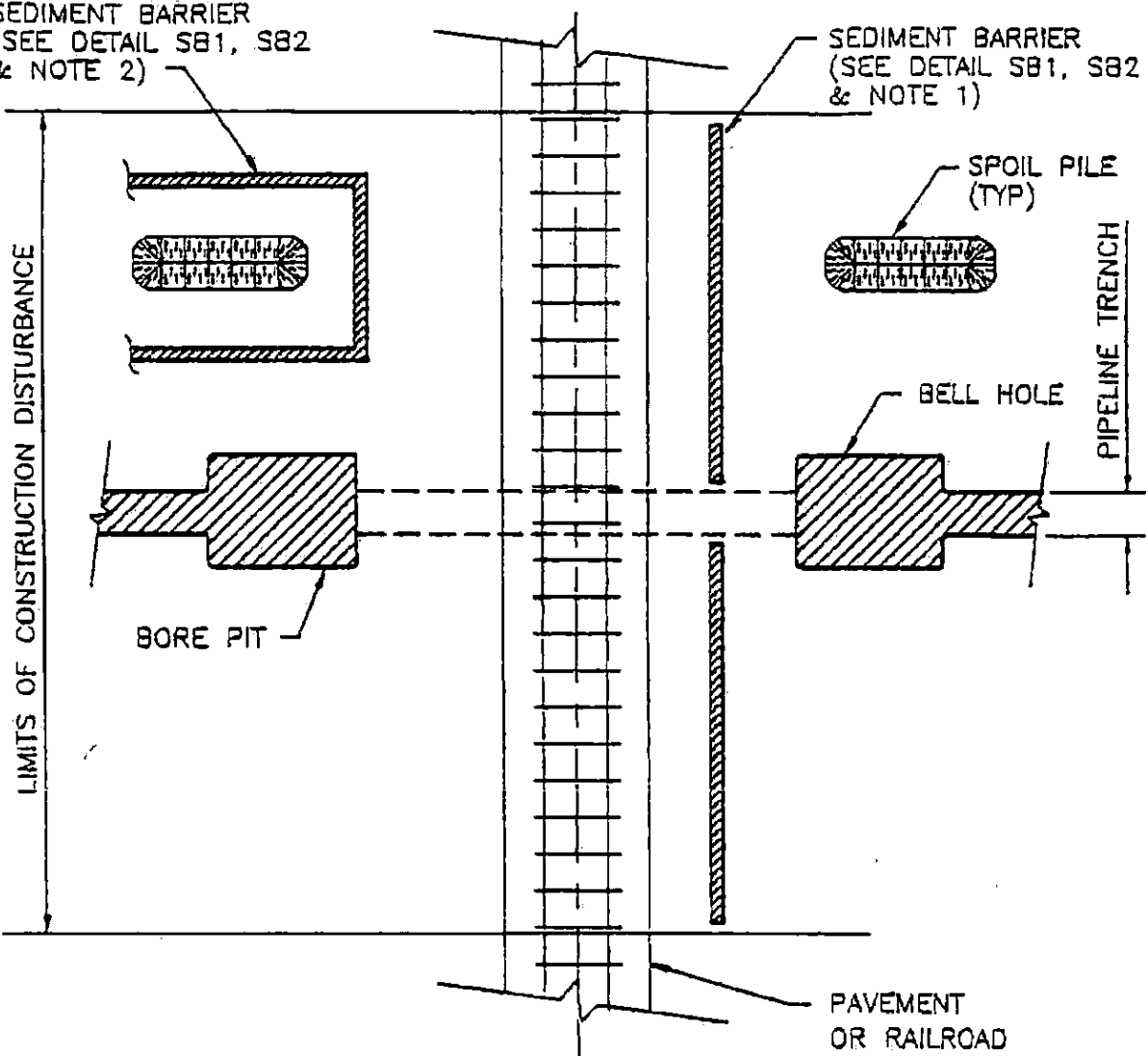
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SEDIMENT BARRIER
(SEE DETAIL SB1, SB2
& NOTE 2)



NOTES:

1. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG EITHER SIDE OF ROAD OR RAILROAD AS REQUIRED TO INTERCEPT SURFACE RUNOFF.
2. PROTECTION FOR SPOIL PILE SHALL BE INSTALLED ONLY WHERE SEDIMENT BARRIERS ACROSS ENTIRE DISTURBED AREA ARE NOT REQUIRED.
3. WATER REMOVED FROM BORE PIT AND BELL HOLE SHALL BE FILTERED THROUGH SEDIMENT BARRIER (SEE DETAILS SB1 & SB2).

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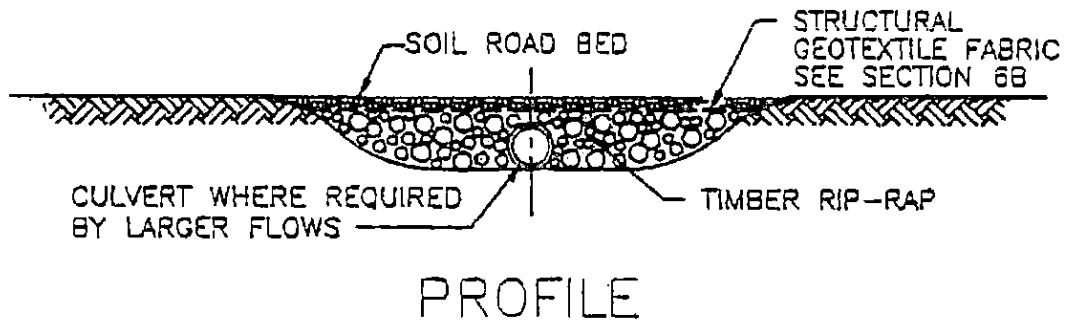
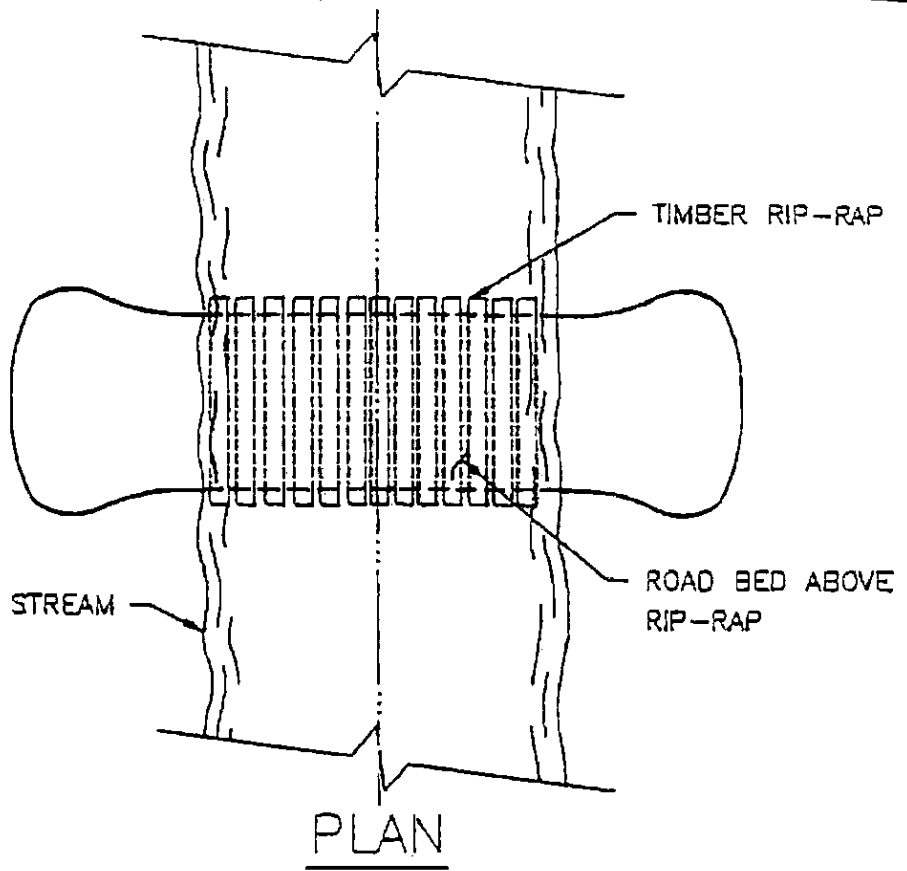
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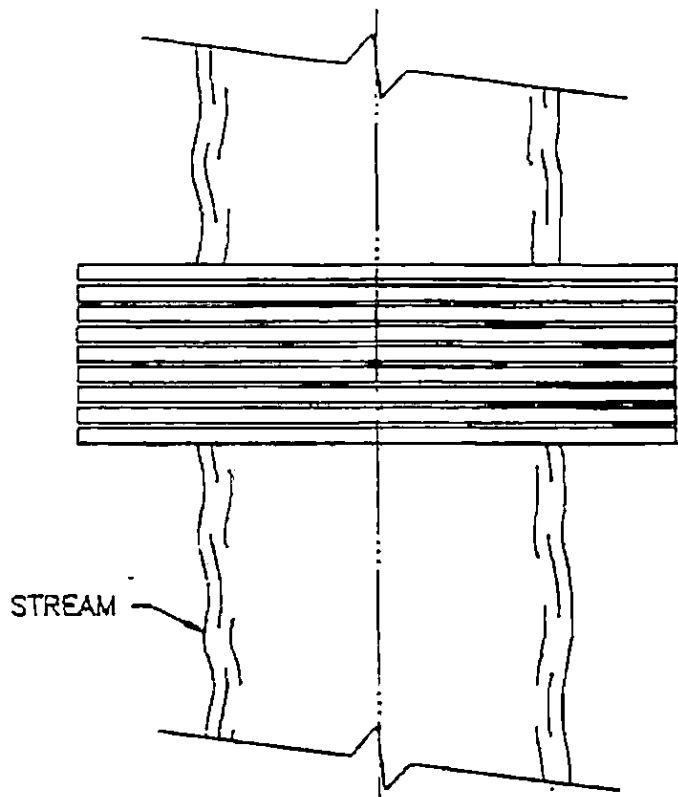
APPENDIX B



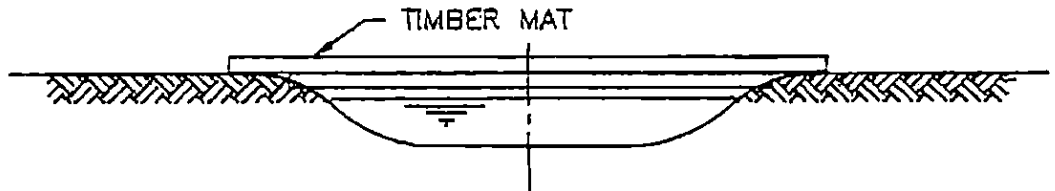
NOTES:

1. INSTALL TIMBER RIP-RAP IN ORDER TO MINIMIZE VOIDS BETWEEN TIMBERS.
2. PLACE STRUCTURAL GEOTEXTILE FABRIC ON TOP OF TIMBERS TO PROVIDE BASE FOR ROAD BED

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PLAN



PROFILE

NOTES:

1. ALL MATERIALS SHALL BE COMPLETELY REMOVED DURING FINAL CLEANUP

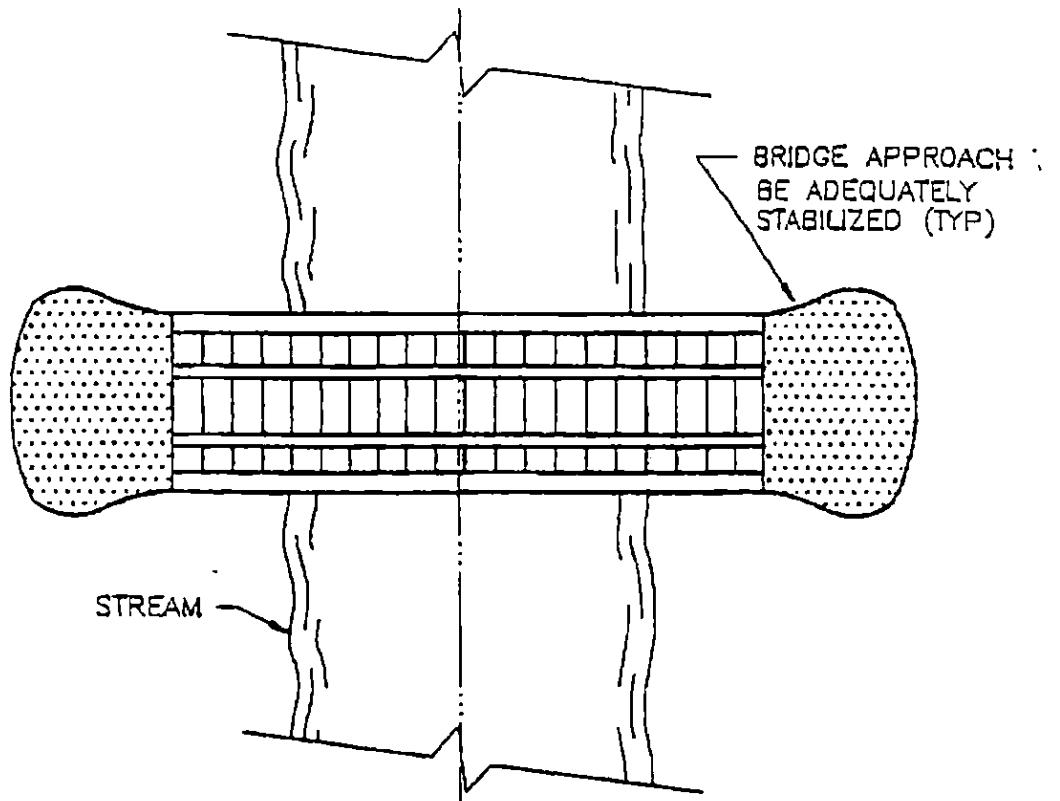
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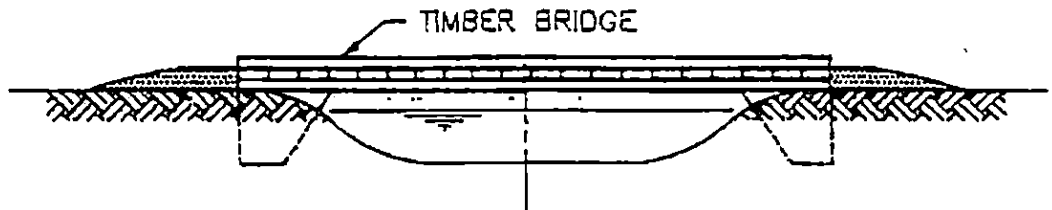
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PLAN



PROFILE

NOTES:

1. TIMBER BRIDGES SHALL BE ADEQUATELY ANCHORED ON AT LEAST ONE END
2. PERIODICALLY CHECK BRIDGE INSTALLATION AND REMOVE BUILD UP OF SEDIMENT OR DEBRIS ON BRIDGE.
2. MATERIALS PLACED IN STREAM CHANNEL SHALL BE SIZED TO RESIST MOVEMENT BY FLOWING WATER AND SHALL BE COMPLETELY REMOVED DURING FINAL CLEANUP.

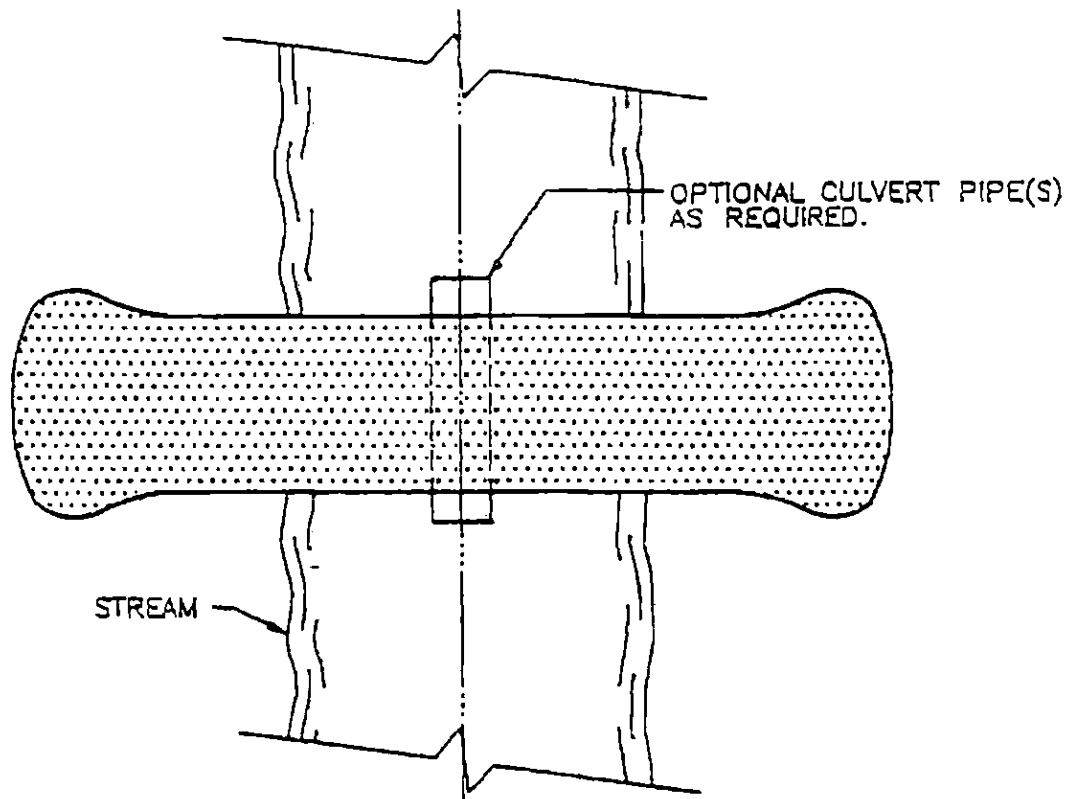
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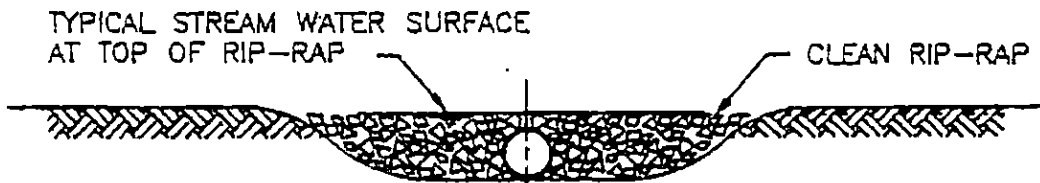
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PLAN



PROFILE

NOTES:

1. PERIODICALLY CHECK BRIDGE INSTALLATION AND REMOVE EXCESSIVE BUILD-UP OF SEDIMENT OR DEBRIS ON BRIDGE.
2. MATERIALS PLACED IN STREAM CHANNEL SHALL BE SIZED TO RESIST MOVEMENT BY FLOWING WATER AND SHALL BE COMPLETELY REMOVED DURING FINAL CLEANUP.

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OCTOBER, 2017	SCALE: N.T.S.

**Spill Prevention, Control, and Countermeasure Plan
(SPCC)**

Brookwood Coalbed Methane Project

Type of Facility: Coalbed Methane Gas Production Facilities

Owned by:

**PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490**

Operated by:

**PGP Operating, LLC
17300 Brookwood Parkway
Vance, AL 35490**

**Revised date of plan:
January 18, 2018**

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CERTIFICATIONS

The definition of an **Onshore Facility** as per 40 CFR 112.2, means "any facility of any kind located in, on, or under any land within the United States, other than submerged lands".

Management Certification

This SPCC plan has been developed or reviewed by personnel under my supervision in accordance with 40 CFR Part 112.7. I have the authority to commit the necessary resources to fully implement this plan and any "action items" identified in the plan. The plan, including any future revisions and amendments, will be implemented as written.

Authorized Management Representative:

Signature: *Scott Brasing*

Date: 2/7/18

Professional Engineer Certification

In accordance with 40 CFR Part 112.3(d) (1), I hereby certify that I (or personnel under my direction) have visited and examined each facility, and being familiar with the requirements of 40 CFR Part 112, attest that this SPCC plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, procedures for required inspections and testing have been established, and that the SPCC plan is adequate for each facility.

Professional Engineer:

Signature: *John K. Haddock*

Date: 1/31/18



Registration Number: 12998

1.0 AMENDMENTS OF SPCC PLAN

1.1 Amendment of Plan by the EPA

Regulatory Requirement: *The EPA may require the facility to amend the plan if it finds that the plan does not meet the requirements of 40 CFR Part 112 or if amendment is necessary to prevent and to contain discharges of oil from the facility. A discharge into navigable waters may subject the facility to additional reporting requirements of 40 CFR 112.4 and EPA review. (40 CFR 112.4(a))*

At this facility: There has not been a discharge of more than 1,000 gallons (23.8 barrels) of oil in a single discharge or discharged more than 42 gallons (1 barrel) of oil in each of two discharges occurring within 12-month period into navigable waters.

1.2 Amendment of Plan by Owner/Operator

Regulatory Requirement: *Facility owner/operator must amend the SPCC Plan whenever there is a change that materially affects the facility's potential for discharge. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs. (40 CFR 112.5(a))*

Facility owner/operator shall also complete a review and evaluation of the SPCC Plan at least once every five years. Facility personnel shall amend the SPCC Plan within six months of the review to include more effective prevention and control technology if such technology will significantly reduce the likelihood of a discharge from the facility and if such technology has been field proven at the time of review. (40 CFR 112.5(b))

Technical amendments must be certified and documented by a Professional Engineer. (40 CFR 112.5(c))

Such certification shall in no way relieve the owner or operator of its duty to prepare and fully implement this Plan. (40 CFR 112.3(d)(2))

At this facility: The plan shall be reviewed, amended and updated as required. The required 5-year reviews and any technical amendments and updates, including adding new facilities will be recorded in the Record of Reviews, noted below:

1.3 Record of Reviews

RECORD OF REVIEWS					
Date of Review ¹	Will Plan Need Amendment? ²		Reviewer's Signature ³	Reason for Amendment ⁴	Date of Amendment (or N/A)
	Yes	No			
1/18/2018		X			

- (1) A full review of the plan must be performed at least once every 5 years.
- (2) The SPCC plan must be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge. Examples of technical amendments that are to be certified by a Professional Engineer include, but are not limited to: changing container or containment size; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; or revision of standard operation or maintenance procedures at a facility.
- (3) Reviewer's signature indicates that he/she has completed review and evaluation of the SPCC plan for the facility on the date indicated and will or will not amend the plan as a result.
- (4) Briefly describe reasons for plan amendment. These may include one or more of the reasons in footnote (2) above, and administrative changes or non-technical amendments such as updates to names or phone numbers, regulatory changes, or changes in company policies, do not require certification by a Professional Engineer.

2.0 ACTION ITEMS

Regulatory Requirement: *If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, discuss these items in separate paragraphs and explain separately the details of installation and operational startup. (40 CFR 112.7)*

At this facility: Action items are listed in the implementation schedule below. The Environmental Manager will enter the actual date of completion of each item. Completed action items will be removed from the list at the next Plan revision.

ACTION ITEM IMPLEMENTATION SCHEDULE			
Action Item	Responsible Person	Completion Deadline	Actual Date Completed
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

3.0 PRIOR SPILL EVENTS

Regulatory Requirement: *A facility that has experienced one or more reportable spills since August 16, 2002, should include a written description of each such spill, corrective action taken and plans for preventing recurrence. (40 CFR 112.4)*

At this facility: No reportable spills as described in 40 CFR 112.4(a) have occurred at this facility.

4.0 CONFORMANCE WITH 40 CFR PART 112.7 REQUIREMENTS

Regulatory Requirement: *Include a discussion of a facility's conformance with the requirements of 40 CFR 112.7. (40 CFR 112.7 (a) (1) and (2))*

At this facility: The following table indicates the applicability of the 40 CFR Part 112.7 requirements for this facility covered under this SPCC plan. The requirements, that are not applicable, are noted in the table below, but are not addressed in this SPCC Plan.

REGULATORY APPLICABILITY (Yes or No)		
Citation	Description	
112.7	General requirements for SPCC Plans for all facilities and all oil types	Yes
112.7(a)	General requirements: discussion of facility's conformance with rule requirements; deviations from Plan requirements; facility characteristics that must be described in the Plan; spill reporting information in the Plan; emergency procedures	Yes
112.7(b)	Fault analysis	Yes
112.7(c)	Secondary containment	Yes
112.7(d)	Contingency planning	No
112.7(e)	Inspections, tests, and records	Yes
112.7(f)	Employee training and discharge prevention procedures	Yes
112.7(g)	Security	Yes
112.7(h)	Loading/unloading (excluding offshore facilities)	Yes
112.7(i)	Brittle fracture evaluation requirements	Yes
112.7(j)	Conformance with State requirements	Yes
112.8	Requirements for onshore facilities (excluding production facilities)	No
112.8(a)	General and specific requirements	No
112.8(b)	Facility drainage	No
112.8(c)	Bulk storage containers	No
112.8(d)	Facility transfer operations, pumping, and facility process	No
112.9	Requirements for onshore oil production facilities	No
112.9(a)	General and specific requirements	No
112.9(b)	Oil production facility drainage	No
112.9(c)	Oil production facility bulk storage containers	No
112.9(d)	Facility transfer operations, oil production facility	No
112.10	Requirements for onshore oil drilling and workover facilities	Yes
112.10(a)	General and specific requirements	Yes
112.10(b)	Mobile facilities	Yes
112.10(c)	Secondary containment - catchment basins or diversion structures	Yes
112.10(d)	Blowout prevention (BOP)	Yes

REGULATORY APPLICABILITY (Yes or No)		
Citation	Description	
112.11	Requirements for offshore oil drilling, production, or workover facilities	No
112.11(a)	General and specific procedures	No
112.11(b)	Facility drainage	No
112.11(c)	Sump systems	No
112.11(d)	Discharge prevention systems for separators and treaters	No
112.11(e)	Atmospheric storage or surge containers; alarms	No
112.11(f)	Pressure containers; alarm systems	No
112.11(g)	Corrosion protection	No
112.11(h)	Pollution prevention system procedures	No
112.11(i)	Pollution prevention system; testing and inspection	No
112.11(j)	Surface and subsurface well shut-in valves and devices	No
112.11(k)	Blowout prevention	No
112.11(l)	Manifolds	No
112.11(m)	Flowlines, pressure sensing devices	No
112.11(n)	Piping; corrosion protection	No
112.11(o)	Sub-marine piping; environmental stresses	No
112.11(p)	Inspections of sub-marine piping	No

5.0 FACILITY DESCRIPTION, DISCHARGE PREVENTION, AND COUNTERMEASURES

Regulatory Requirement: *Describe the physical layout of the facility and include a facility diagram, which marks the location and contents of each container. The diagram must include completely buried tanks, transfer stations and connecting pipes. (40 CFR 112.7(a) (3))*

Unless you have submitted a response plan under 40 CFR 112.20, provide information and procedures to enable a person reporting a discharge to relate the required information. (40 CFR 112.7 (a) (4))

Unless you have submitted a response plan under 40 CFR 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency. (40 CFR 112.7 (a) (5))

At this facility: The facility covered under this plan is an onshore coalbed methane (CBM) gas production facility. Typically, this production facility produces CBM gas and/or produced water from the CBM gas wells. The produced fluids, from the wells, either flow naturally or are mechanically pumped to tank batteries, transfer ponds and/or treatment ponds through gathering lines. The tank batteries and transfer ponds are used to release gathering line pressures. Produced water is treated in treatment ponds and discharged according to PGP Operating NPDES Permits (AL0052264, AL0060798, AL0056791, AL0062430, AL0057037, and AL0060771). The CBM gas is compressed at 24 compressor stations and sold via pipelines. This Project has 28 facilities that have containers that are addressed in this plan.

Appendix E describes the onsite tanks and containment size. A facility diagram showing the location of each container is showed in Appendix F. The general surface flow direction and the area drainage topographic features for each location covered by this SPCC plan are included in Appendix G.

The discharge prevention measures including procedures for routine handling of products (loading, unloading areas, and facility transfers, etc.) and discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge, are addressed in the separate sections of this plan.

In the event of a reportable spill, the Spill Report Form in Appendix B will be completed, and the spill should be reported to the appropriate contacts listed in Appendix D. At a minimum, all spills impacting navigable water ways should include reporting to the National Response Center, Alabama Department of Environmental Management, and the Alabama State Oil & Gas Board.

6.0 Fault Analysis, Spill Potential and Secondary Containment

Regulatory Requirement: *Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage), the plan should include a prediction of the direction, rate of flow, and a total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure. (40 CFR 112.7(b))*

Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment. One of the following preventive systems or its equivalent must be used as a minimum for onshore facilities: (40 CFR 112.7(c))

- *Dikes, berms or retaining walls sufficiently impervious to contain oil;*
- *Curbing;*
- *Culverting, gutters or other drainage systems;*
- *Weirs, booms or other barriers;*
- *Spill diversion ponds;*
- *Retention ponds;*
- *Sorbent materials*

At this facility: For potential failure (such as tank or equipment overflow, rupture, or leakage), the spill potential and prediction drawings include, the predicted flow direction, and secondary containment and/or diversionary structures or equipment to prevent discharged oil/produced water from reaching navigable waters. The spill potential and prediction table for each location is located in Appendix G.

6.1 Contingency Plan

Regulatory Requirement: *When it is determined that the installation of structures or equipment listed to prevent discharged oil from reaching the navigable waters is not practicable from any onshore or offshore facility, the owner or operator should clearly demonstrate such impracticability. (40 CFR 112.7(d))*

At this facility: Secondary containment is considered practicable for all SPCC regulated storage tanks.

Regulatory Requirement: *If secondary containment is not practicable or if there are any action items included in this plan that require secondary containment evaluations, this facility will consider a strong spill contingency plan to be required as part of the SPCC Plan. (40 CFR 112.7(d) (1))*

If a spill contingency plan is required for this facility, the plan will include a written commitment of manpower, equipment, and materials required to expeditiously control and remove any harmful quantity of oil discharged. (40 CFR 112.7(d) (2))

At this facility: It is not practical to construct secondary containment for all flow, gathering or injection lines for wells and separators or to provide secondary containment for truck loading and unloading areas. A spill notification list is included in Appendix D.

7.0 INSPECTIONS, TESTS, AND RECORDS

Regulatory Requirement: *Inspections required by this regulation should be in accordance with written procedures developed for the facility by the owner/owner or by the certifying engineer. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, should be made part of the SPCC Plan and maintained for period of three years. If the records are not made part of the Plan, a central location of the records should be documented in the Plan. (40 CFR 112.7(e))*

At this facility: Company field operator(s) will conduct routine inspections of facilities during each work visit. In addition, a documented annual facility inspection of each facility will be performed, as follows. *(Annual inspection forms and written inspection procedure are located in Appendix A)*

7.1 Routine Work Visit Inspections

Company field operator (s) will perform a general inspection of each facility under their responsibility on a routine basis.

Field drainage ditches, road ditches, and oil traps, sumps, or skimmers are inspected during work visits for accumulation of oil that may have escaped from small leaks. Any such accumulations will be removed and disposed of within regulatory guidelines.

Leaks and other problems observed during routine inspections will be reported to the appropriate production foreman for repairs or replacement and if needed with the Environmental Coordinator.

7.2 Annual Documented Inspections

The operations foreman and/or the Environmental Coordinator will perform a documented inspection of each facility annually, using the inspection form and instructions in Appendix A. The annual inspection will include examination of:

- all storage tanks, including the foundation and supports of tanks
- all production handling, separating and treating vessels
- all aboveground valves, pipelines, and gathering lines for general condition of items, such as flange joints, valve glands and bodies, drip pans, pipeline supports, bleeder and gauge valves
- secondary containment areas for oil storage and produced water.

These inspection sheets will be kept on file at the PGP Operating, Brookwood, Alabama office for not less than three years

Company field operator (s) and operations foreman will note any deficiencies or problems on the inspection form. The operations foreman and/or the Environmental Coordinator will address each item identified in the inspection and, if necessary, take corrective action. The resolution of problems and deficiencies identified in the annual inspection shall be documented and kept on file for at least three years.

8.0 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES

8.1 Personnel Training

Regulatory Requirement: *Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharge of oil; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and, the contents of the facility SPCC Plan (40 CFR 112.7(f) (1))*

At this facility: The Environmental Coordinator will perform training classes on SPCC plans for company's personnel and Subcontractors. The training will include at a minimum, the operation and maintenance of equipment to prevent oil discharges, discharge procedure protocols and, the contents of the facility SPCC plan. Records of personnel receiving SPCC training will be documented and maintained for at least for three years. The SPCC training record form is included in Appendix C.

8.2 Designated Person

Regulatory Requirement: *Each applicable facility will have a designated person who is accountable for oil discharge prevention and who reports to facility management. (40 CFR 112.7(f) (2))*

At this facility: The field operator (s) assigned to each facility is responsible for the day-to-day operations and spill prevention at that facility. The operations foreman (who is the supervisor of the field operators) is the designated person who reports to facility management and is responsible for the proper cleanup of spills when they occur.

8.3 Spill Prevention Briefings

Regulatory Requirement: *Owners or operators will schedule and conduct spill prevention briefings for their oil-handling personnel at least once a year to assure adequate understanding of the SPCC plan for the facility. Such briefings should highlight and describe known discharges or failures, malfunctioning components, and recently developed precautionary measures. (40 CFR 112.7(f) (3))*

At this facility: The Environmental Coordinator will perform spill prevention briefings for the company's oil-handling personnel at least once a year. Such briefings will include past spills, failures, malfunctions and recently developed spill prevention measures. The record of personnel receiving the annual SPCC briefing and training will be documented on the training form in Appendix C.

9.0 SECURITY

Regulatory Requirement: Describe how you secure and control access to the oil handling processing and storage areas. (40 CFR 112.7(g))

At this production facility the compressor station facilities and waste-oil treatment facilities are fenced and locked. The field operator (s) assigned to each facility is responsible for oil handling processing. At this production facility the off-loading connections for the aboveground storage tanks are plugged/capped

when not in service or when in standby service for an extended time. All valves into or out of tanks will be in the closed position and plugged/capped when not in use.

10.0 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK

Regulatory Requirement: *Tank car and tank truck loading/unloading procedures should meet the minimum requirements and regulations established by the Department of Transportation (DOT).*

Where rack area drainage does not flow into a catchment basin or treatment facility designed to handle spills, a quick drainage system should be used for tank truck loading and unloading areas. The containment system must be designed to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

An interlocked warning light or physical barrier system, or warning signs, should be provided in loading/unloading areas to prevent vehicular departure before complete disconnect of flexible or fixed oil transfer lines.

Prior to filling and departure of any tank car or tank truck, the lowermost drain and all outlets of such vehicles will be closely examined for leakage, and if necessary, tightened, adjusted, or replaced to prevent liquid leakage while in transit. (40 CFR 112.7 (h))

At this facility: It is not practical to provide secondary containment to hold at least the maximum capacity of any single compartment of truck loading and unloading at facilities where oil/produced water is transferred from tanks to trucks or trucks to tanks. The following procedures will be used for truck loading and unloading areas.

All Truck Loading/Unloading Areas: Truck drivers are warned not to depart before complete disconnect of transfer lines.

In addition, facility personnel will ensure that all loading and unloading procedures shall meet the minimum requirements of DOT; specifically:

- Vehicle engine is stopped
- Hand brake of vehicle is set
- No open flame in area

Buckets, catchments or portable drip pans will be placed under the hose connection at the truck and at the unloading pipe, as necessary, to catch any fluids that might drip or be spilled during the truck loading or unloading. Truck drivers will be instructed to use wheel chocks when a truck is stopped for loading and unloading operations. Truck drivers shall remain with their vehicle during loading or unloading to provide continuous visual inspection to prevent overfilling or accidental release.

Prior to filling and departure, the driver will be required to examine the lowermost drain and all outlets of the truck for leakage, and make any necessary adjustments or repairs, prior to departure.

11.0 FIELD-CONSTRUCTED ABOVEGROUND STORAGE TANKS

Regulatory Requirement: *If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action. (40 CFR 112.7 (i))*

At this facility: Such evaluations will be conducted as needed.

12.0 COMPLIANCE WITH STATE AND OTHER REQUIREMENTS

Regulatory Requirement: *Include a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines. (40 CFR 112.7 (j))*

At this facility: This facility will comply with the Alabama Department of Environmental Management Rule 335-6-6-.12 (r) and with the Alabama State Oil and Gas Board Rule 400-3-6-.07.

13.0 DRILLING AND WORKOVER FACILITIES (ONSHORE)

13.1 Mobile Drilling or Workover Equipment

Regulatory Requirement: *Equipment should be positioned or located so as to prevent spilled oil from reaching navigable waters. (40 CFR 112.10 (a)-(b))*

At this facility: Mobile drilling and workover equipment will be positioned away from drainage ways as much as possible for the given operations. Each well pad location is basically an enclosed dike containment system that has stormwater turn outs. To help control a spill during drilling and completion of the well a sufficient amount of fill dirt is on the well pad.

13.2 Catchment Basins or Diversion Structures

Regulatory Requirement: *Depending on the location, catchment basins or diversion structures may be necessary to intercept and contain spills of fuel, crude oil or oily drilling fluids. (40 CFR 112.10 (c))*

At this facility: Catchment basins or diversion structures are provided for all drilling operations and on an as needed basis for workover operations.

13.3 Blowout Prevention

Regulatory Requirement: *Before drilling below any casing string or during workover operations, a blowout prevention (BOP) assembly and well control system will be installed that is capable of controlling any well head pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements. (40 CFR 112.10 (d))*

At this facility: BOP installed will be capable of controlling any wellhead pressures that may be encountered during drilling and well work operations.

APPENDICES

Appendix A

Facility Inspection Procedures & Forms

Facility Inspection Procedure

Inspection Instructions: Items to be inspected and documented in the Facility Inspection Form

1. Storage tanks:
 - a. Examine foundation and supports of tanks that are above the surface of the ground. There should be no large gaps between the foundation and the tank bottom or between the ground surface and the tank bottom (if tank sits directly on the ground).
 - b. Concrete foundations (if any) should not be crumbling or excessively cracked. Storage tank foundations should provide adequate support for tanks.
 - c. Examine for leaks through bolts, gaskets, rivets, seams, and any other part of tank. Tanks should be structurally intact, with no cracks, holes, or leaks.
 - d. Examine tanks for excessive rust and exterior corrosion.
 - e. Examine sides of tanks for stain streaks, which is evidence of tank overfilling.
2. Production Handling, Separating, and Treating Vessels
 - a. Inspect all valves, gauges, sight glass, and other related equipment for proper operation.
3. Valves and piping
 - a. Examine all aboveground valves, pipelines, for general condition of items, such as flange joints, valve glands and bodies, drip pans, pipeline supports.
 - b. Check truck loading and unloading areas, under loading valves and catchments for spills.
4. Flowlines:
 - a. Inspect all valves for proper operation and condition.
 - b. Inspect all joints, flanges, unions and connections for any indication of leaks.
 - c. Walk flow or gathering lines and inspect for any indication of leaks, needed repairs or replacement.
5. Containment areas:
 - a. Inspect for accumulations of oil or water inside containment.
 - b. Examine containment walls for deterioration such as cracking, settlement, erosion, animal burrows or excessive vegetation.

Appendix B

PGP OPERATING Spill Report Form

Date: _____ **Time:** _____

Location: _____

Material and volume spilled: _____

Volume Recovered: _____

Methods used to contain and recover the material: _____

Were waterways, wildlife, agricultural areas, residential areas, etc affected by the spill:

Yes _____ **No** _____ **If so, name or describe affected areas:** _____

Were appropriate regulatory agencies notified: **Yes** _____ **No** _____

If so, who and when were they notified:

Person's Name **Agency** **Date** **Time**

Appendix D

Oil Spill Notification List

Facility and management personnel are committed to implementing the manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged from the facilities covered by this plan. Below is a notification list when taking initial response actions to a reportable spill.

Organization Notification Required for a Spill Event To Navigable Waters	Phone Number	Person Notified	Time Notified
Spill Response Contractor H & H Oil Field Services	(205)-349-9746		
Spill Response Contractor Price Civil Service, Inc.	(205)-454-4747		
Spill Response Contractor Action Environmental	(256)-352-2350		
National Response Center (NRC)	(800) 424-8802 (24 hrs)		
Alabama Department of Environmental Management, B'Ham Field Office (8-5 PM)	(205) 942-6168		
ADEM EMR (After hours)	800-583-5560		
Scott Brasfield	Mobile 205-349-7388 Office 205-554-3137		
Louis Guidroz	Mobile 205-344-1881 Office 205-554-3107		
Mark Rose	Mobile 205-242-7328 Office 205-554-3133		
James Bishop	Mobile 205-960-8944 Office 205-554-3108		
Mike Bretzke	Mobile 205-614-2803 Office 205-554-3128		

Oil Spill Notification List (con't.)

Organization Notification Performed As Appropriate	Phone Number	Person Notified	Time Notified
Local Emergency Response (Fire, EMS, Hazmat)	<i>911 (or other number if appropriate)</i>		
Fire Marshal	911		
State Police	911		
Weather Report	945-7000		
Alabama State Oil & Gas Board	(205) 349-2852		

Appendix E

On-Site Tank Inventory and Containment Size

PGP Operating On-Site Tank inventory

Site Designation Containment / Tank I.D.	Stored TankCapacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
VA-Compressor Station # 1						
Steel containment 1A	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 1B	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel filter drain containment 1C	"	"	E	Used Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 1D	563 gal	620 gal	E	Used Oil	672 gal	10' x 6' x 1.5'
Plastic containment 1E	275 gal	300 gal	E	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 1F	165 gal	184 gal	E	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 1G	4,066 gal	4,473 gal	E	Oil/Water	4,704 gal	29' x 9.3' x 2.3'
VA-Emulsion Treatment #1						
Concrete block containment 1A	8,813 gal	9,694 gal	E	Oil/Water	3,890 gal	16' x 13' x 2.5'
Concrete block containment 1B	8,813 gal	9,694 gal	E	Oil/Water	11,370 gal	32' x 19' x 2.5'
Concrete block containment 1C	8,813 gal	9,694 gal	E	Oil/Water	"	"
Earthen containment 1D	1,511 gal	1,663 gal	E	Used Oil	81,444 gal	130' x 67' x 1.2'
Earthen containment 1E	1,511 gal	1,663 gal	E	Used Oil	"	"
Earthen containment 1F	4,406 gal	4,847 gal	E	Used Glycol	"	"
VA-Compressor Station # 2						
Steel containment 2A	285 gal	316 gal	W	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 2B	596 gal	662 gal	W	Used Oil	728 gal	10' x 6.5' x 1.5'
Steel containment 2C	285 gal	316 gal	W	Eng. Oil	713 gal	8' x 1.9'
Plastic containment 2D	275 gal	300 gal	W	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel filter drain containment 2E	"	"	W	Used Oil	239 gal	8' x 4' x 1'
Steel containment 2F	285 gal	316 gal	W	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel Containment 2G	165 gal	184 gal	W	Glycol	323 gal	6' x 4.5' x 1.6'
Steel containment 2H	285 gal	316 gal	W	Eng. Oil	713 gal	8' x 1.9'
Concrete block containment 2I	4,066 gal	4,473 gal	W	Oil/Water	4,704 gal	29' x 9.3' x 2.3'
VA-Emulsion Station # 3						
Concrete block containment 3A	4,242 gal	4,666 gal	W	Oil/Water	24,650 gal	59' x 28' x 2'
Concrete block containment 3B	4,242 gal	4,666 gal	W	Oil/Water	"	"
Concrete block containment 3C	4,066 gal	4,473 gal	W	Oil/Water	"	"
Concrete block containment 3D	4,406 gal	4,847 gal	W	Oil/Water	"	"
Concrete block containment 3E	548 gal	603 gal	W	Glycol	"	"
Concrete block containment 3F	245 gal	269 gal	W	Glycol	"	"
Concrete containment 3G	4,512 gal	4,963 gal	W	Oil/Water	5,026 gal	18' x 16' x 2.3'
Concrete containment 3H	4,066 gal	4,473 gal	W	Oil/Water	4,704 gal	29' x 9.3' x 2.3'

PGP Operating On-Site Tank inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
VA-Compressor Station #4						
Concrete block containment 4A	4,066 gal	4,473 gal	W	Oil/Water	6,598 gal	29' x 10' x 3'
Steel filter drain containmnet 4B	"	"	W	Used Oil	239 gal	8' x 4' x 1'
Steel containment 4C	287 gal	319 gal	W	Used Oil	443 gal	6' x 4.5' x 2.2'
Steel containment 4D	285 gal	316 gal	W	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Plastic containment 4E	275 gal	300 gal	W	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 4F	165 gal	184gal	W	Glycol	342 gal	6' x 4.5' x 1.7'
VA-Compressor Station #5						
Steel containment 5A	285 gal	316 gal	SE	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel filter drain containmnet 5B	"	"	W	Used Oil	239 gal	8' x 4' x 1'
Steel containment 5C	575 gal	638 gal	SE	Used Oil	672 gal	10' x 5.9' x 1.4'
Steel containment 5D	285 gal	316 gal	SE	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Plastic containment 5E	275 gal	300 gal	SE	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 5F	165 gal	184 gal	SE	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 5G	4,066 gal	4,473 gal	SE	Oil/Water	5,058 gal	29' x 10' x 2.3'
VA-Compressor Station #6						
Steel containment 6A	285 gal	316 gal	W	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 6B	589 gal	654 gal	W	Used Oil	672 gal	10' x 6' x 1.5'
Plastic containment 6C	275 gal	300 gal	W	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel filter drain containment 6D	"	"	W	Used Oil	239 gal	8' x 4' x 1'
Steel containment 6E	285 gal	316 gal	W	Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 6F	165 gal	184 gal	W	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 6G	4,066 gal	4,473 gal	W	Oil/Water	5,058 gal	29' x 10' x 2.3'
VA-Compressor Station #11						
Steel containment 11A	600 gal	330 gal*	W	Glycol	342 gal	6' x 4.5' x 1.7'
Steel containment 11B	285 gal	316 gal	W	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Plastic containment 11C	275 gal	300 gal	W	Anti-Freeze	664gal	7' x 4.7' x 2.7'
Steel filter drain containment	55 gal	61 gal	W	Injector Oil	239 gal	8' x 4' x 1'
Concrete block containment 11E	4,066 gal	4,473 gal	W	Oil/Water	4,937 gal	30' x 11' x 2'
* only fill to 300 gallons						

PGP Operating On-Site Tank inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
VA-Compressor Station #12						
Steel containment 12A	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Plastic containment 12B	275 gal	300 gal	E	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 12C	55 gal	61 gal	E	Injector Oil	239 gal	8' x 4' x 1'
Steel containment 12D	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 12E*	600 gal	660 gal*	E	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 12F	4,066 gal	4,473 gal	E	Oil/Water	4,937 gal	30' x 11' x 2'
* only fill to 300 gallons						
VA-Compressor Station #13						
Steel containment 13A	165 gal	184 gal	NE	Glycol	342 gal	6' x 4.5' x 1.7'
Plastic Containment 13B	275 gal	300 gal	NE	Antifreeze	Needs Cont.	Needs Cont.
Steel containment 13C	285 gal	316 gal	NE	Oil	342 gal	6' x 4.5' x 1.7'
Concrete block containment 13D	4,066 gal	4,473 gal	NE	Oil/Water	4,937 gal	30' x 11' x 2'
Steel Containment 13E	55 gal	61 gal	NE	Injector Oil	342 gal	6' x 4.5' x 1.7'
VA-Compressor Station #14						
Steel Containment/Filter Drain 14A	"	"	E	Waste Oil	240 gal	8.2' x 4' x 1'
Steel containment 14B	275 gal	300 gal	E	Anti-Freeze	713 gal	8' x 1.9'
Steel containment 14C	285 gal	316 gal	E	Oil	713 gal	8' x 1.9'
Concrete block containment 14D	4,066 gal	4,473 gal	E	Oil/Water	4,937 gal	30' x 11' x 2'
Steel Containment 14E	563 gal	624 gal	E	Glycol	672 gal	9' x 5' x 2'
VA- Vance Yard						
Concrete containment V1	275 gal	300 gal	SE	Gear Oil	4545 gal	39' x 39' x 0.4'
Concrete containment V2	275 gal	300 gal	SE	Gear Oil	"	"
Concrete containment V3	275 gal	300 gal	SE	Gear Oil	"	"
Concrete containment V4	300 gal	330 gal	SE	Scale Inhibit	"	"
Concrete containment V5	575 gal	638 gal	SE	Diesel	"	"
Earthen Containment V6	3,007 gal	3,338 gal	SE	Used Glycol	3,697 gal	30' x 11' x 1.5'
VA-Compressor Station #22						
Steel containment 22A	285 gal	316 gal	SW	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel filter drain containment 22B	"	"	SW	Used oil	239 gal	8' x 4' x 1'
Plastic containment 22C	275 gal	300 gal	SW	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 22D	165 gal	184 gal	SW	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 22E	4,066 gal	4,473 gal	SW	Oil/Water	11,355 gal	30' x 11' x 4.6'

PGP Operating On-Site Tank Inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
VA-Compressor Station #31						
Steel containment 31A	285 gal	316 gal	N	Eng. Oil	729 gal	10' x 6.5' x 1.5'
Steel containment 31B	575 gal	632 gal	N	Used Oil	673 gal	10' x 6' x 1.5'
Plastic containment 31C	275 gal	300 gal	W	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Earthen containment 31D	500 gal	550 gal	W	Scale inhibit	1,700 gal	20' x 12' x 1'
Earthen containment 31D	4,400 gal	4,840 gal	W	Oil/Water	15,754 gal	52' x 27' x 1.5'
Earthen containment 31E	4,400 gal	4,840 gal	W	Oil/Water	"	"
Earthen containment 31F	845 gal	930 gal	W	Used Oil	"	"
Steel containment 31G	165 gal	184 gal	W	Glycol	729 gal	10' x 6.5' x 1.5'
VA-Compressor Station #32						
Concrete containment 32A	575 gal	638 gal	E	Used Oil	1,457 gal	20' x 6.5' x 1.5'
Plastic containment 32B	275 gal	300 gal	E	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 32C	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Earthen containment 32D	845 gal	929 gal	N	Used Oil	20,871 gal	55' x 20' x 2.5'
Earthen containment 32E	4,400 gal	4,840 gal	N	Oil/Water	"	"
Earthen containment 32F	4,400 gal	4,840 gal	N	Oil/Water	"	"
Earthen containment 32G	4,406 gal	4,847 gal	SW	Glycol/Water	4,940 gal	21' x 21' x 1.5'
Concrete containment 32H	200 gal	220 gal	SW	Glycol	1310 gal	10' x 6.5' x 1.5'
VA-Compressor Station #33						
Earthen containment 33A	4,400 gal	4,840 gal	E	Oil/Water	13,353 gal	30' x 17' x 3.5'
Earthen containment 33B	845 gal	929 gal	E	Used Oil	"	"
Earthen containment 33C	4,400 gal	4,840 gal	E	Oil/Water	"	"
Steel containment 33D	165 gal	184 gal	E	Glycol	342 gal	6' x 4.5' x 1.7'
Plastic containment 33E	275 gal	300 gal	E	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 33F	285 gal	316 gal	E	Eng. Oil	342 gal	6' x 4.5' x 1.7'
VA-Compressor Station #34						
Concrete containment 34A	285 gal	300 gal	SW	Eng. Oil	728	10' x 6.5' x 1.5'
Plastic containment 34B	275 gal	300 gal	SW	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Earthen containment 34C	845 gal	929 gal	SW	Used Oil	42,011 gal	60' x 36' x 2.6'
Earthen containment 34D	4,406 gal	4,847 gal	SW	Oil/Water	"	"
Earthen containment 34E	4,406 gal	4,847 gal	SW	Oil/Water	"	"
Earthen containment 34F	4,406 gal	4,847 gal	SW	Used Glycol	19,483 gal	27' x 23' x 4.2'
Steel containment 34G	316 gal	347 gal	SW	Glycol	353 gal	7.5' x 4.5' x 1.5'
Concrete containment 34H	300 gal	330 gal	SW	Corr. Inh.	681	10' x 6.5' x 1.5'
VA-Delivery Station #36						
Steel containment 36A	563 gal	624 gal	SE	Glycol	672 gal	9' x 5' x 2'
Earthen containment 36B			SE	Oil/Water		

PGP Operating On-Site Tank Inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H or D x H
OG-Compressor Station #2						
Plastic containment 2A	275 gal	300 gal	SW	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Steel containment 2B	285 gal	316 gal	SW	Eng. Oil	342 gal	6' x 4.5' x 1.7'
Steel containment 2C	275 gal	300 gal	SW	Anti-Freeze	713 gal	8' x 1.9'
Steel containment 2D	285 gal	316 gal	SW	Engine Oil	661 gal	7.7' x 1.9'
Steel containment 2E	285 gal	316 gal	SW	Screw Oil	713 gal	8' x 1.9'
Concrete block containment 2F	548 gal	602 gal	SW	Used Oil	7,745 gal	22' x 21' x 2.2'
Steel containment 2G	165 gal	184 gal	SW	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 2H	4,094 gal	4,503 gal	SW	Oil/Water	4,835 gal	29' x 9.5' x 2.3'
OG-Compressor Station #3						
Steel containment 3A	285 gal	316 gal	NE	Engine Oil	610 gal	7.3' x 1.9'
Steel containment 3B	285 gal	316 gal	NE	Screw Oil	706 gal	7.75' x 2'
Steel containment 3C	285 gal	316 gal	NE	Engine Oil	342 gal	6.0' x 4.5' x 1.7'
Steel containment 3D	330 gal	363 gal	NE	Anti-Freeze	661 gal	7.7' x 1.9'
Steel containment 3E	330 gal	363 gal	NE	Anti-Freeze	661 gal	7.7' x 1.9'
Steel containment 3F	520 gal	572 gal	NE	Used Oil	670 gal	8' x 5.6' x 2.0'
Steel containment 3G	165 gal	184 gal	NE	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 3H	4,094 gal	4,503 gal	NE	Oil/Water	4,835 gal	29' x 9.5' x 2.3'

PGP Operating On-Site Tank Inventory

OG-Compressor Station #4						
Steel containment 4A	285 gal	316 gal	S	Screw Oil	342 gal	6.0' x 4.5' x 1.7'
Steel containment 4B	580 gal	638 gal	S	Engine Oil	713 gal	8.0' x 1.9'
Steel containment 4C	330 gal	363 gal	S	Anti-Freeze	964 gal	9.3' x 1.9'
Steel containment 4D	285 gal	316 gal	S	Used Oil	603 gal	8' x 5.5' x 1.8'
Steel containment 4E	165 gal	184 gal	S	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete block containment 4F	4,094 gal	4,503 gal	S	Oil/Water	4,835 gal	29' x 9.5' x 2.3'
O-G Gas Treatment Station#4-6						
Concrete Containment 4-6A	4,200 gal	4,662gal	S	Oil/Water	5,141 gal	18.4' x 18.7' x 2'
Steel Containment 4-6B	165 gal	184 gal	S	Glycol	342 gal	6' x 4.5' x 1.7'
OG-Compressor Station #5						
Steel containment 5A	285 gal	316 gal	SE	Engine Oil	644 gal	7.6' x 1.9'
Steel containment 5B	285 gal	316 gal	SE	Screw Oil	644 gal	7.6' x 1.9'
Steel containment 5C	285 gal	316 gal	SE	Anti-Freeze	540 gal	7.0' x 1.9'
Steel containment 5D	580 gal	638 gal	SE	Used Oil	658 gal	8.0' x 5.5' x 2.0'
Steel containment 5E	165 gal	184 gal	SE	Glycol	342gal	6.0' x 4.5' x 1.7'
Concrete block containment 5F	4,024 gal	4,426 gal	SE	Oil/Water	4,835 gal	29' x 9.5' x 2.3'
OG-Emulsion Treatment #6						
Concrete containment 6A	4,512 gal	4,963 gal	NW	Oil/Water	13,884 gal	37' x 25' x 2'
Concrete containment 6B	4,512 gal	4,963 gal	NW	Oil/Water	"	"
Concrete containment 6C	4,512 gal	4,963 gal	NW	Oil/Water	"	"
Concrete block containment 6D	3,940 gal	4,334 gal	NW	Oil/Water	4,690 gal	29.3' x 9.5' x 2.2'

PGP Operating On-Site Tank Inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
OG-Compressor Station #7						
Steel containment 7A	285 gal	316 gal	W	Screw Oil	713 gal	8.0' x 1.9'
Steel containment 7B	385 gal	316 gal	W	Engine Oil	713 gal	8.0' x 1.9'
Steel containment 7C	275 gal	300gal	W	Anti-Freeze	713 gal	8.0' x 1.9'
Steel containment 7D	275 gal	300gal	W	Anti-Freeze	713 gal	8.0' x 1.9'
Compressor pad containment 7E	548 gal	603 gal	W	Used Oil	13,445 gal	90' x 40' x .5'
Earthen containment 7F	8,812 gal	19,386 gal	W	Oil/Water	19,548 gal	56' x 28' x 1.6'
Earthen containment 7G	8,812 gal	19,386 gal	W	Oil/Water	19,548 gal	56' x 28' x 1.6'
Concrete block containment 7H	515 gal	566 gal	W	Glycol	862 gal	9.3' x 2.3' x 1.6'
OG-Treatment Station #7-8						
Concrete Containment 7-8A	4,200 gal	4,662 gal	SW	Oil/Water	4,404 gal	18.2' x 16.2' x 2'
Steel Containment 7-8B	165 gal	184 gal	SW	Glycol	664 gal	7' x 4.7' x 2.7'
OG-Compressor Station #8						
Steel containment 8A	285 gal	316 gal	S	Screw Oil	713 gal	8.0' x 1.9'
Steel containment 8B	275 gal	300 gal	S	Antifreeze	713 gal	8.0' x 1.9'
Compressor pad containment 8C	285 gal	316 gal	S	Engine Oil	13,445 gal	90' x 40' x .5'
Compressor pad containment 8D	285gal	316 gal	S	Engine Oil	13,445 gal	90' x 40' x .5'
Compressor pad containment 8E	580 gal	644 gal	S	Used Oil	13,445 gal	90' x 40' x .5'
Steel containment 8F	285 gal	316 gal	S	Engine Oil	713 gal	8.0' x 1.9'
Plastic containment 8G	275 gal	300 gal	S	Anti-Freeze	664 gal	7'x 4.7''x 2.7'
Concrete block containment 8H	564gal	620 gal	S	Diesel	560 gal	8.7' x 3.6' x 2.2'
Earthen containment 8I	8,812gal	9,693 gal	S	Oil/Water	14,500 gal	65' x 20' x 1.5'
Earthen containment 8J	8,812gal	9,693 gal	S	Oil/Water	14,500 gal	65' x 20' x 1.5'
Concrete block containment 8K	515 gal	566 gal	S	Glycol	862 gal	9.3' x 2.3' x 1.6'
OG-Compressor Station #10						
Earthen containment 10A	564gal	620gal	SE	Diesel	723 gal	8.5' x 10.5' x 1.1'
Glycol Tank Containment 10B	165 gal	184 gal	SE	Glycol	342 gal	6' x 4.5' x 1.7'
Earthen Containment 10C	579 gal	643 gal	SE	Eng. oil	874 gal	13'x 9'x 1'
Steel Containment 10D	285 gal	316 gal	SE	Eng. oil	427 gal	5.6'x 6' x 1.7'
Plastic Containment 10E	275 gal	300 gal	SE	Antifreeze	664 gal	7'x 4.7'x 2.7'
Compressor Pad Containment 10F	275 gal	316 gal	SE	Antifreeze	16,800 gal	36'x 37'x 1.2'
Steel Containment 10G	275 gal	300 gal	SE	Eng. Oil	427 gal	5.6' x 6' x 1.7'
Compressor Pad Containment 10H	563gal	664 gal	SE	Used Oil	16,800 gal	90' x 50' x .5'
Earthen containment 10I	8,910gal	9,801gal	SE	Oil/Water	11,377gal	26' x 27' x 2.2'
Earthen containment 10J	10,575gal	11,632 gal	SE	Oil/Water	12,454 gal	36' x 37' x 1.2'

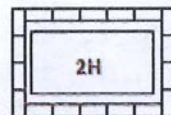
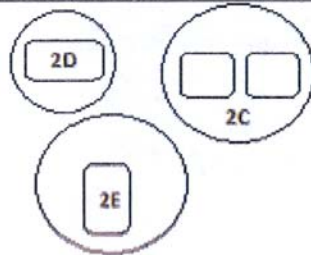
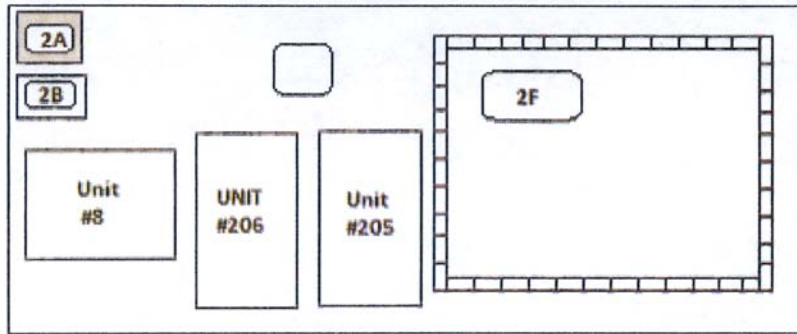
PGP Operating On-Site Tank inventory

Site Designation Containment / Tank I.D.	Stored Tank Capacity	110% Stored Capacity	Spill Direction	Material stored	Containment Capacity Total	Containment Dimensions L x W x H
OG-Treatment Station #10-10						
Steel containment 10-10A	165 gal	184 gal	S	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete containment 10-10B	4,200 gal	4,662 gal	S	Oil/Water	5,141 gal	18.7' x 18.4' x 2'
OG-Compressor Station #11						
Earthen containment 11A	564 gal	620 gal	W	Diesel	672 gal	14' x 7' x 1'
Compressor pad containment 11B	285 gal	316 gal	W	Eng. Oil	16,800 gal	90' x 50' x .5'
Compressor pad containment 11C	563 gal	625 gal	W	Used Oil	16,800 gal	90' x 50' x .5'
Compressor pad containment 11D	285 gal	316 gal	W	Eng. Oil	16,800 gal	90' x 50' x .5'
Earthen containment 11E	8,812 gal	9,693 gal	W	Oil/Water	14,608 gal	27' x 28' x 2.6'
Earthen containment 11F	12,690 gal	13,959 gal	W	Oil/Water	16,755 gal	35' x 32' x 2'
Steel Containment 11G	563 gal	625 gal	W	Glycol		
OG-Compressor Station #12						
Steel containment 12A	165 gal	182 gal	SW	Glycol	342 gal	6' x 4.5' x 1.7'
Compressor pad containment 12B	285 gal	300 gal	SW	Eng. Oil	16,800 gal	90' x 50' x .5'
Plastic containment 12C	275 gal	300 gal	SW	Anti-Freeze	664 gal	7' x 4.7' x 2.7'
Earthen containment 12D	8,812 gal	9,693 gal	SW	Oil/Water	11,688 gal	25' x 25' x 25'
Compressor pad containment 12E	509 gal	560 gal	SW	Used Oil	16,800 gal	90' x 50' x .5'
Earthen containment 12F	12,690 gal	13,959 gal	SW	Oil/Water	14,661 gal	30' x 28' x 2.3'
OG-Treatment Station #12-11						
Concrete Containment 12-11A	4,200 gal	4,662 gal	N	Oil/Water	4,407 gal	18' x 16.3' x 2'
Steel Containment 12-11B	165 gal	184 gal	N	Glycol	342 gal	6' x 4.5' x 1.7'
OG-Compressor Station #15						
Steel containment 15A	285 gal	316 gal	N	Screw Oil	661 gal	7.7' x 1.9'
Steel containment 15B	275 gal	300 gal	N	Antifreeze	661 gal	7.7' x 1.9'
Steel containment 15C	275 gal	300 gal	N	Antifreeze	661 gal	7.7' x 1.9'
Steel containment 15D	285 gal	300 gal	N	Eng. Oil	661 gal	7.7' x 1.9'
Steel containment 15E	165 gal	184 gal	N	Glycol	342 gal	6' x 4.5' x 1.7'
Concrete containment 15F	4,500 gal	4,950 gal	N	Oil/Water	18,700 gal	50' x 25' x 2'
Concrete containment 15G	4,500 gal	4,950 gal	N	Oil/Water	"	"
Concrete containment 15H	4,500 gal	4,950 gal	N	Oil/Water	"	"
Concrete containment 15I	4,500 gal	4,950 gal	N	Oil/Water	"	"
OG-Treatment Station #15-1						
Concrete containment 15-1A	4,200 gal	4,662 gal	S	Oil/Water	5,224 gal	18.7' x 18.7' x 2'

Appendix F

Facility On-Site Tank Location Map

(See Maps)



NOTE: see page E-6 for tank identification



OAK GROVE
COMPRESSOR STATION # 2
SPCC TANK LOCATION

DATE: AUGUST, 2016

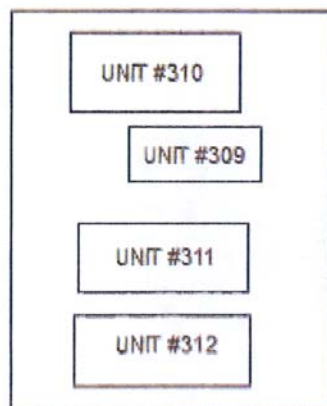
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3G



3F



UNIT #310

UNIT #309

UNIT #311

UNIT #312



3A



3D



3E



3B



3C



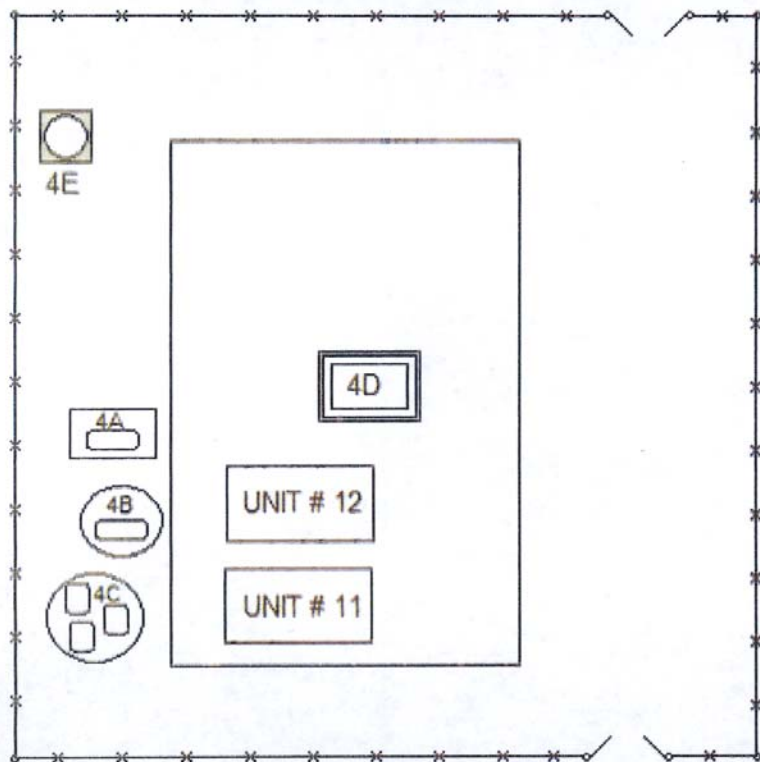
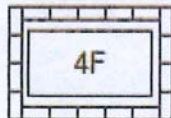
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OAK GROVE
COMPRESSOR STATION # 3
SPCC TANK LOCATION

NOTE: see pageE-6for tank identification

DATE: AUGUST, 2016

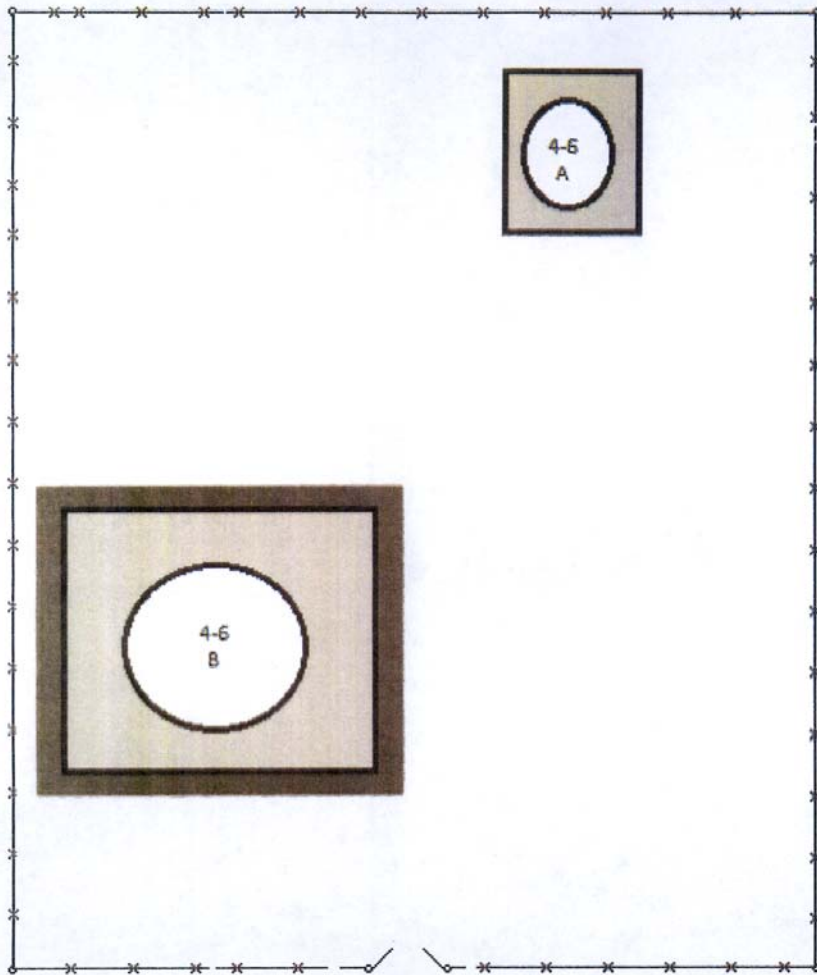
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OAK GROVE
COMPRESSOR STATION # 4
SPCC TANK LOCATION

NOTE: see pageE-4 for tank identification

DATE: AUGUST, 2016 SCALE: NTS



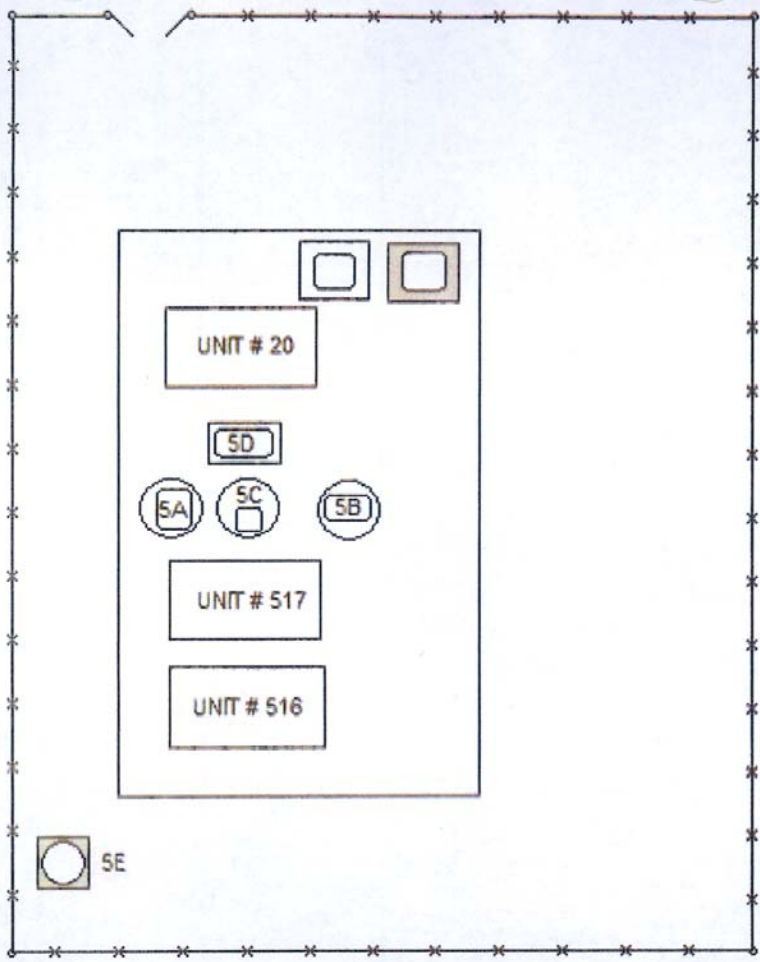
Note: See page E-6 for tank identification



OAK GROVE
GAS TREATMENT STATION 4-6
SPCC TANK LOCATION

DATE: AUGUST, 2016

SCALE: NTS



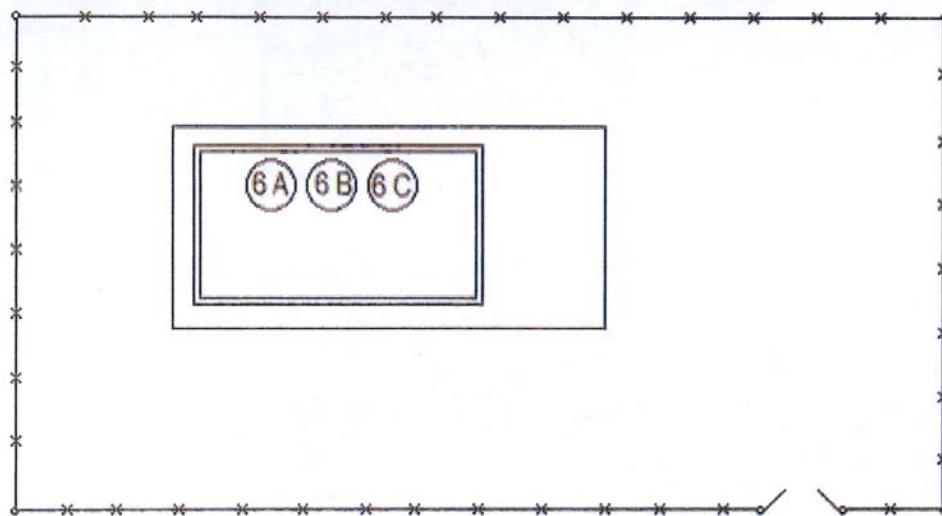
NOTE: see page E-7 for tank identification



OAK GROVE
COMPRESSOR STATION # 5
SPCC TANK LOCATION

DATE: AUGUST, 2016 SCALE: NTS

6D



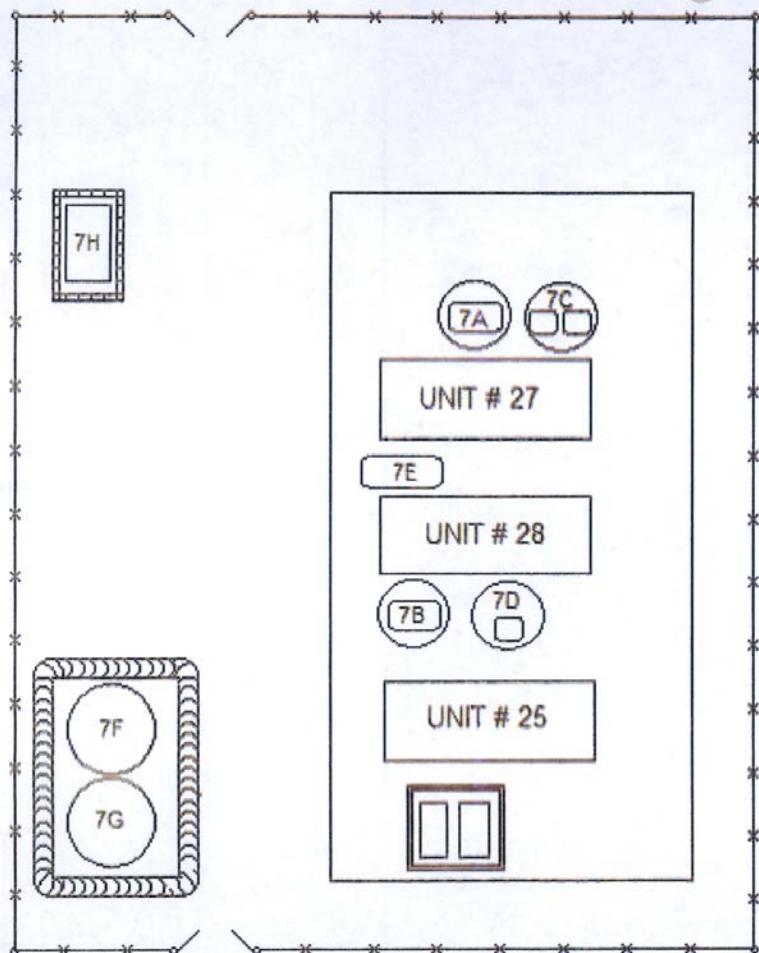
NOTE: see page E-7 for tank identification



OAK GROVE
EMULSION TREATMENT # 6
SPCC TANK LOCATION

DATE: August, 2016

SCALE: NTS

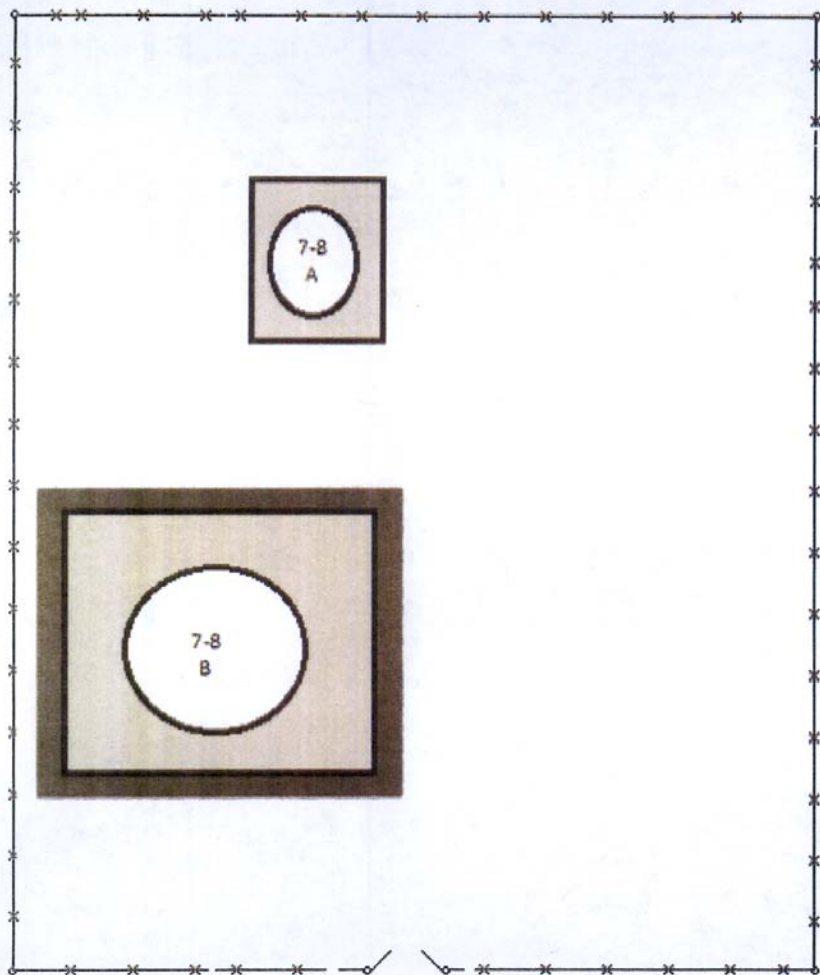


OAK GROVE
COMPRESSOR STATION # 7
SPCC TANK LOCATION

NOTE: see page E-7 for tank identification

DATE: AUGUST, 2016

SCALE: NTS



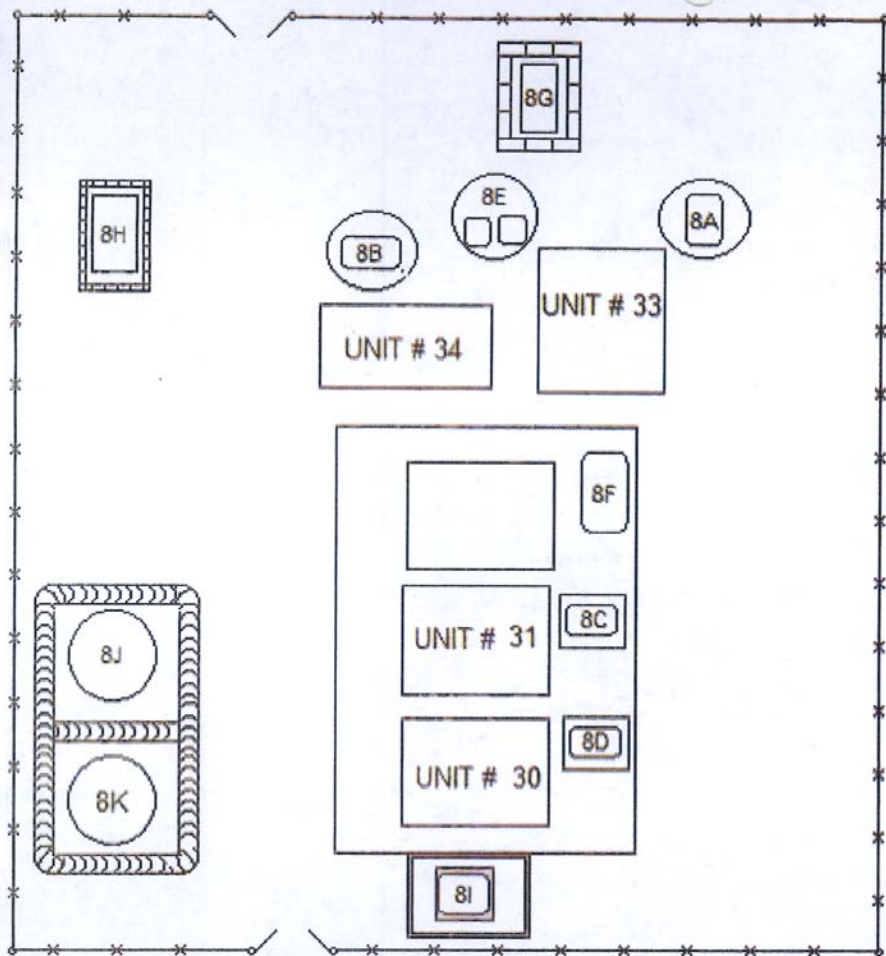
Note: See page E-7 for tank identification



OAK GROVE
GAS TREATMENT STATION 7-8
SPCC TANK LOCATION

DATE: AUGUST, 2016

SCALE: NTS

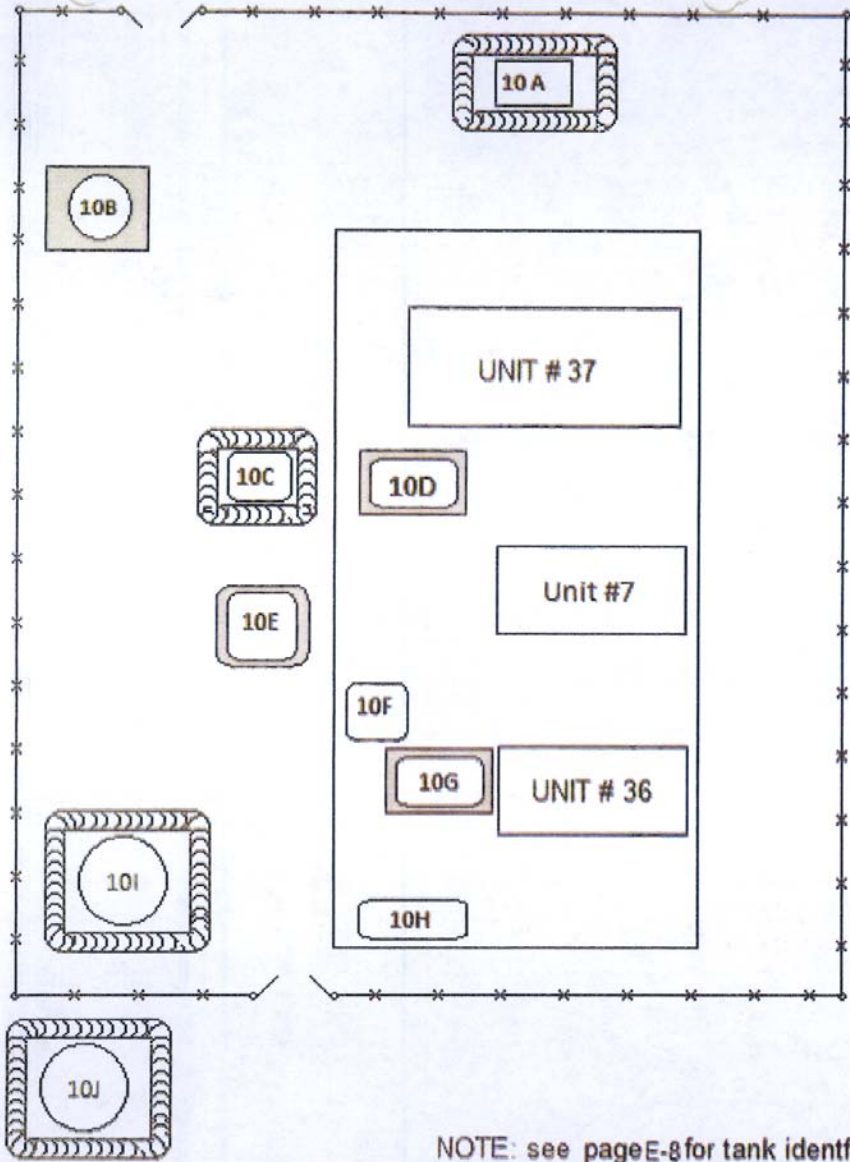


PG&E

OAK GROVE
COMPRESSOR STATION # 8
SPCC TANK LOCATION

NOTE: see page E-7 for tank identification

DATE: AUGUST, 2016 SCALE: NTS



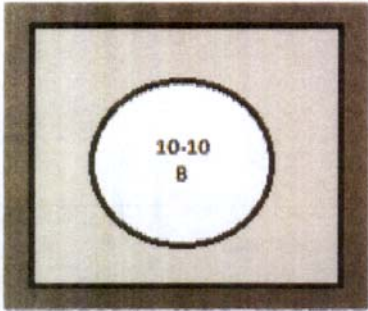
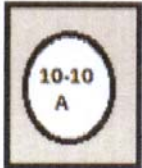
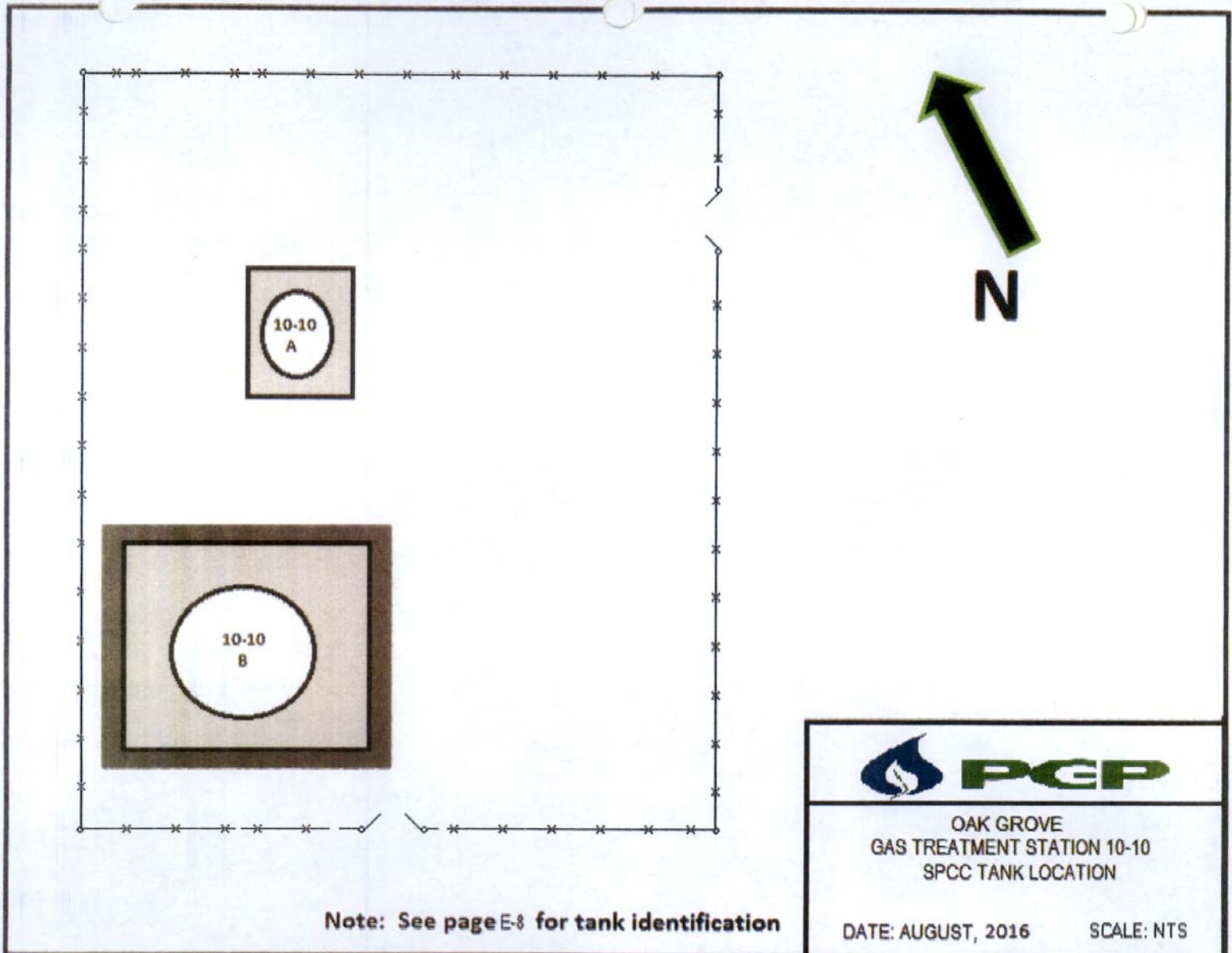
NOTE: see page E-8 for tank identification



OAK GROVE
COMPRESSOR STATION # 10
SPCC TANK LOCATION

DATE: AUGUST, 2016

SCALE: NTS



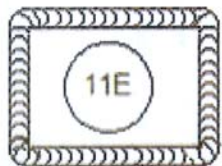
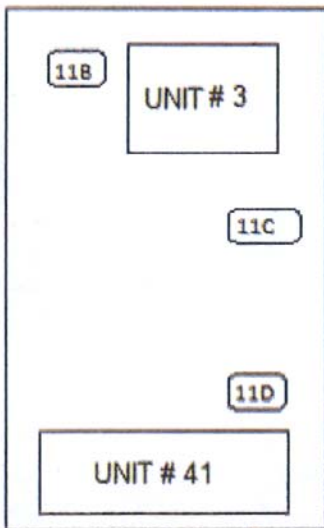
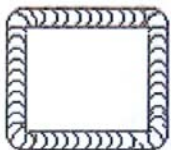
Note: See page E-8 for tank identification



OAK GROVE
GAS TREATMENT STATION 10-10
SPCC TANK LOCATION

DATE: AUGUST, 2016

SCALE: NTS



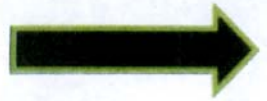
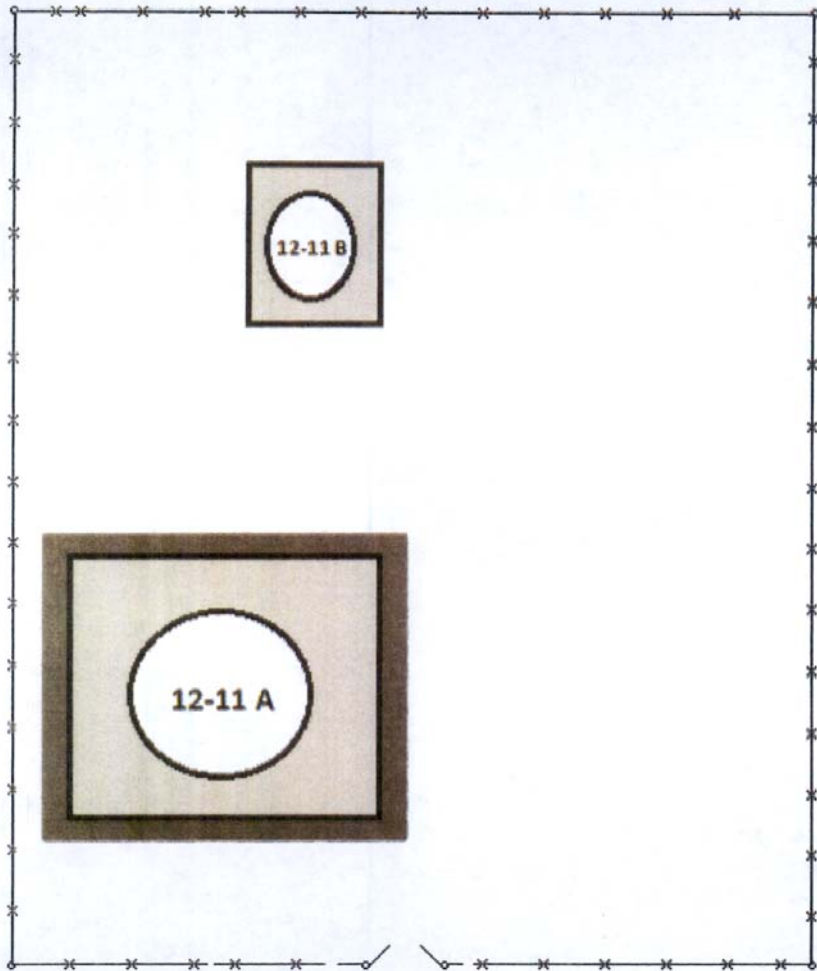
NOTE: see page E-8 for tank identification



OAK GROVE
COMPRESSOR STATION #11
SPCC TANK LOCATION

DATE: August, 2016

SCALE: NTS



N

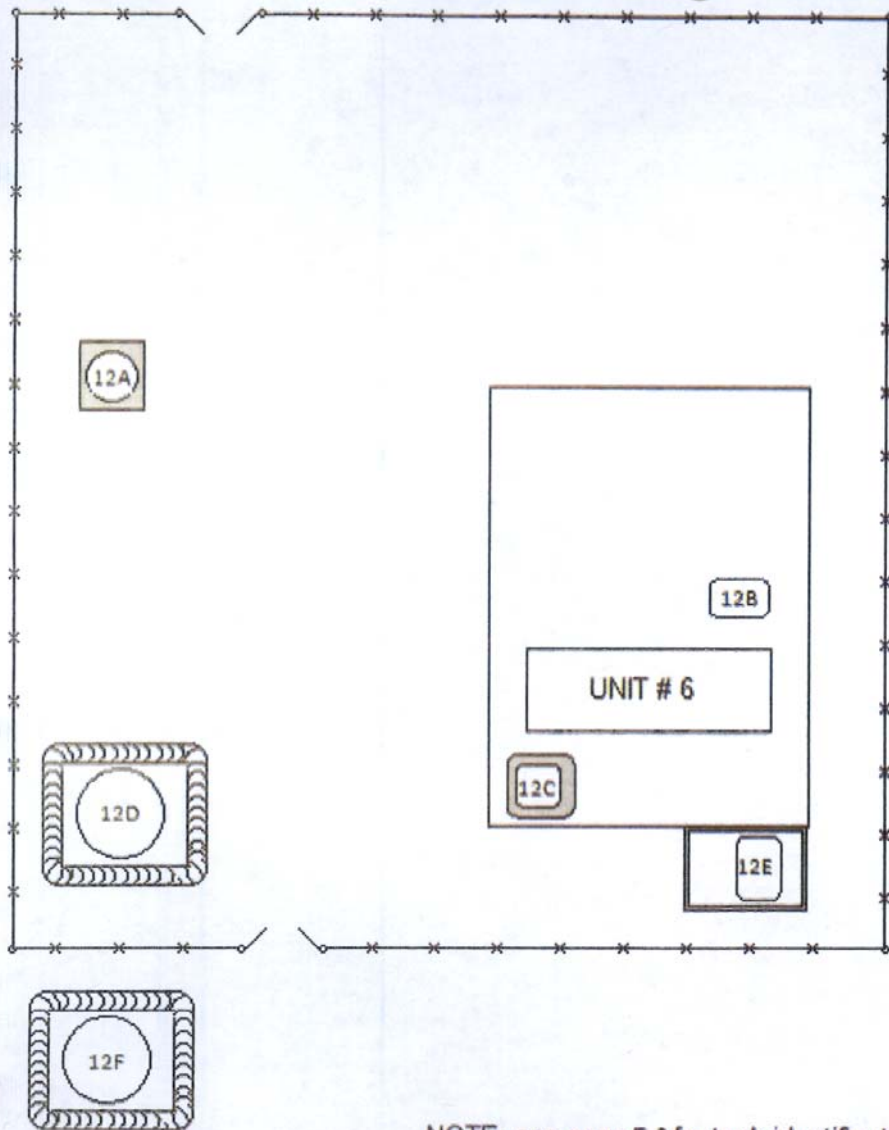


OAK GROVE
GAS TREATMENT STATION 11-12
SPCC TANK LOCATION

Note: See page E-8 for tank identification

DATE: AUGUST, 2016

SCALE: NTS



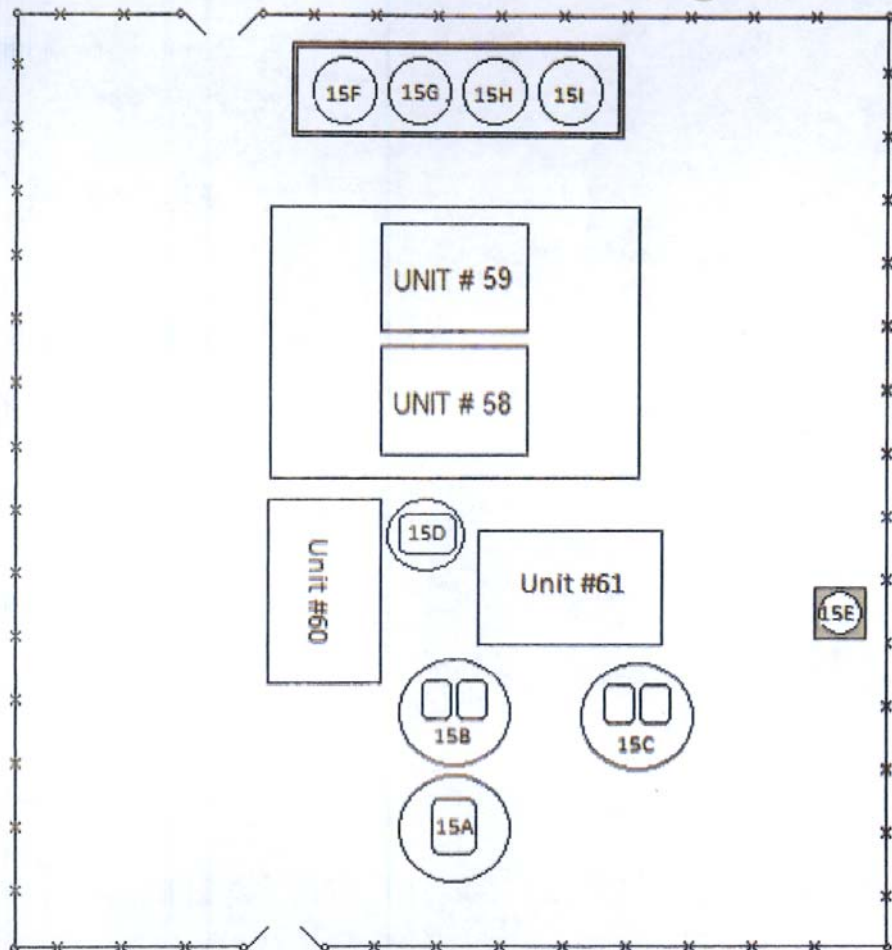
NOTE: see page E-8 for tank identification



OAK GROVE
COMPRESSOR STATION # 12
SPCC TANK LOCATION

DATE: August, 2016

SCALE: NTS

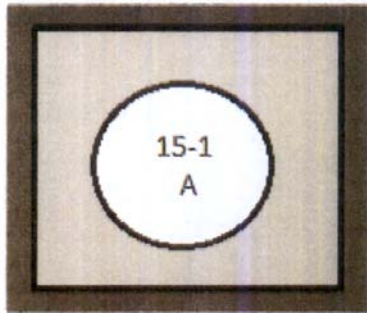


OAK GROVE
 COMPRESSOR STATION # 15
 SPCC TANK LOCATION

NOTE: see page E-9 for tank identification

DATE: August, 2016

SCALE: NTS



N

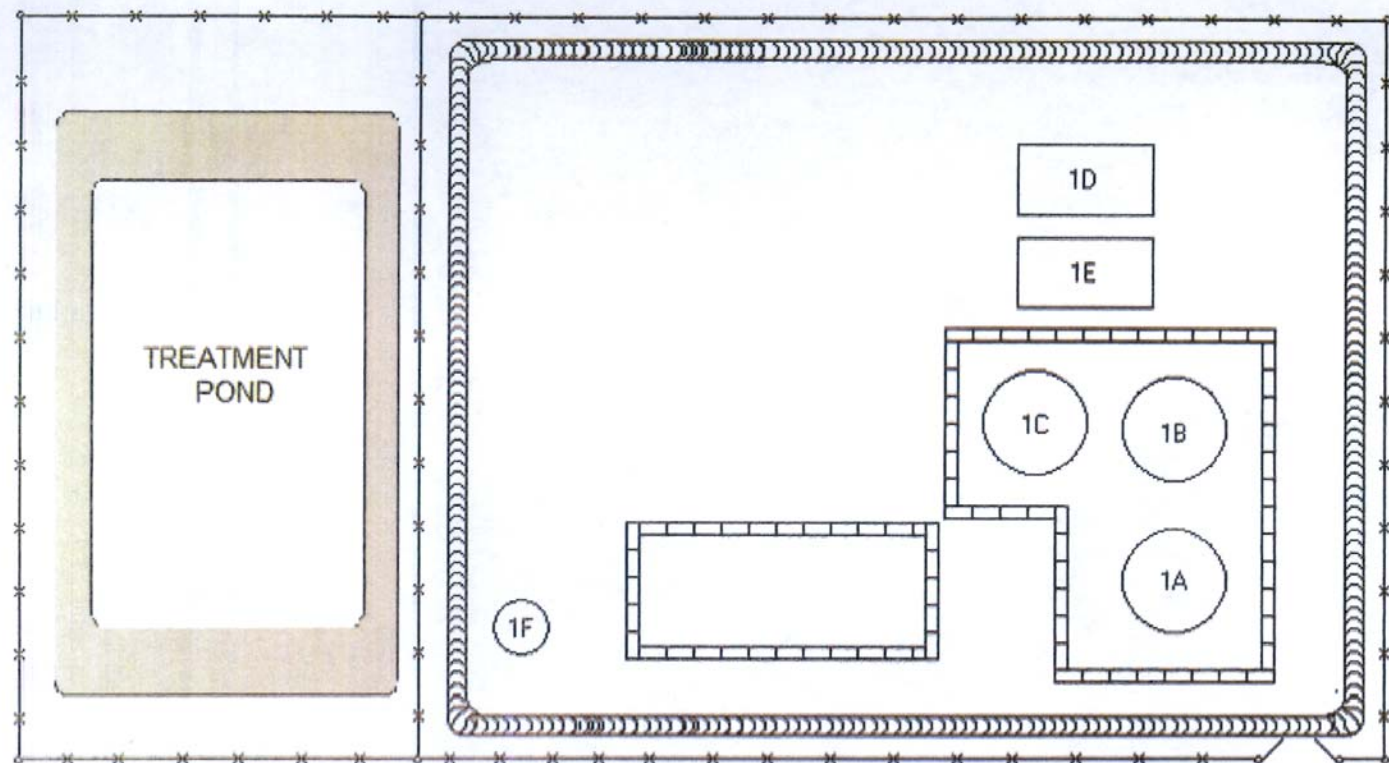


OAK GROVE
TREATMENT STATION 15-1
SPCC TANK LOCATION

Note: See page E-9 for tank identification

DATE: AUGUST, 2016

SCALE: NTS

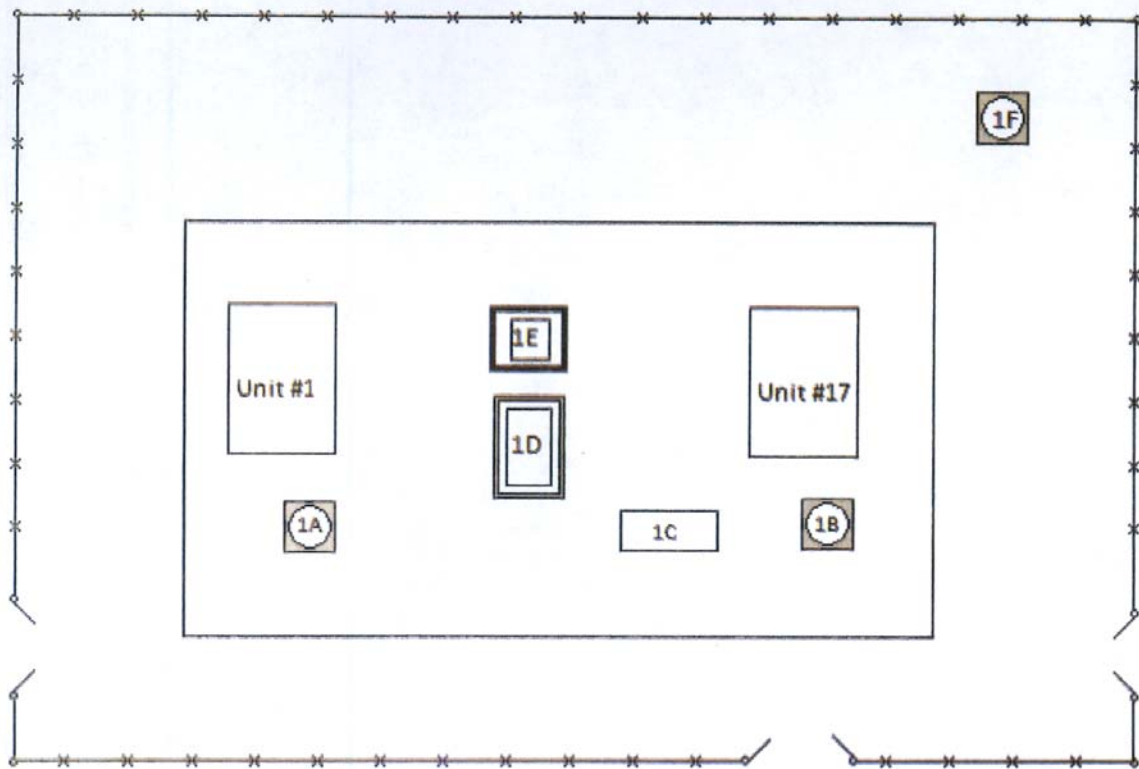


VANCE
EMULSION TREATMENT #1
SPCC TANK LOCATION

NOTE: see page E-2 for tank identification

DATE: August, 2016

SCALE: NTS



1F

Unit #1

1E

Unit #17

1D

1A

1C

1B

1G

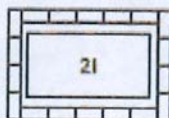


VANCE
COMPRESSOR STATION #1
SPCC TANK LOCATION

NOTE: see page E-2 for tank identification

DATE: August, 2016

SCALE: NTS



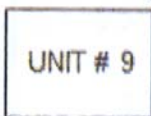
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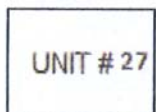
2G



2H



UNIT # 9



UNIT # 27



2F



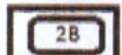
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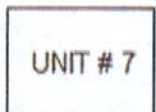
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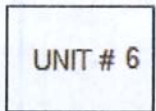
2C



2B



UNIT # 7



UNIT # 6



2A

NOTE: see page E-2 for tank identification

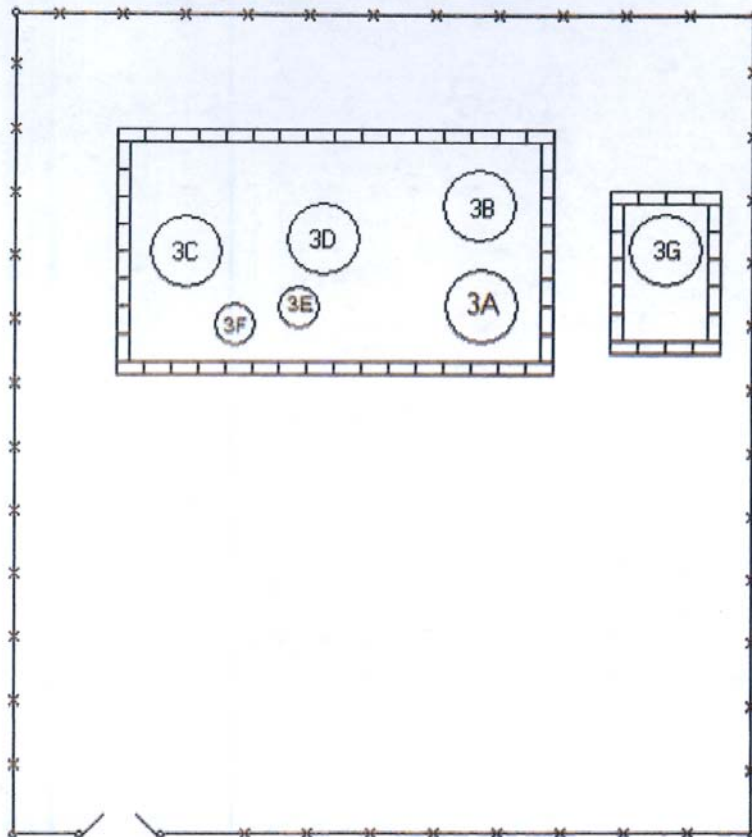


PGP

VANCE
COMPRESSOR STATION #2
SPCC TANK LOCATION

DATE: August, 2016

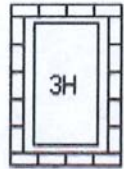
SCALE: NTS



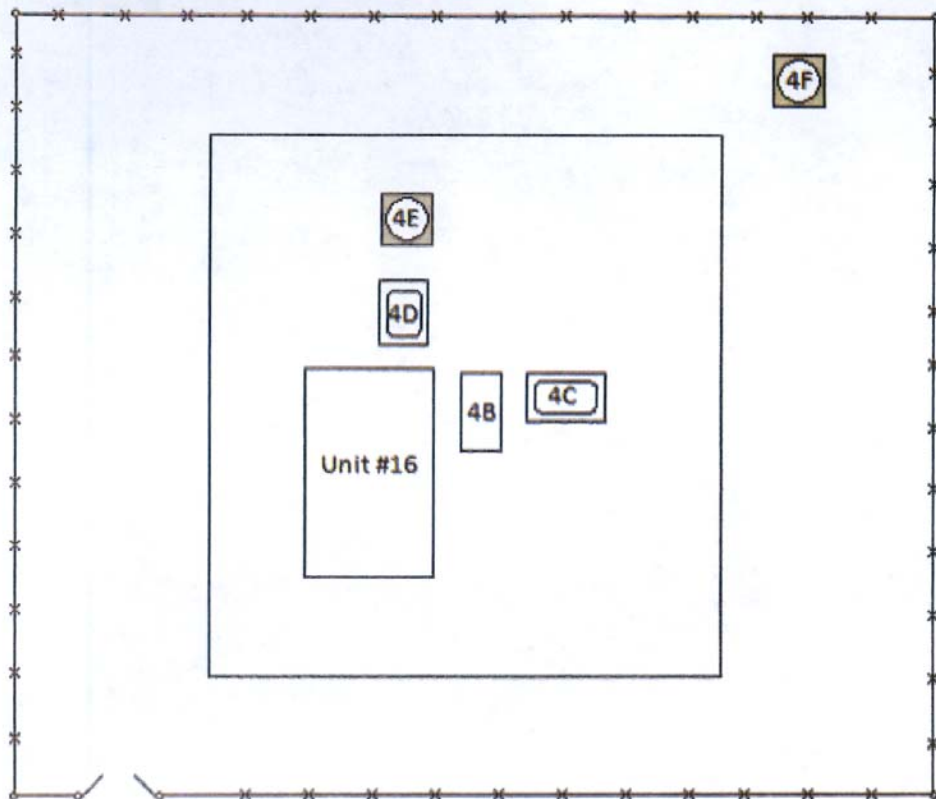
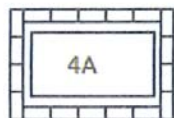
NOTE: see page E-2 for tank identification



VANCE
EMULSION TREATMENT # 3
SPCC TANK LOCATION



DATE: AUGUST, 2016 SCALE: NTS

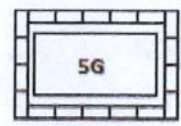
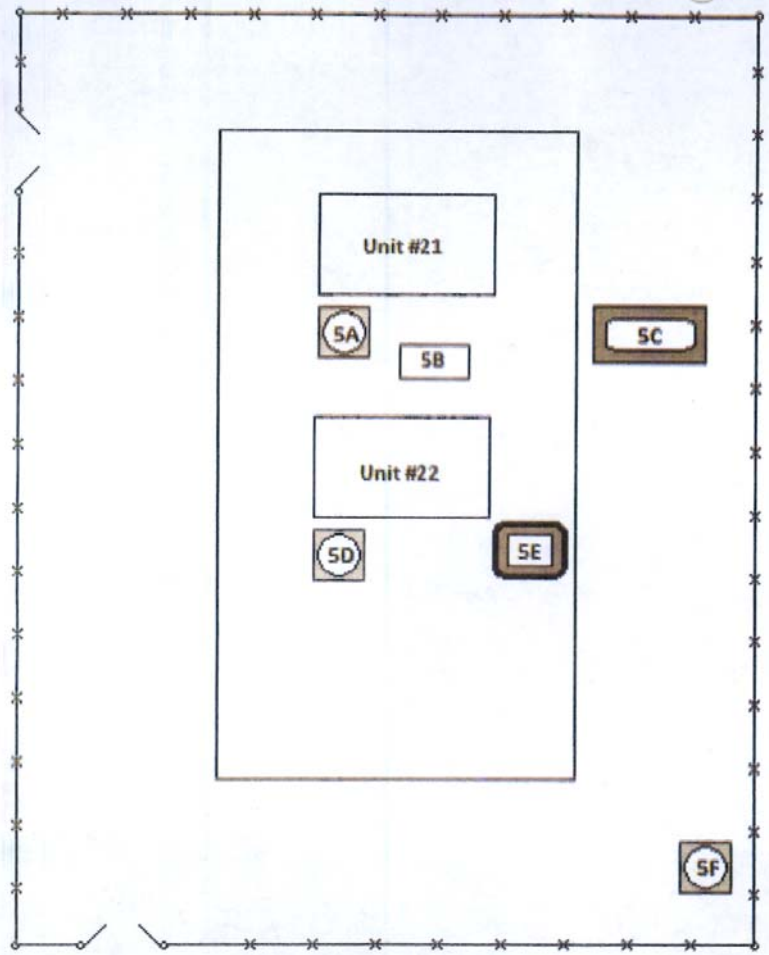


VANCE
COMPRESSOR STATION # 4
SPCC TANK LOCATION

NOTE: see page E-3 for tank identification

DATE: August, 2016

SCALE: NTS



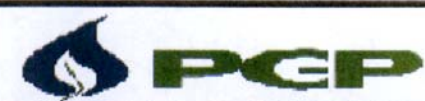
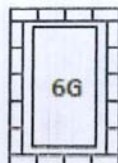
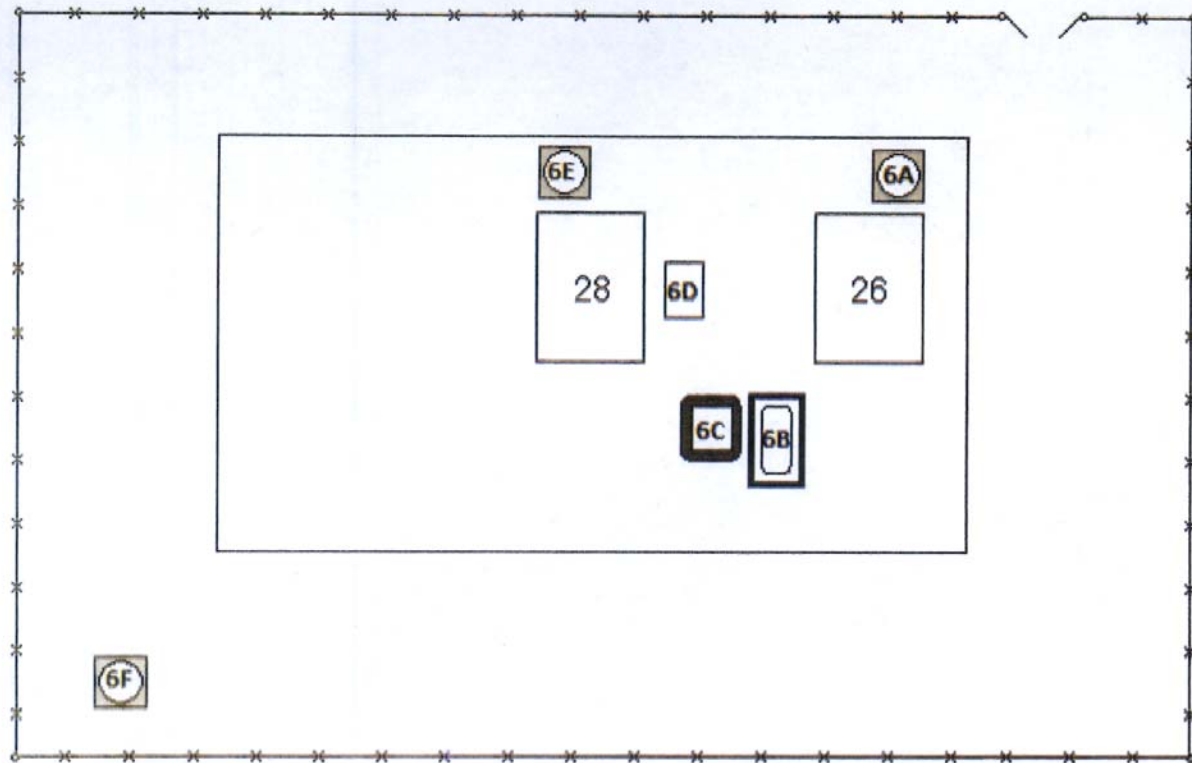
NOTE: see page E-3 for tank identification



VANCE
COMPRESSOR STATION #5
SPCC TANK LOCATION

DATE: **August, 2016**

SCALE: NTS

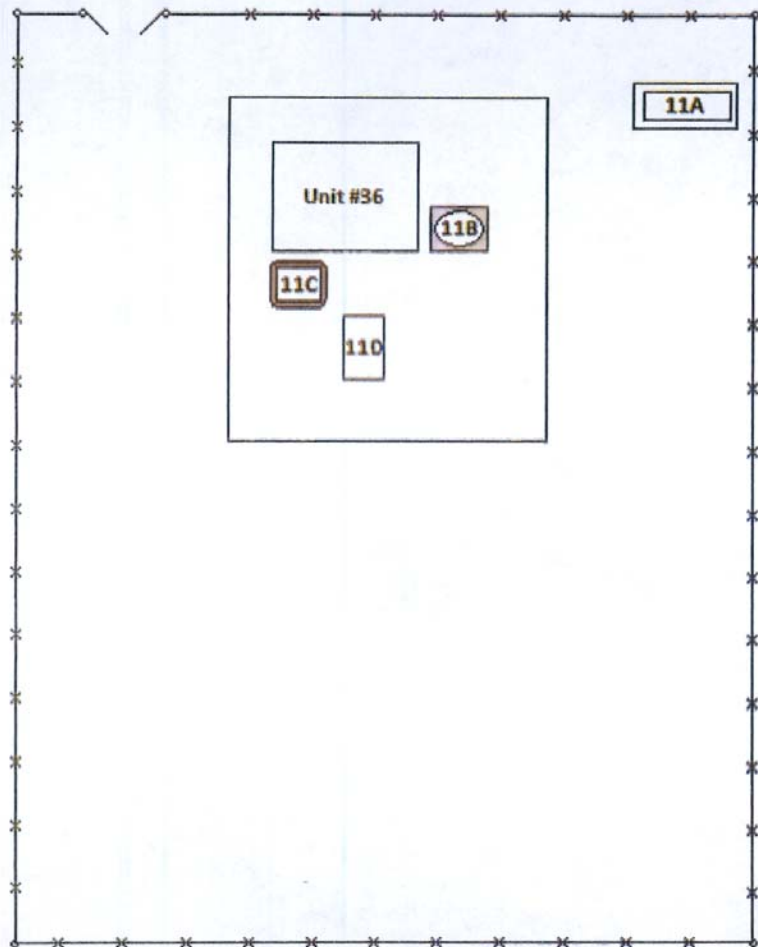


VANCE
COMPRESSOR STATION #6
SPCC TANK LOCATION

NOTE: see page E-3 for tank identification

DATE: August, 2016

SCALE: NTS



* only fill tank to 300 gallons



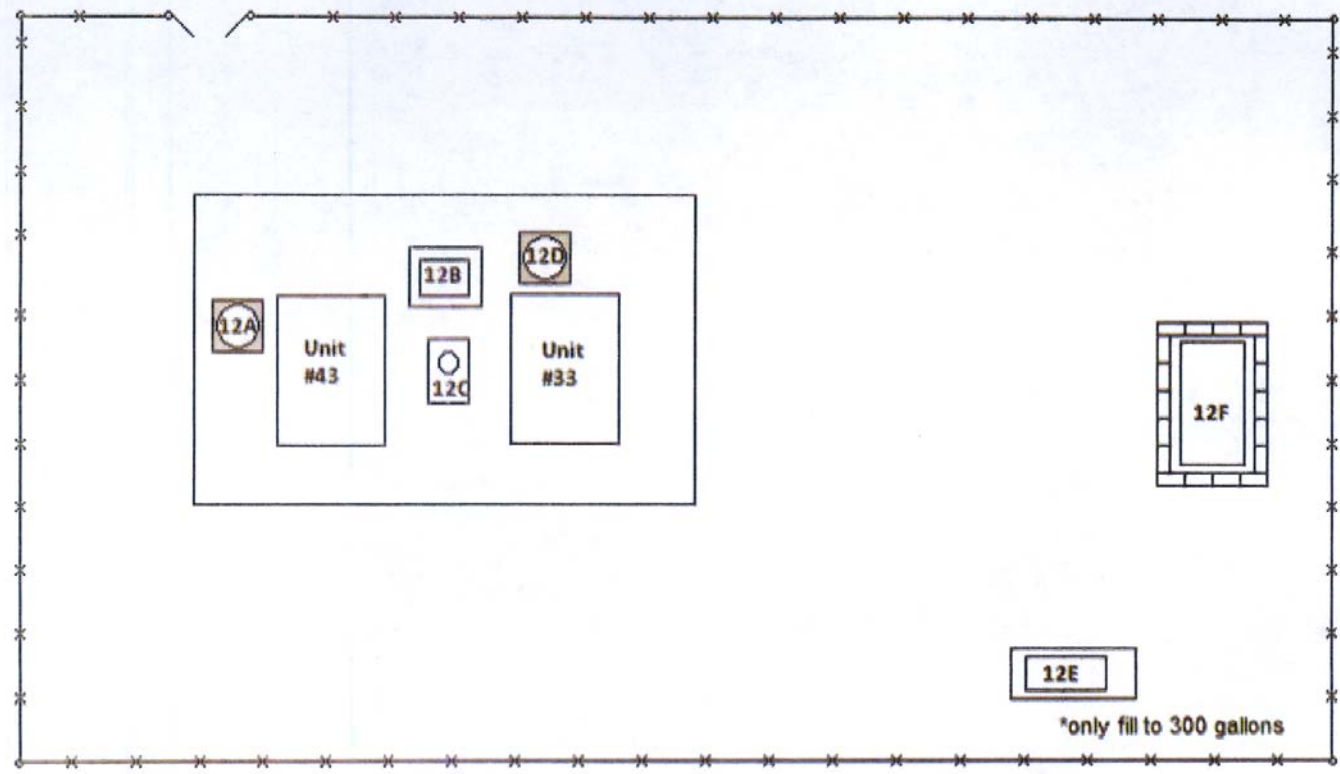
NOTE: see page E-3 for tank identification



VANCE
COMPRESSOR STATION #11
SPCC TANK LOCATION

DATE: August, 2016

SCALE: NTS

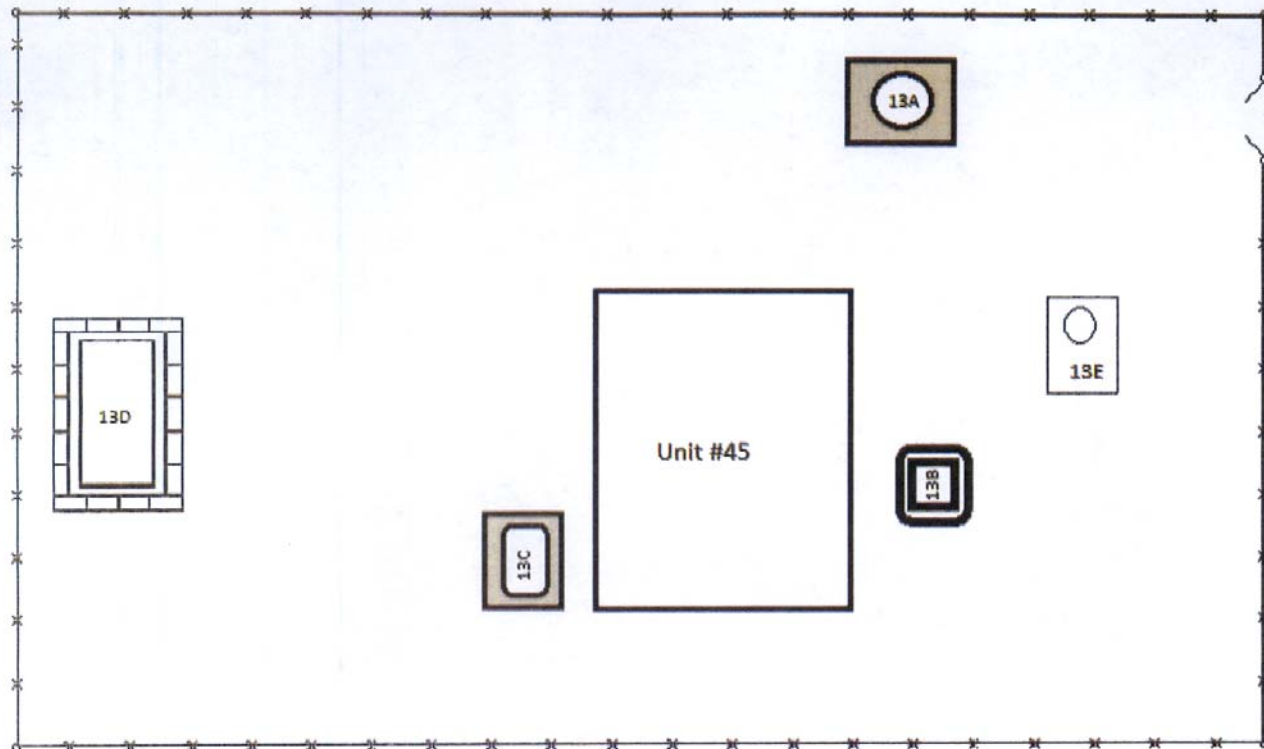


VANCE
COMPRESSOR STATION # 12
SPCC TANK LOCATION

NOTE: see page E-4 for tank identification

DATE: August, 2016

SCALE: NTS

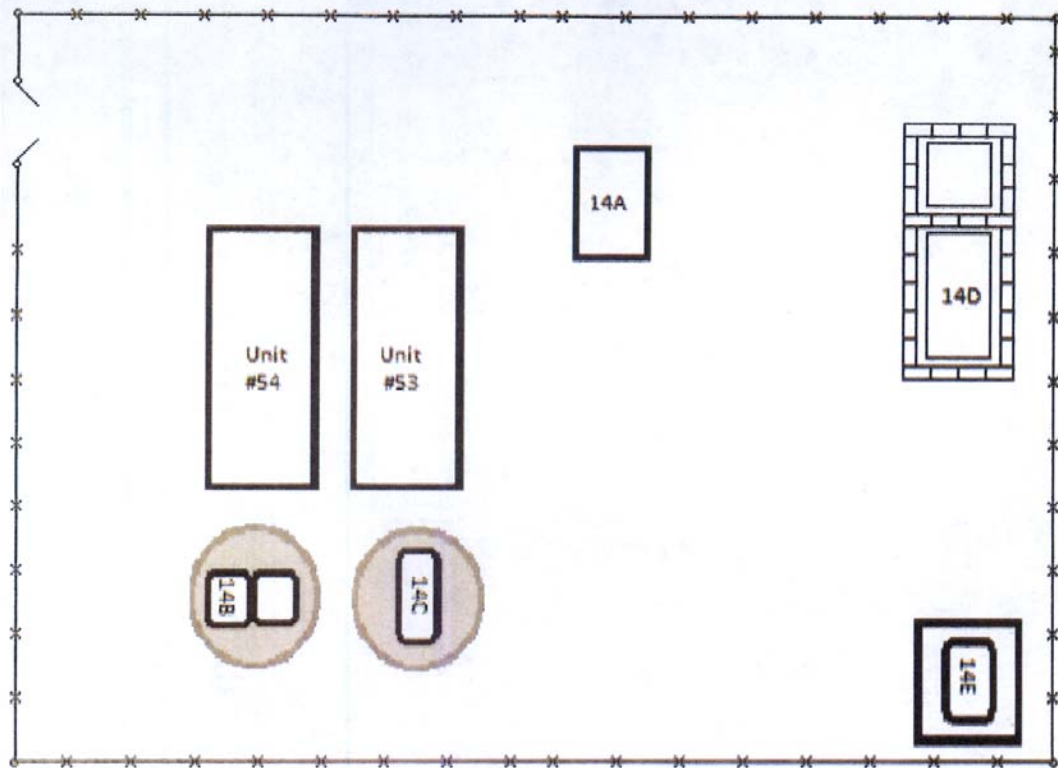


VANCE
COMPRESSOR STATION #13
SPCC TANK LOCATION

NOTE: see page E-4 for tank identification

DATE: August, 2016

SCALE: NTS

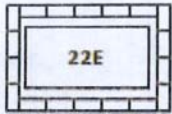
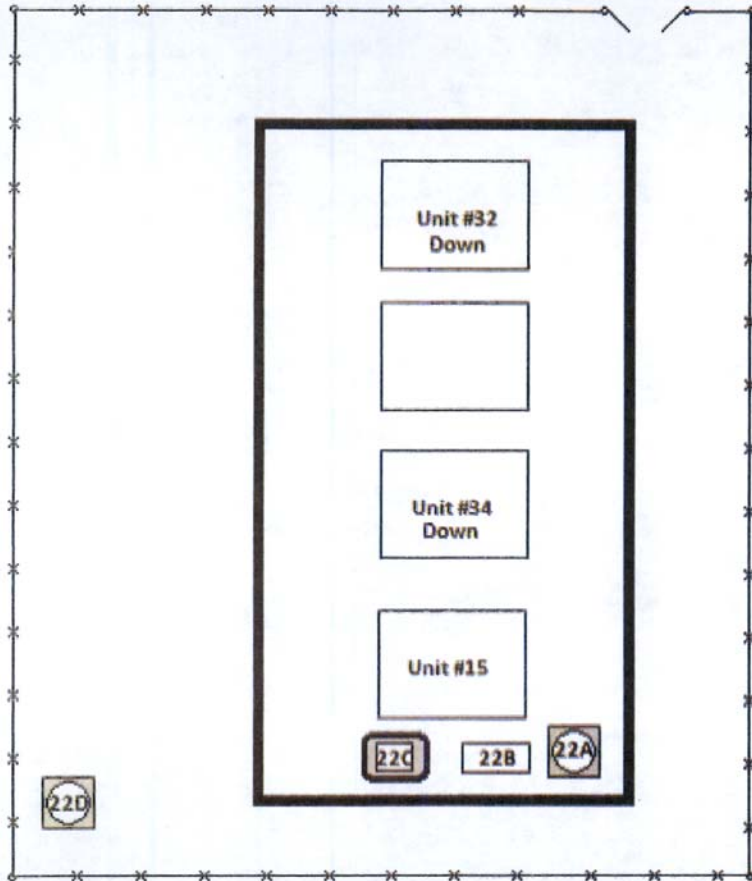


VANCE
COMPRESSOR STATION # 14
SPCC TANK LOCATION

NOTE: see page E-4 for tank identification

DATE: AUGUST, 2016

SCALE: NTS

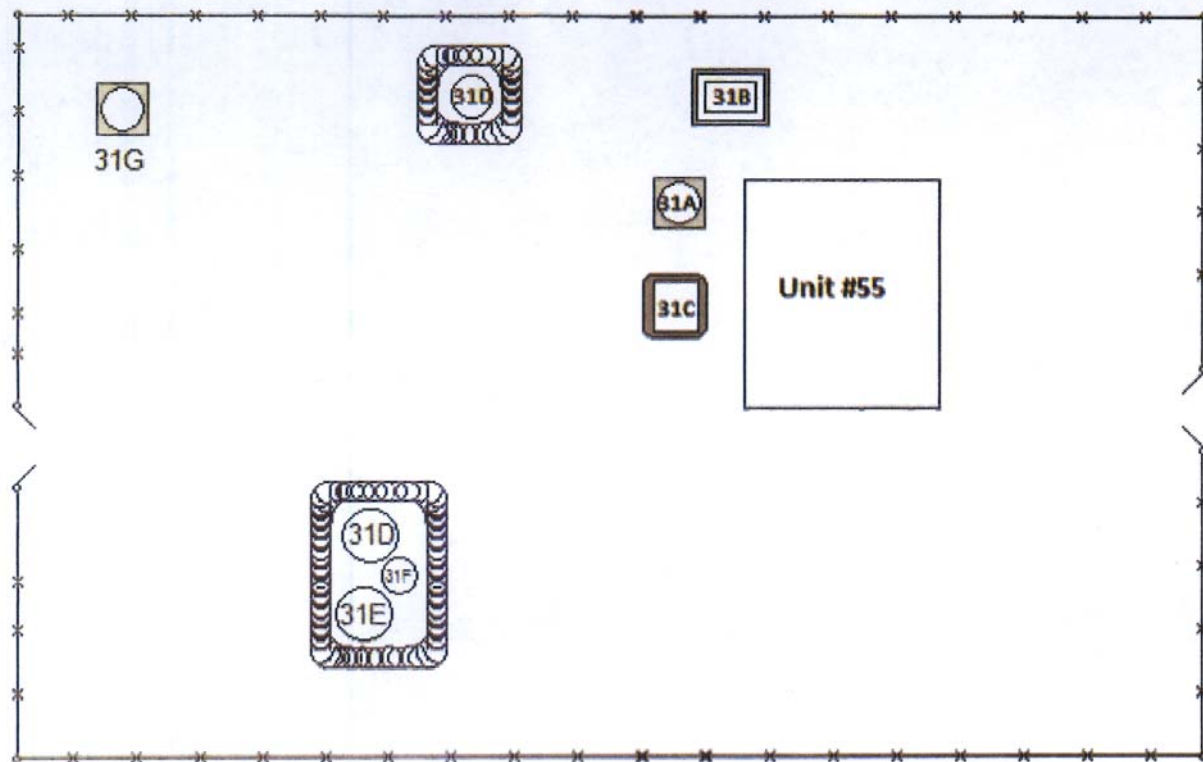


VANCE
COMPRESSOR STATION # 22
SPCC TANK LOCATION

NOTE: see page E-4 for tank identification

DATE: August, 2016

SCALE: NTS

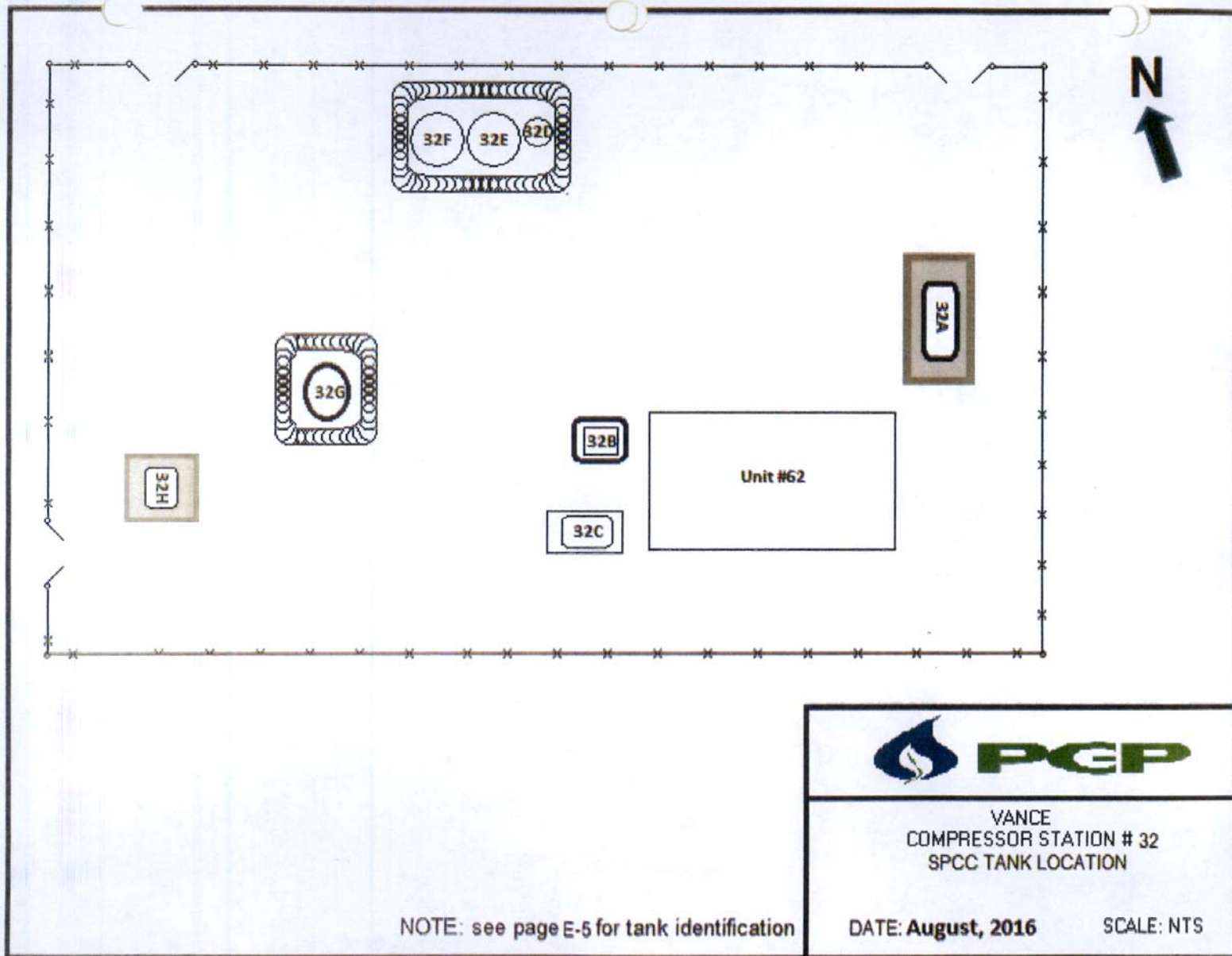


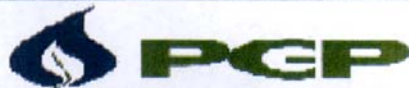
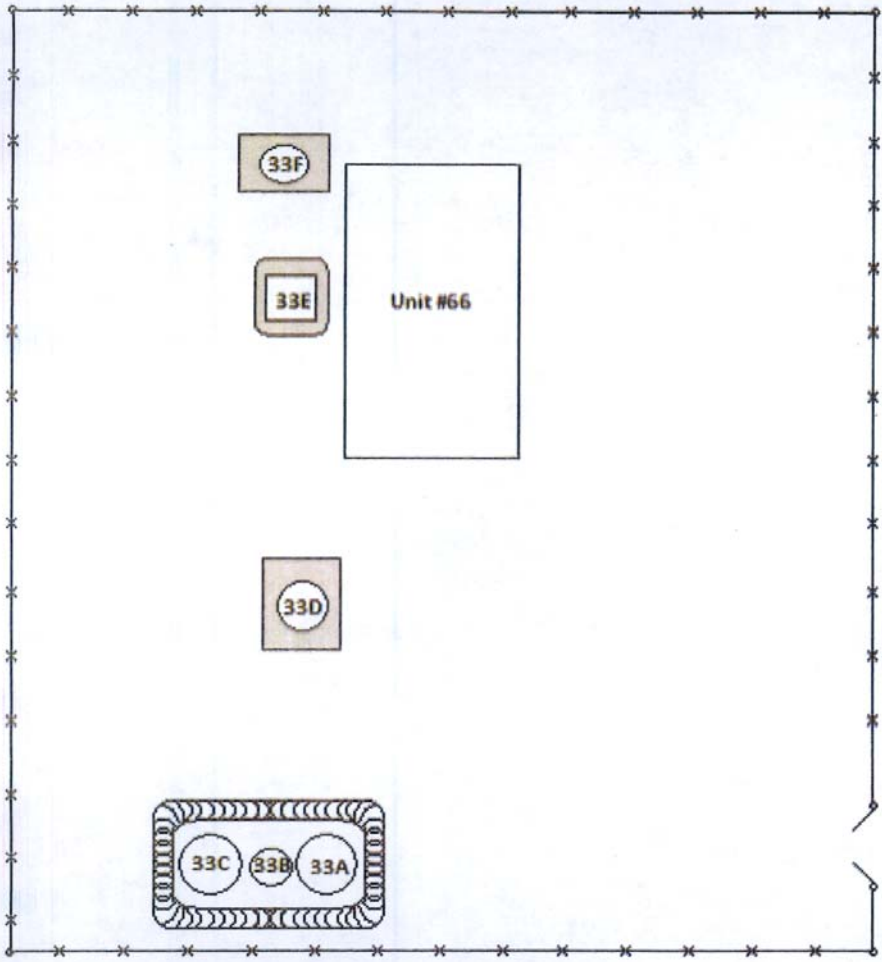
VANCE
COMPRESSOR STATION # 31
SPCC TANK LOCATION

NOTE: see page E-5 for tank identification

DATE: **August, 2016**

SCALE: NTS



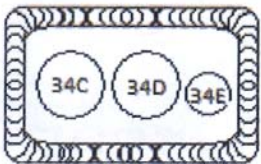
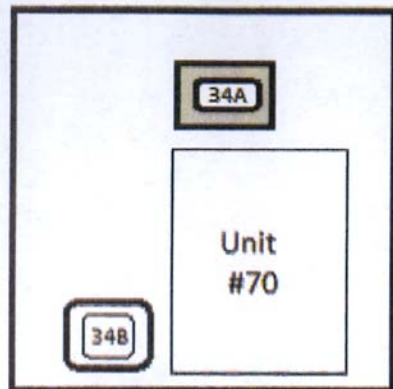


VANCE
COMPRESSOR STATION # 33
SPCC TANK LOCATION


NOTE: see page E-5 for tank identification

DATE: August, 2016

SCALE: NTS



NOTE: see page E-5 for tank identification



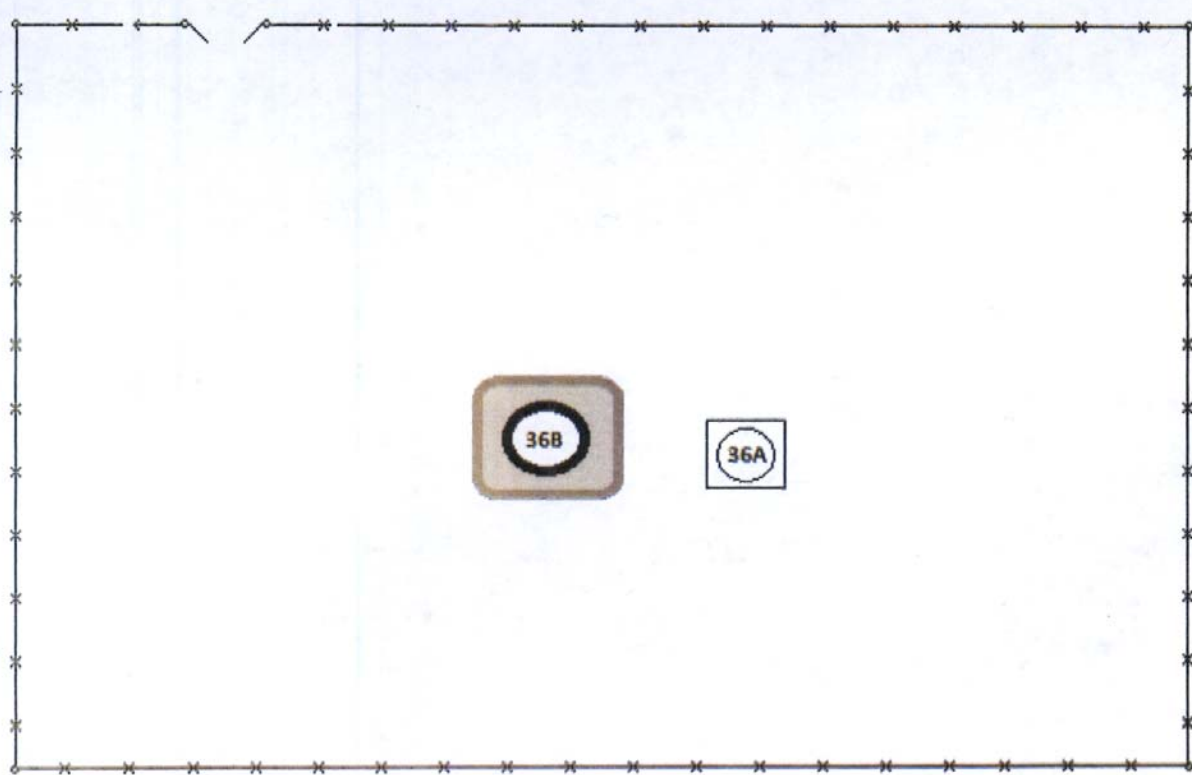
VANCE
COMPRESSOR STATION # 34
SPCC TANK LOCATION

DATE: AUGUST, 2016 SCALE: NTS

The bottom right section of the page features the PCP logo (a stylized flame) and the text "PCP". Below this, the site name "VANCE COMPRESSOR STATION # 34" and "SPCC TANK LOCATION" are listed. At the bottom, the date "DATE: AUGUST, 2016" and scale "SCALE: NTS" are provided.



N

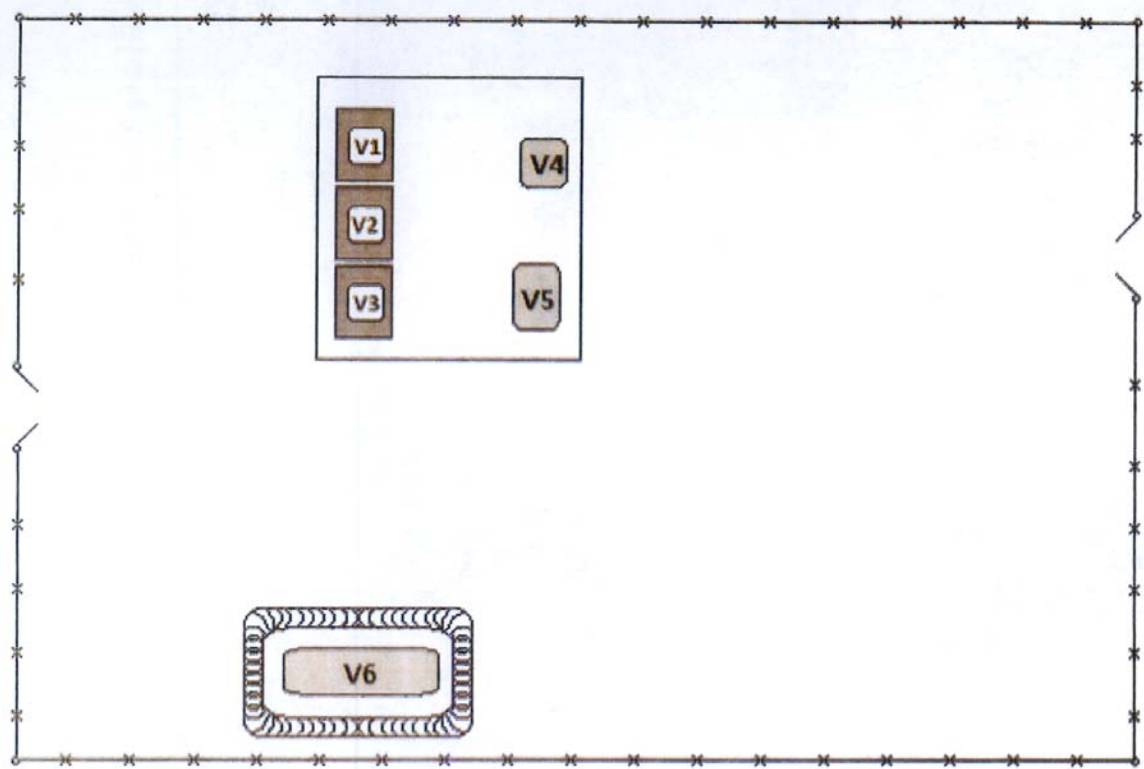


VANCE
Delivery Station #36
SPCC TANK LOCATION

NOTE: see page E-6 for tank identification

DATE: August, 2016

SCALE: NTS



VANCE
VANCE YARD
SPCC TANK LOCATION

NOTE: see page E-4 for tank identification

DATE: **August, 2016**

SCALE: NTS

Appendix G

Surface Flow Direction Map DISTANCE TO NEAREST WATERWAY

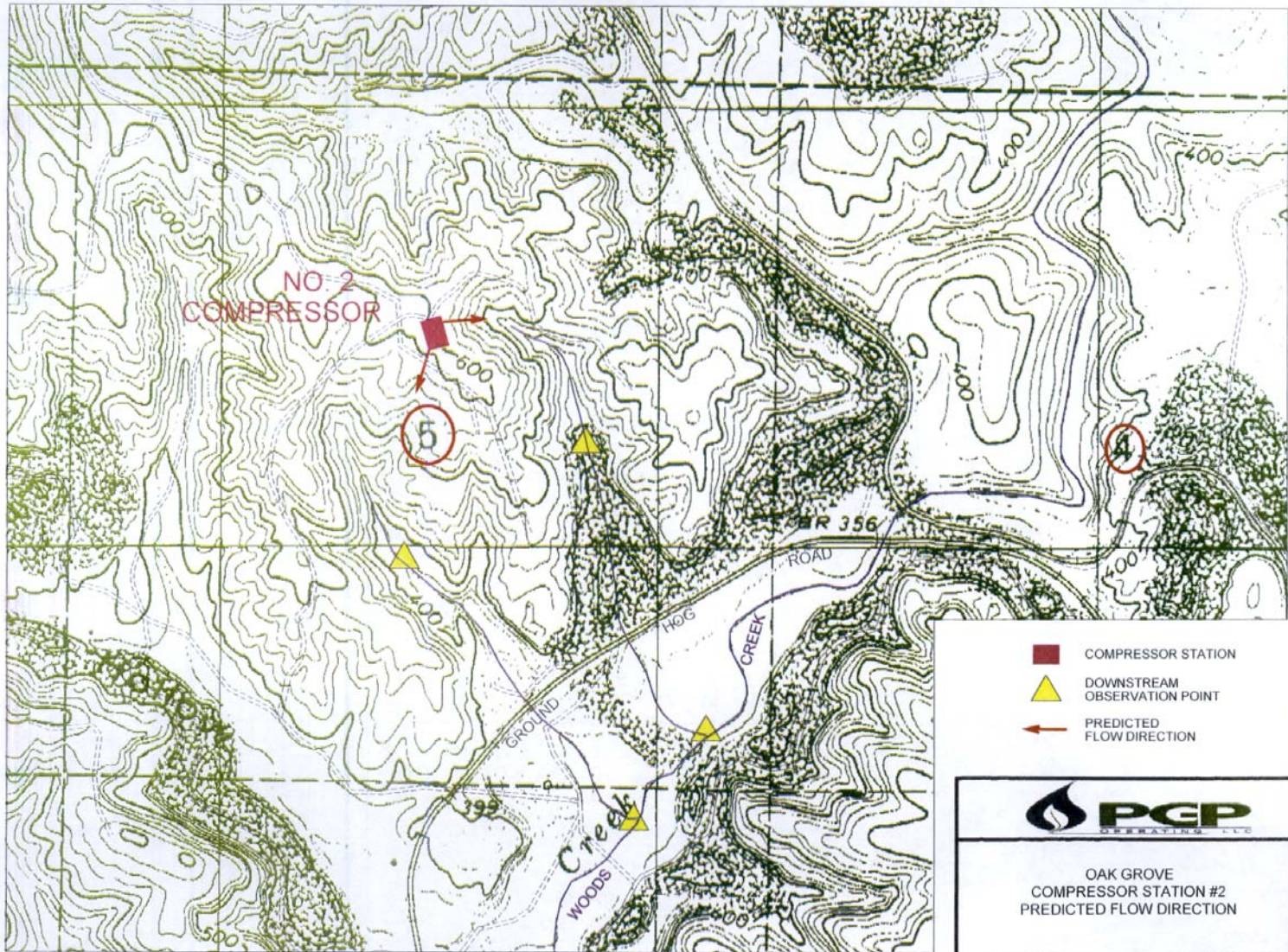
LOCATION	FACILITY STATION	DISTANCE (FEET)	BODY OF WATER
VANCE	NO. 1	1,700	HURRICANE CREEK
VANCE	EMULSION TREATMENT FACILITY #1	1,700	HURRICANE CREEK
VANCE	NO. 2	1,000	BLACK CREEK
VANCE	EMULSION TREATMENT FACILITY #3	400	UN-NAMED TRIBUTARY TO HURRICANE CREEK
VANCE	NO. 4	850	UN-NAMED TRIBUTARY TO HURRICANE CREEK
VANCE	NO. 5	900	UN-NAMED TRIBUTARY TO HURRICANE CREEK
VANCE	NO. 6	1,200	TRIBUTARY TO ROCKY BRANCH
CDM	NO. 11	500	LYE BRANCE
CDM	NO. 12	1,200	LYE BRANCH
CDM	NO. 13	400	HORSE CREEK
CDM	NO. 14	1,000	DARDEN BRANCH
VANCE	NO. 22	3,300	LYE BRANCH
COTTONDALE	NO. 31	600	UNNAMED TRIBUTARY TO BEE BRANCH
COTTONDALE	NO. 32	500	UNNAMED TRIBUTARY TO LITTLE FLINT BRANCH
COTTONDALE	NO. 33	600	UNNAMED TRIBUTARY TO COTTONDALE CREEK
COTTONDALE	NO. 34/ WWTF NO. 5052	300	UNNAMED TRIBUTARY TO BUNCH CREEK
COTTONDALE	NO. 36	700	UNNAMED POND
COTTONDALE	MAXWELL CROSSING WWTF NO. 5053	600	KINGS BRANCH

Surface Flow Direction Map
DISTANCE TO NEAREST WATERWAY

LOCATION	COMPRESSOR STATION	DISTANCE (FEET)	BODY OF WATER
OAK GROVE	NO. 2	3,200	WOODS CREEK
OAK GROVE	NO. 3	5,300	WOODS CREEK
OAK GROVE	NO. 4	3,100	VALLEY CREEK
OAK GROVE	NO. 5	8,000	MUD CREEK
OAK GROVE	EMULSION TREATMENT FACILITY # 6	2,300	JESS BRANCH
OAK GROVE	NO. 7	2,300	DRY BRANCH
OAK GROVE	NO. 7-8	275	BEAR BRANCH
OAK GROVE	NO. 8	4,100	LICK CREEK
OAK GROVE	NO. 15	2,000	CORBEL BRANCH
TOGA	NO. 10	2,300	SHOAL CREEK
TOGA	NO. 10-10	2,500	UNNAMED POND
TOGA	NO. 11	1,200	UNNAMED TRIBUTARY TO DAVIS CREEK
TOGA	NO. 11-12	550	Nathan Branch
TOGA	NO. 12	600	NATHAN BRANCH
Bayview	NO. 15	1,500	Bayview Lake
Bayview	NO. 15-1	3,375	Bayview Lake

RANGE 6 WEST

TOWNSHIP 19 SOUTH



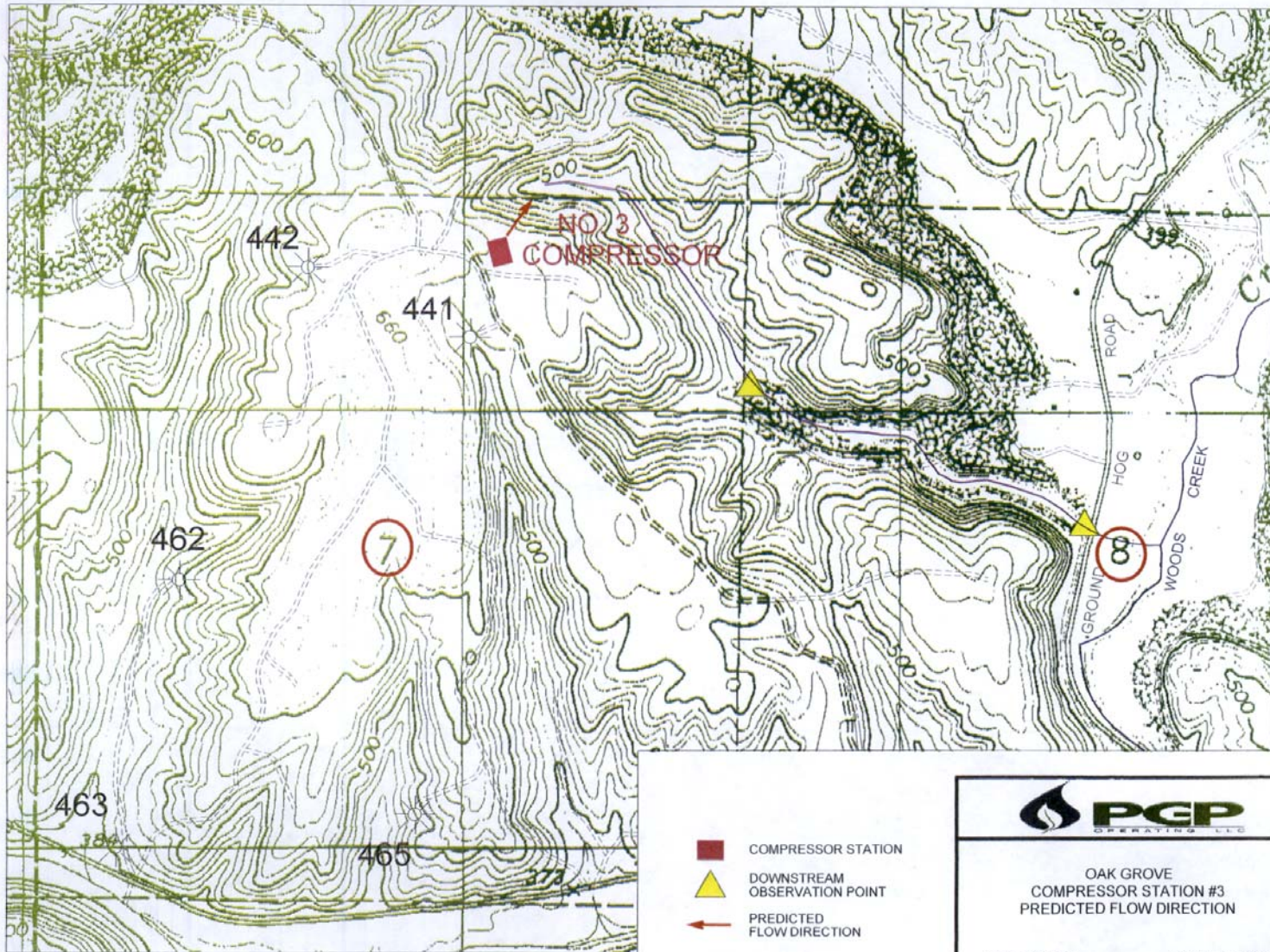
- COMPRESSOR STATION
- ▲ DOWNSTREAM OBSERVATION POINT
- PREDICTED FLOW DIRECTION






OAK GROVE
COMPRESSOR STATION #2
PREDICTED FLOW DIRECTION

RANGE 6 WEST

TOWNSHIP 19 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



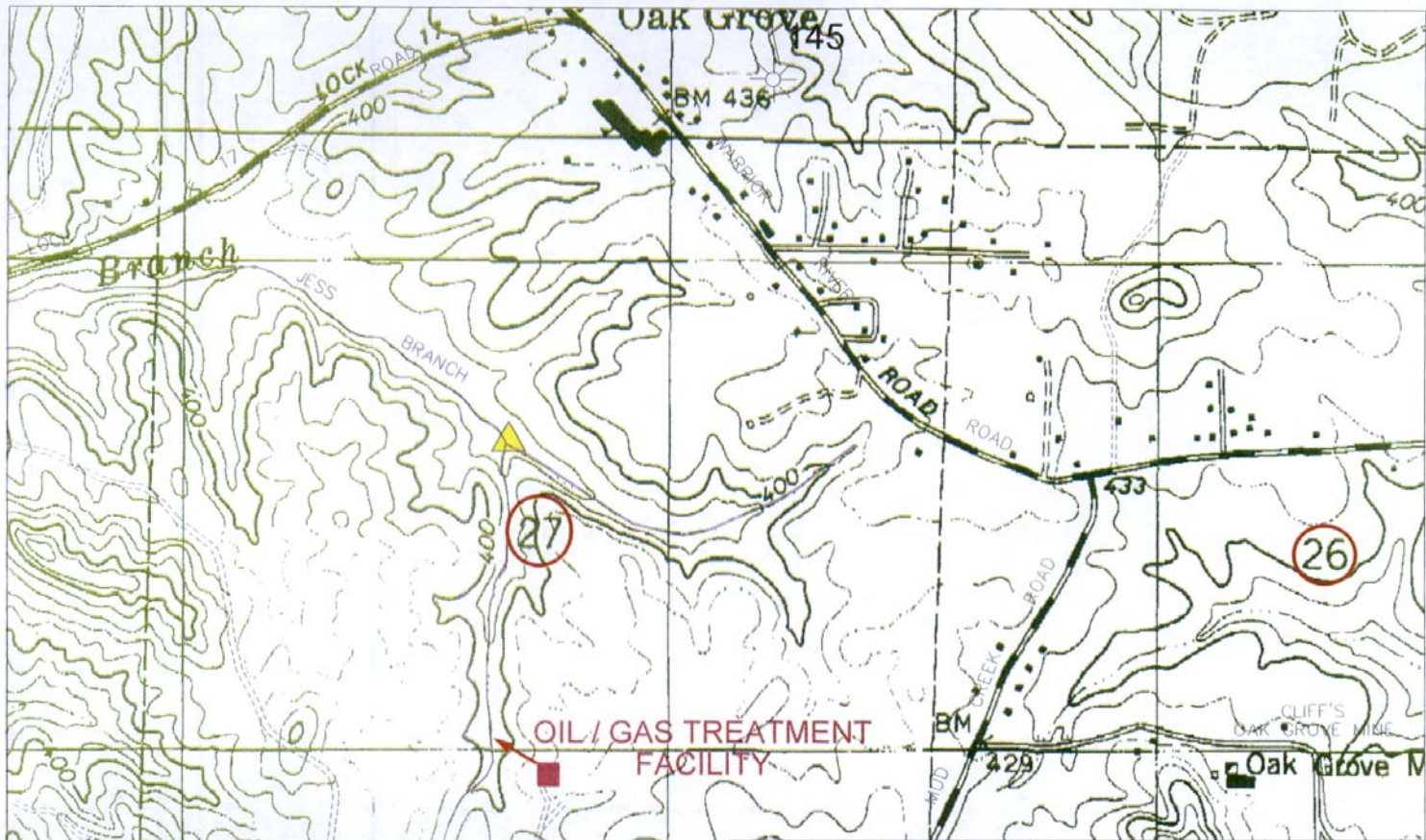
OAK GROVE
COMPRESSOR STATION #3
PREDICTED FLOW DIRECTION




AUGUST, 2012


SCALE: 1"=1000'

RANGE 6 WEST

TOWNSHIP 18 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION

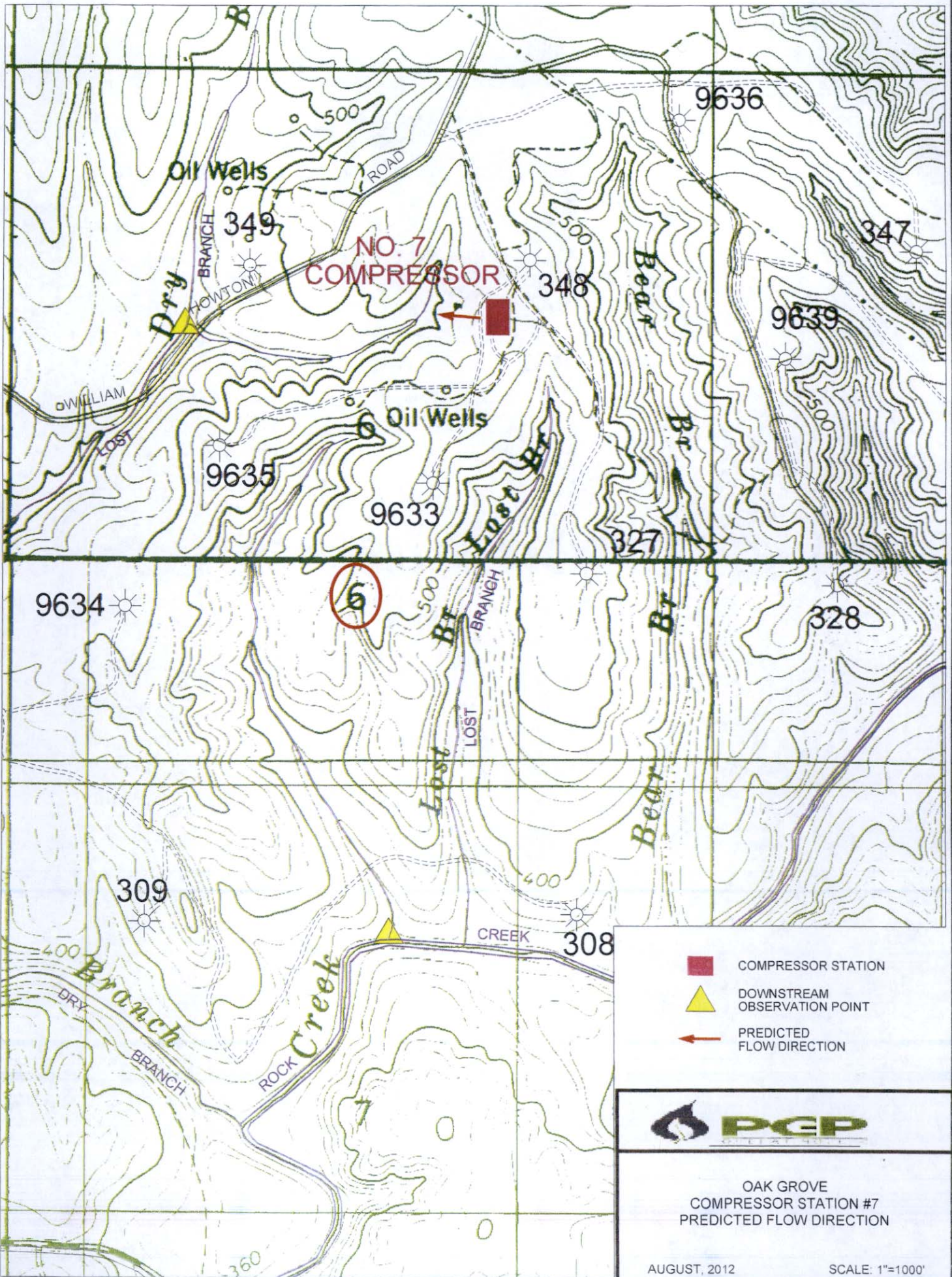


OAK GROVE
OIL / GAS TREATMENT FACILITY
PREDICTED FLOW DIRECTION

AUGUST, 2012
SCALE: 1"=1000'

RANGE 5 WEST

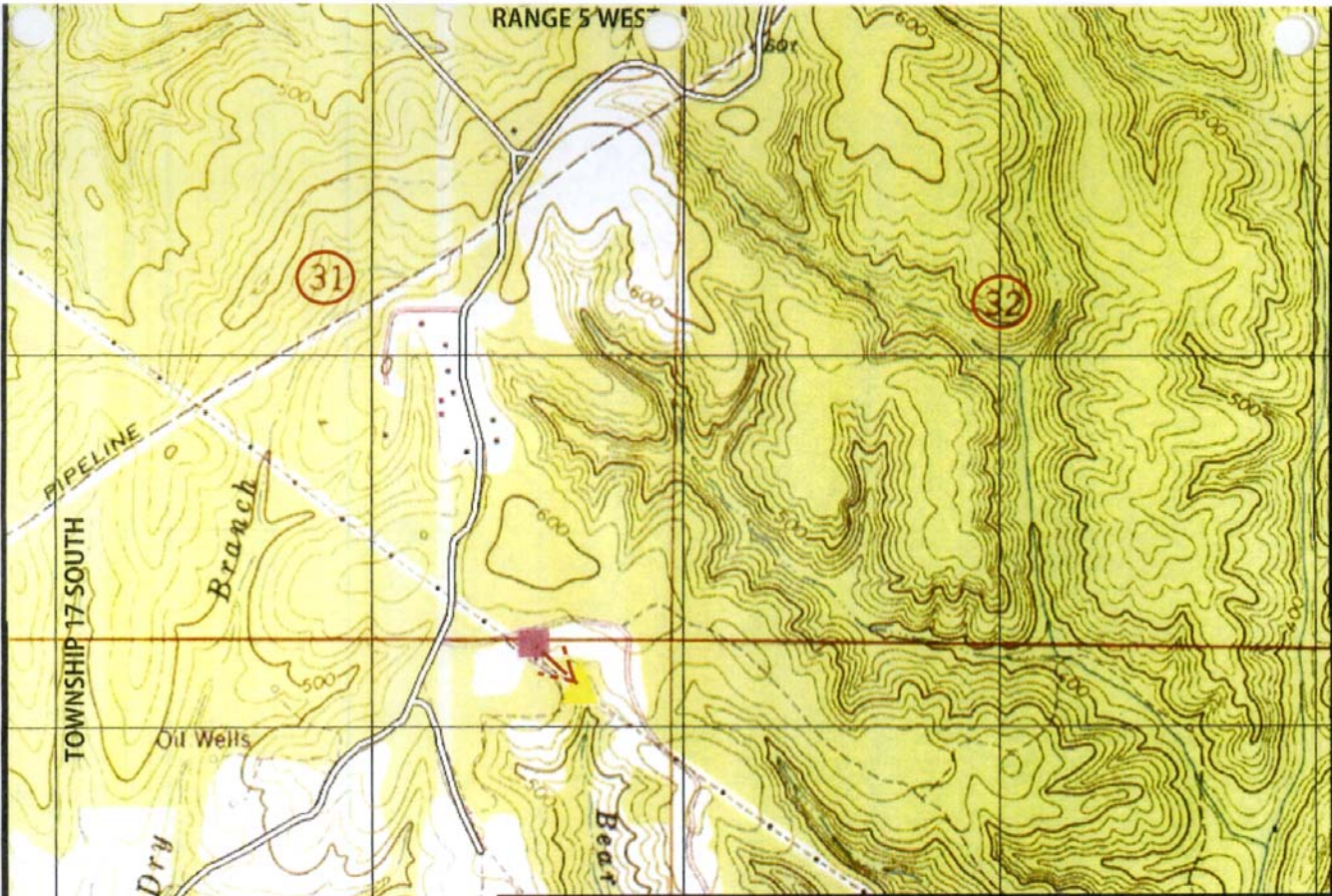
TOWNSHIP 18 SOUTH







OAK GROVE
COMPRESSOR STATION #7
PREDICTED FLOW DIRECTION

AUGUST, 2012

SCALE: 1"=1000'



**OAK GROVE
GAS TREATMENT 7-8 FACILITY
PREDICTED FLOW DIRECTION**

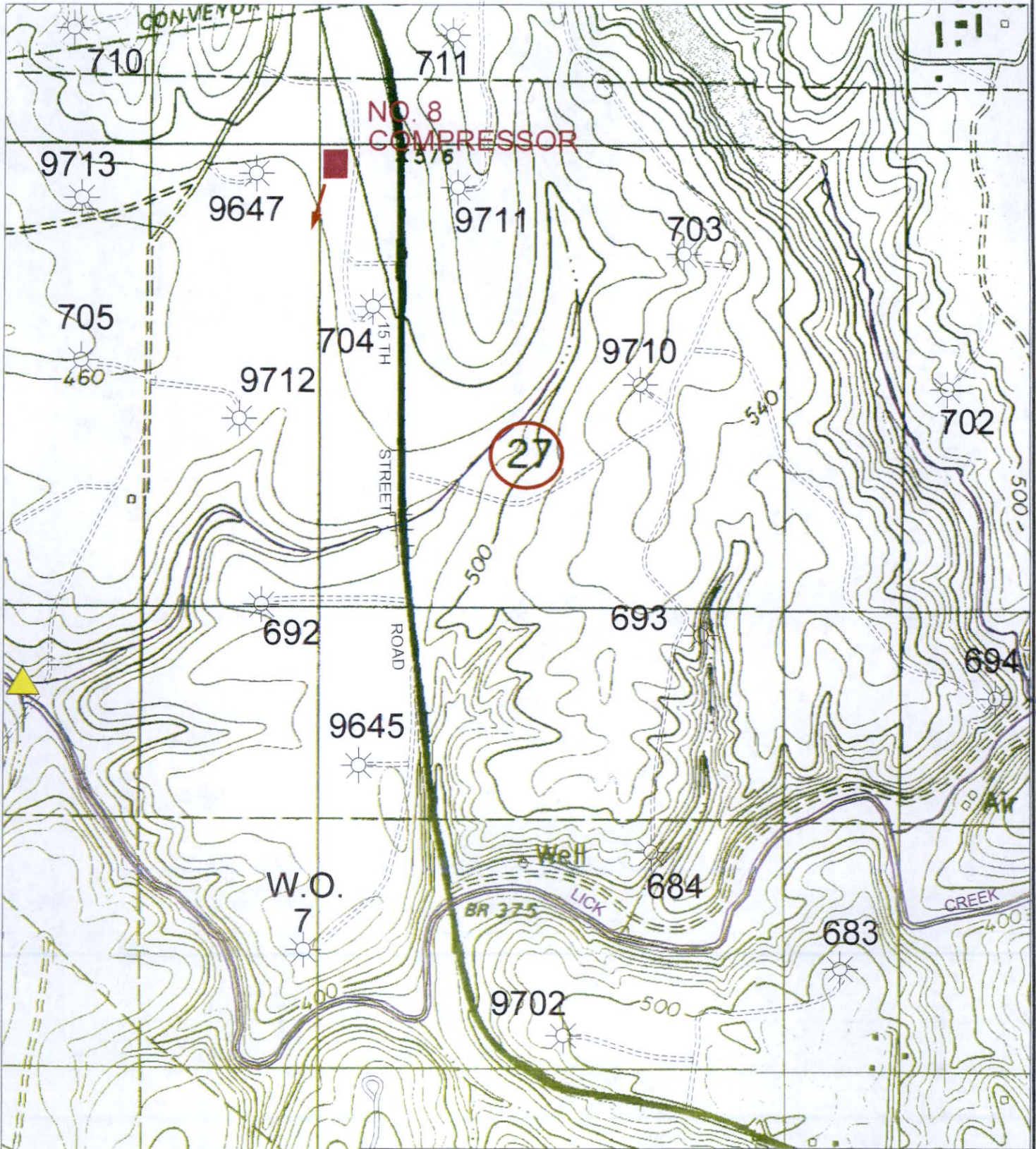
-  TREATMENT FACILITY
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION
-  SECTION NUMBER




SEPTEMBER 2016

SCALE: 1" = 1000'

RANGE 6 WEST

TOWNSHIP 19 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



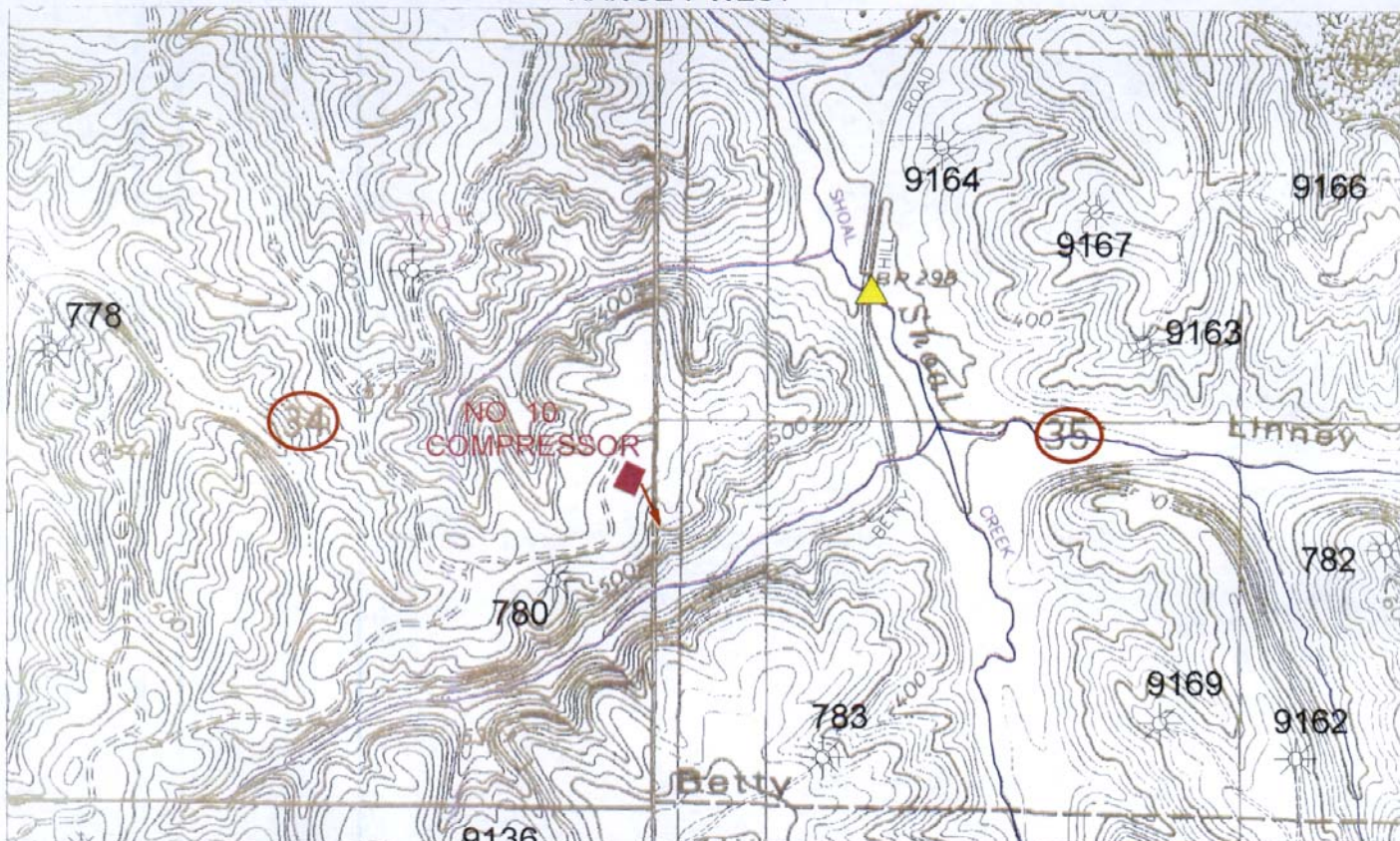
OAK GROVE
COMPRESSOR STATION #8
PREDICTED FLOW DIRECTION




AUGUST, 2012

SCALE: 1"=1000'

RANGE 7 WEST

TOWNSHIP 18 SOUTH



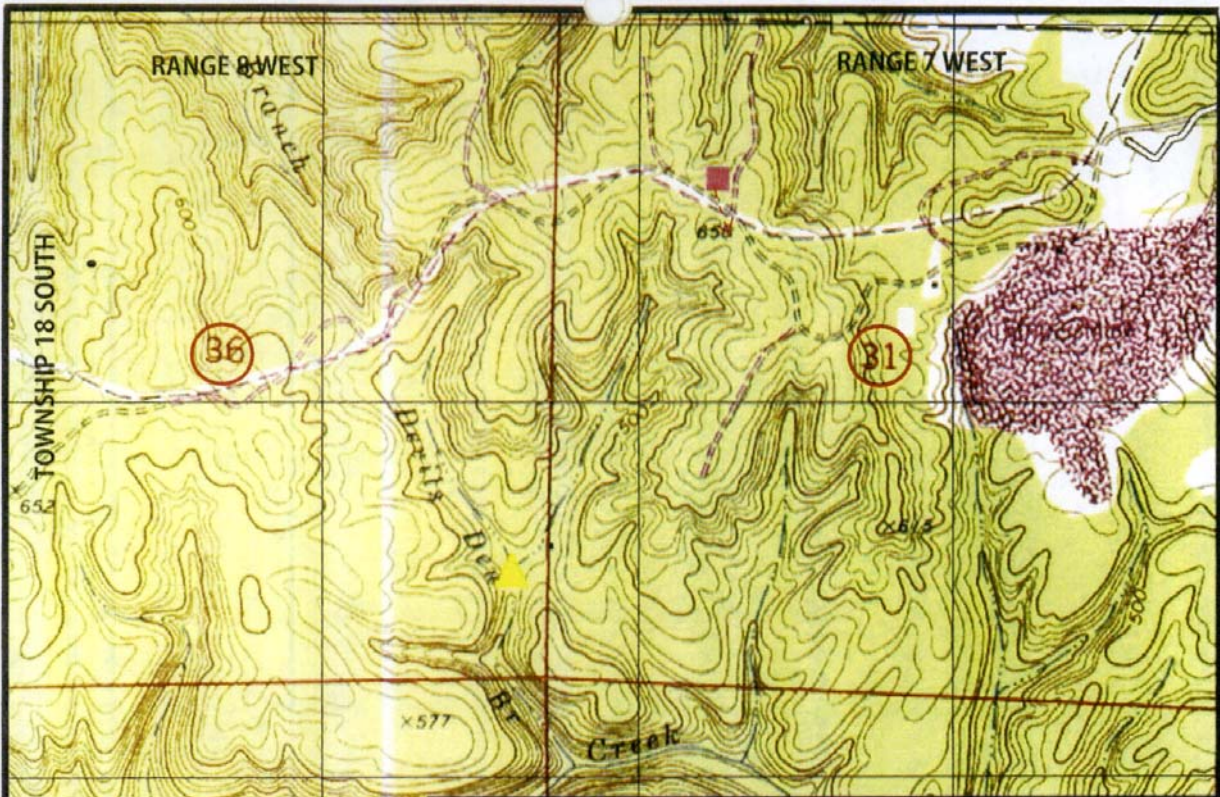
	COMPRESSOR STATION
	DOWNSTREAM OBSERVATION POINT
	PREDICTED FLOW DIRECTION



OAK GROVE
COMPRESSOR STATION #10
PREDICTED FLOW DIRECTION

AUGUST, 2012

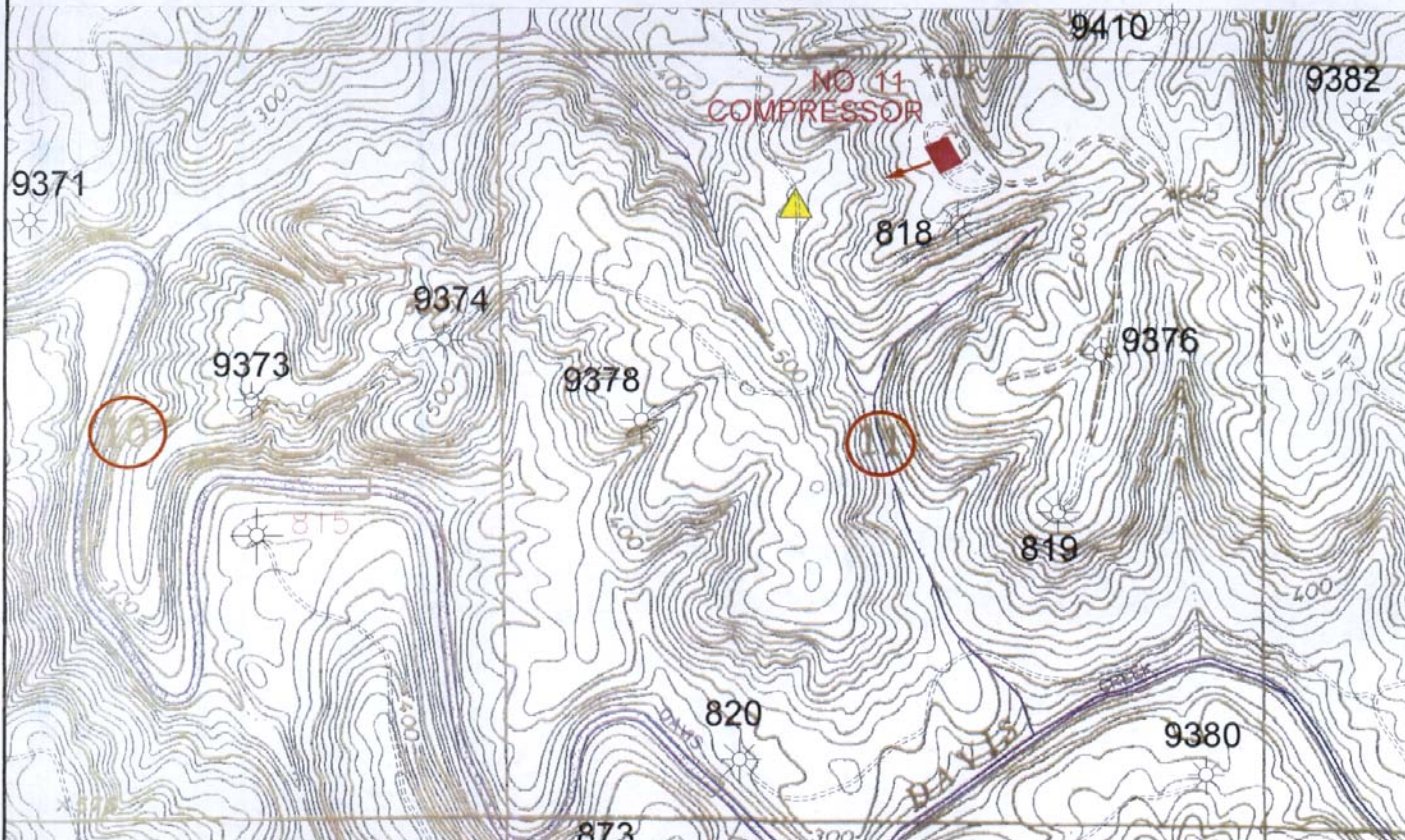
SCALE: 1"=1000'



**OAK GROVE
GAS TREATMENT 10-10 FACILITY
PREDICTED FLOW DIRECTION**

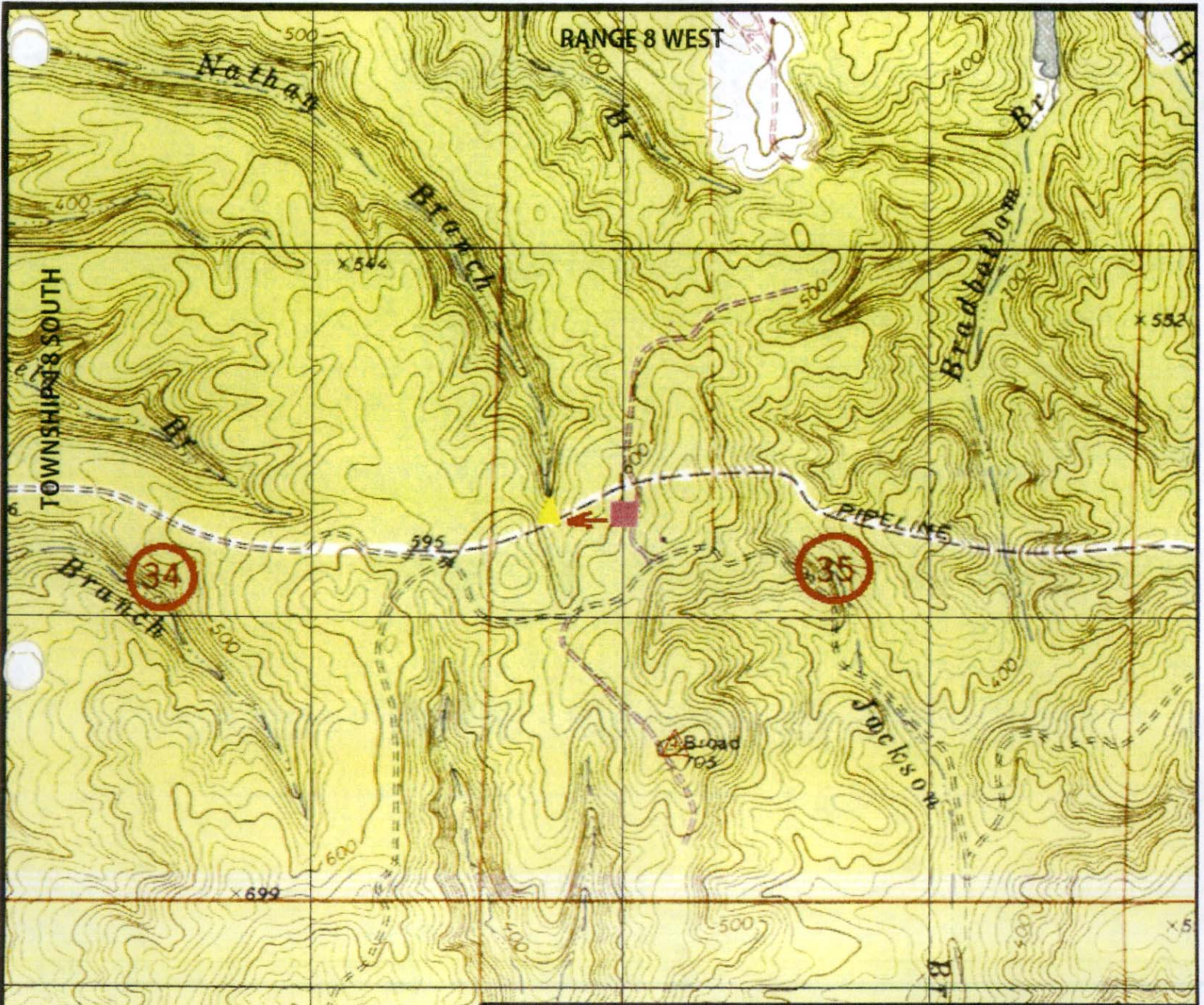
- TREATMENT FACILITY
- DOWNSTREAM OBSERVATION POINT
- PREDICTED FLOW DIRECTION
- SECTION NUMBER

RANGE 6 WEST







TOWNSHIP 19 SOUTH

OAK GROVE COMPRESSOR STATION #11 PREDICTED FLOW DIRECTION	
AUGUST, 2012	SCALE: 1"=1000'



**OAK GROVE
GAS TREATMENT 11-12 FACILITY
PREDICTED FLOW DIRECTION**




-  TREATMENT FACILITY
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION
-  SECTION NUMBER

SEPTEMBER 2016 SCALE: 1" = appr. 1000'

RANGE 8 WEST



TOWNSHIP 18 SOUTH

-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION

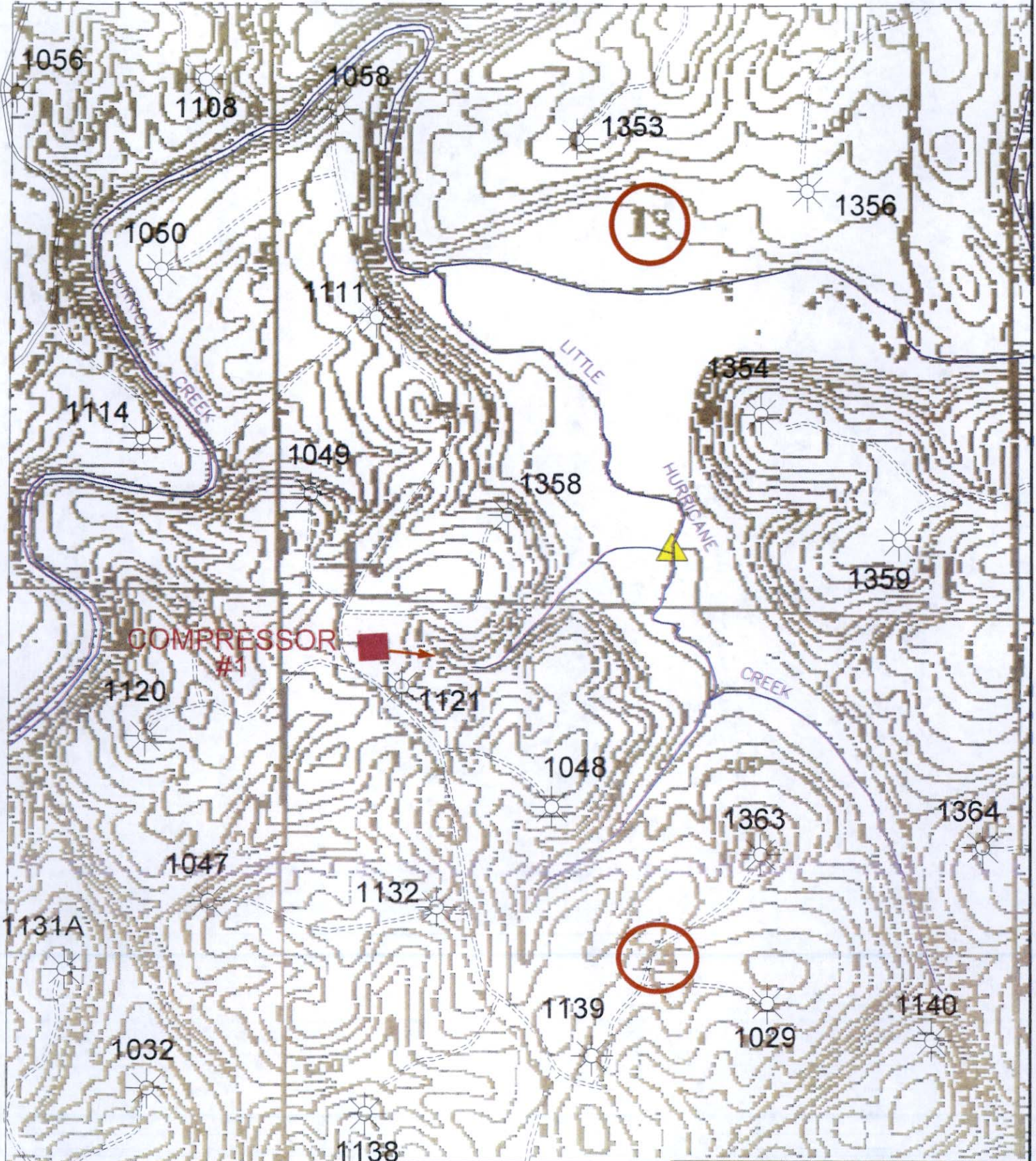





OAK GROVE
COMPRESSOR STATION #12
PREDICTED FLOW DIRECTION

AUGUST, 2012

SCALE: 1"=1000'

FILE: ADEM\SPCC\IOG No 12



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION

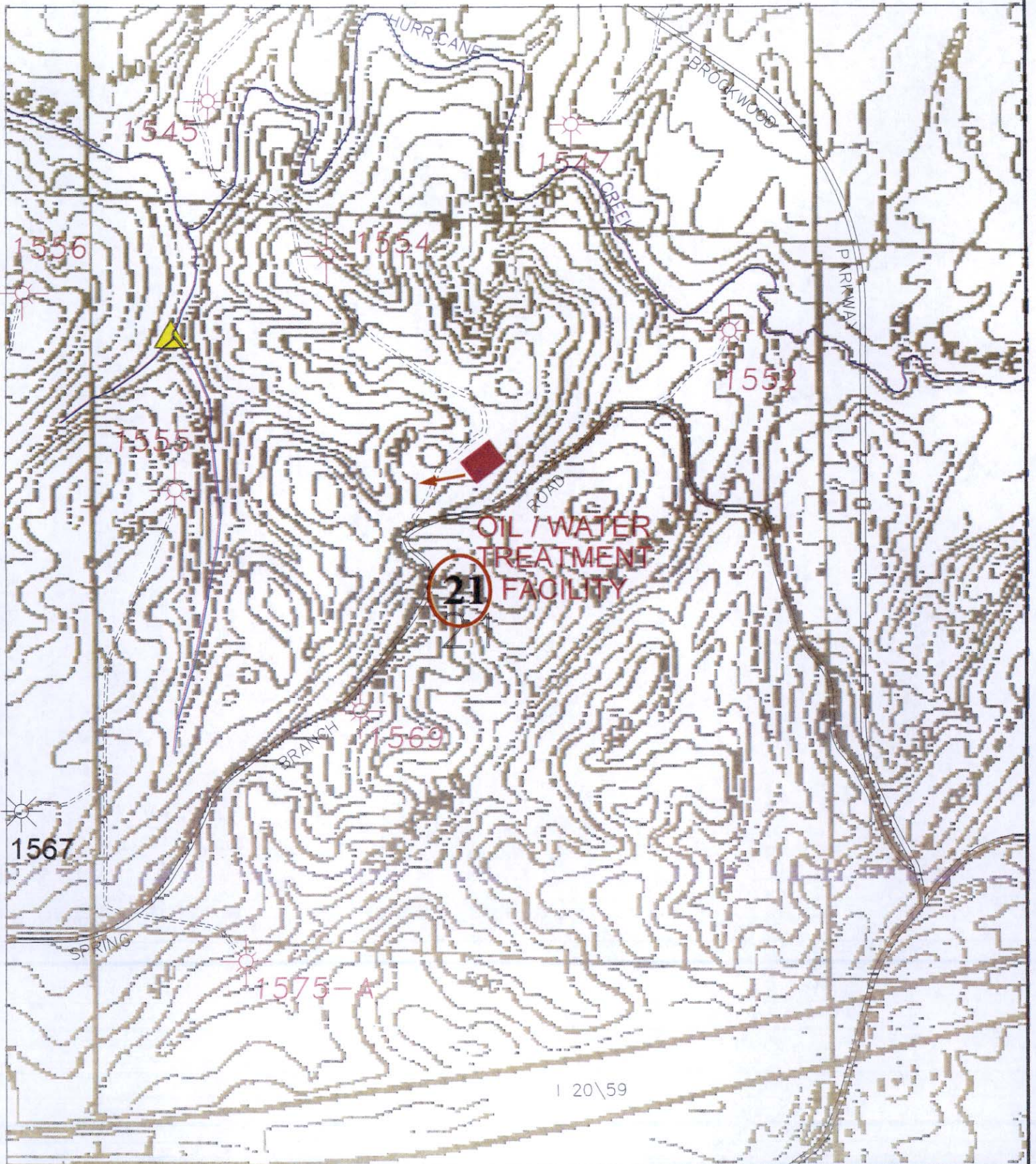





VANCE
 COMPRESSOR STATION #1
 EMULSION TREATMENT #1
 PREDICTED FLOW DIRECTION

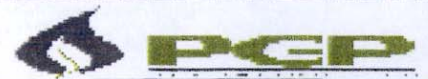
RANGE 8 WEST

TOWNSHIP 21 SOUTH





-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



VANCE
EMULSION # 3 TREATMENT FACILITY
PREDICTED FLOW DIRECTION




AUGUST, 2012

SCALE: 1"=1000'

RANGE 7 WEST

TOWNSHIP 21 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



VANCE
COMPRESSOR STATION #4
PREDICTED FLOW DIRECTION

AUGUST, 2012




SCALE: 1"=1000'

RANGE 8 WEST

TOWNSHIP 21 SOUTH



17
COMPRESSOR
#5

-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



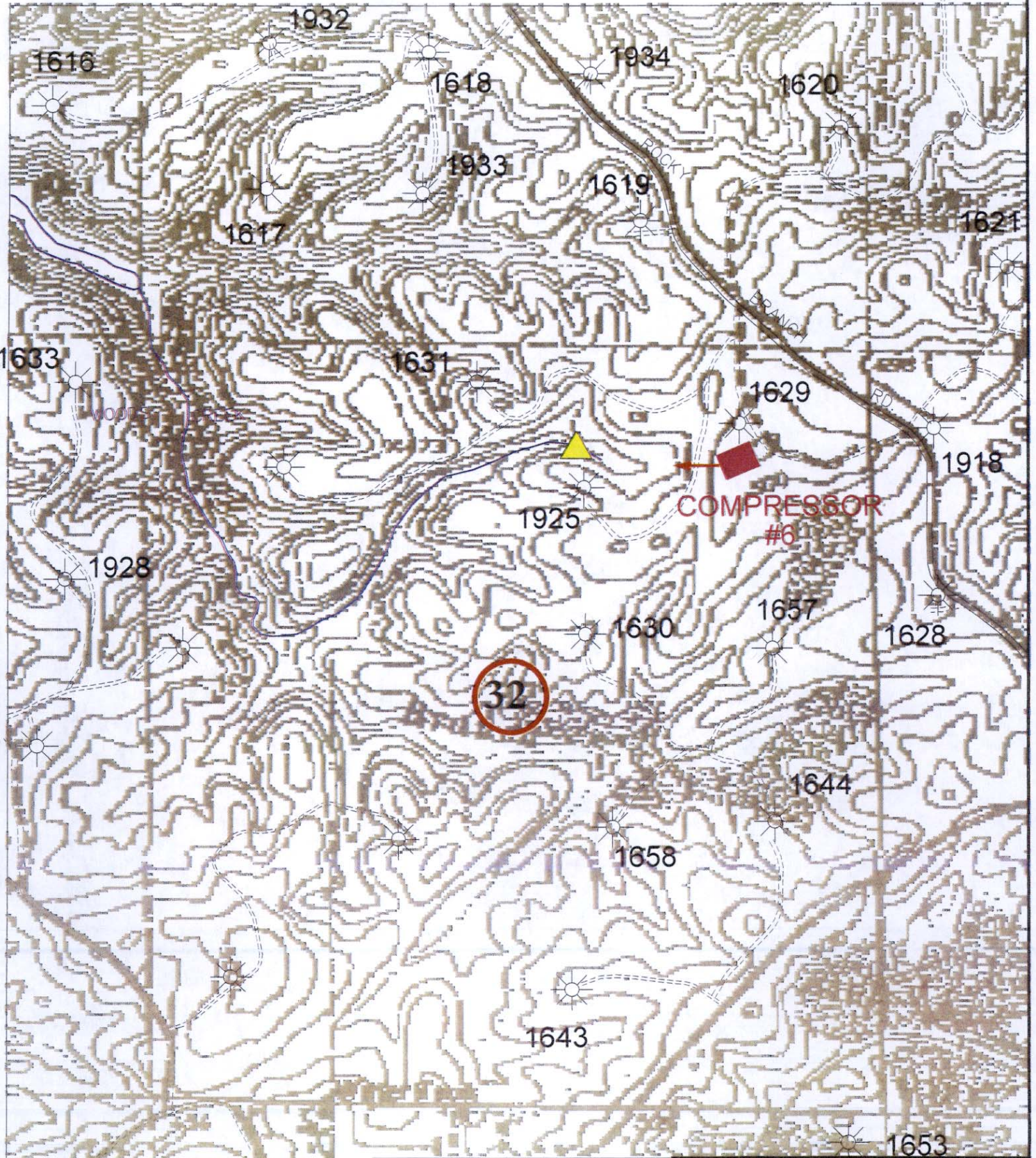
VANCE
COMPRESSOR STATION #5
PREDICTED FLOW DIRECTION




AUGUST, 2012

SCALE: 1"=1000'

RANGE 8 WEST

TOWNSHIP 20 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



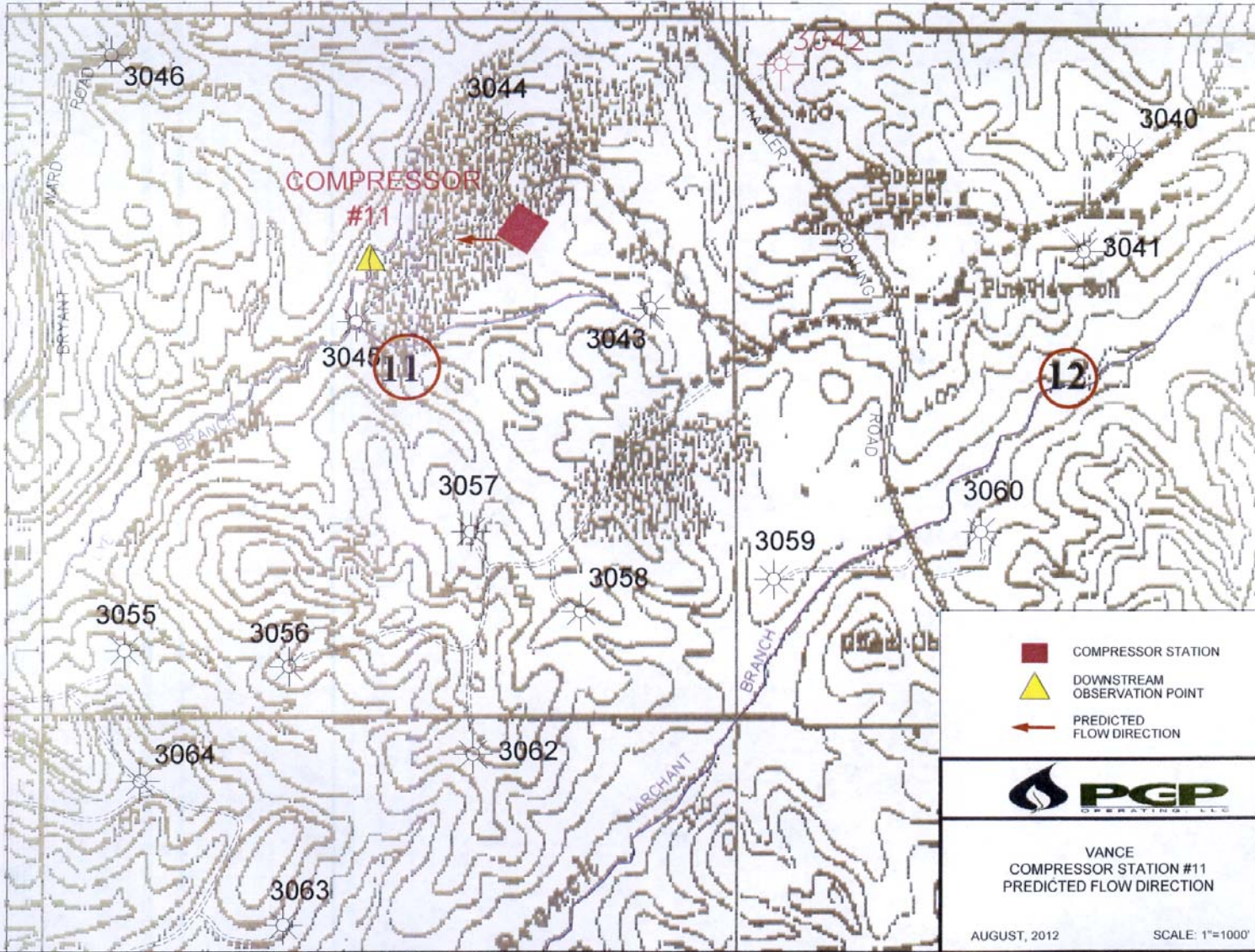
VANCE
 COMPRESSOR STATION #6
 PREDICTED FLOW DIRECTION

AUGUST, 2012

SCALE: 1"=1000'

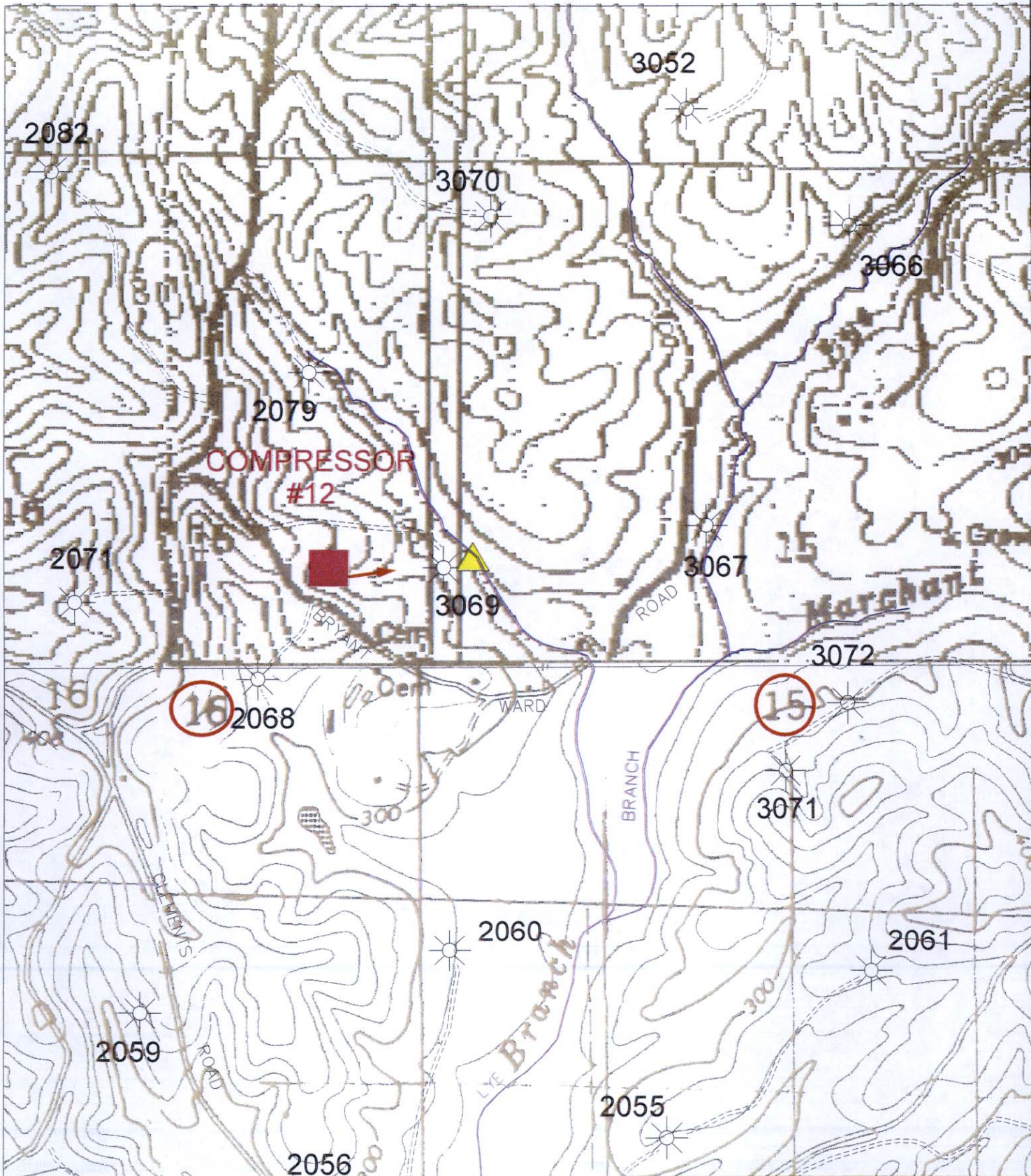
RANGE 8 WEST




TOWNSHIP 22 SOUTH



- COMPRESSOR STATION
- DOWNSTREAM OBSERVATION POINT
- PREDICTED FLOW DIRECTION





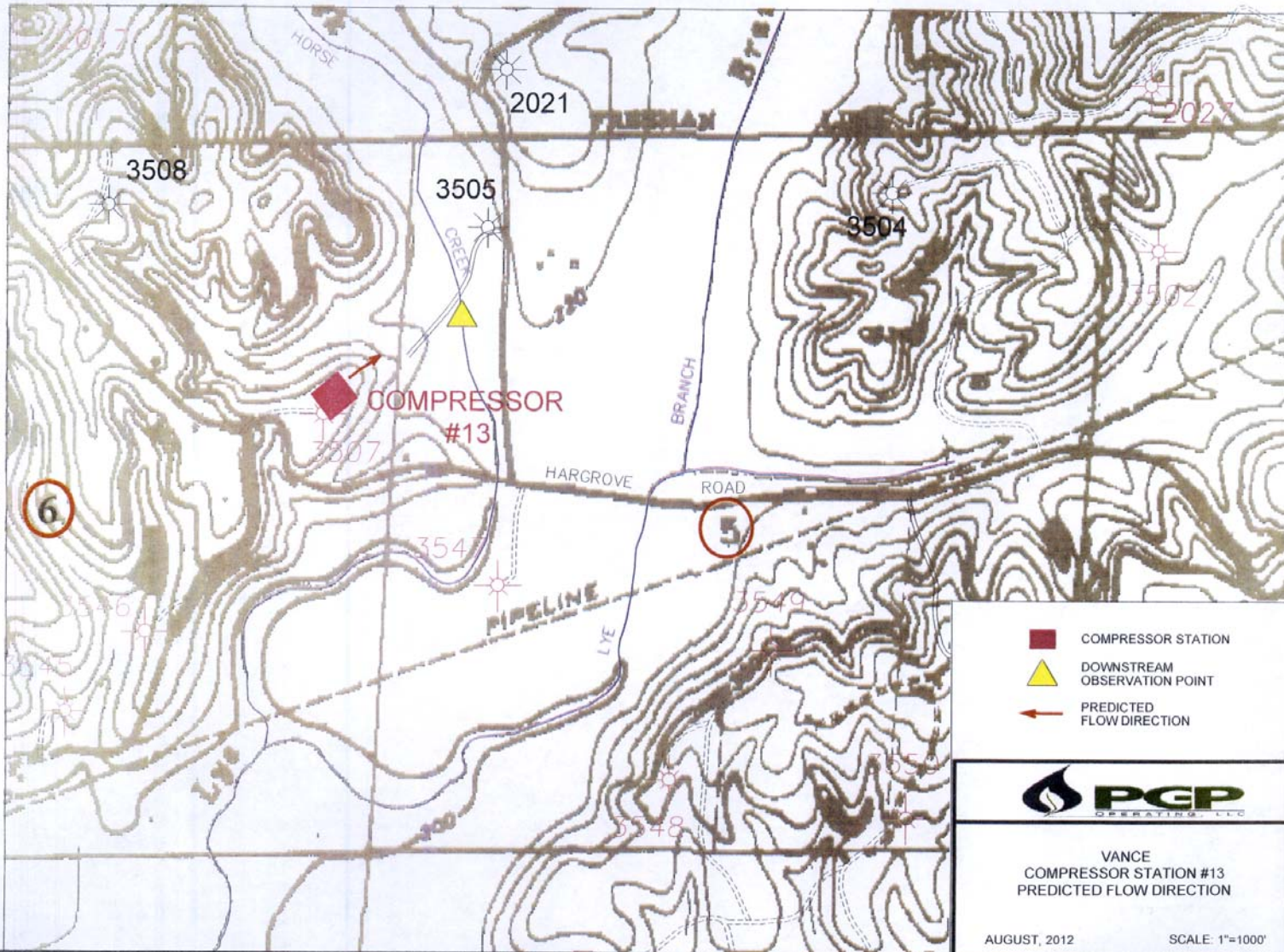
-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION






VANCE
COMPRESSOR STATION #12
PREDICTED FLOW DIRECTION

RANGE 7 EAST

TOWNSHIP 24 NORTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



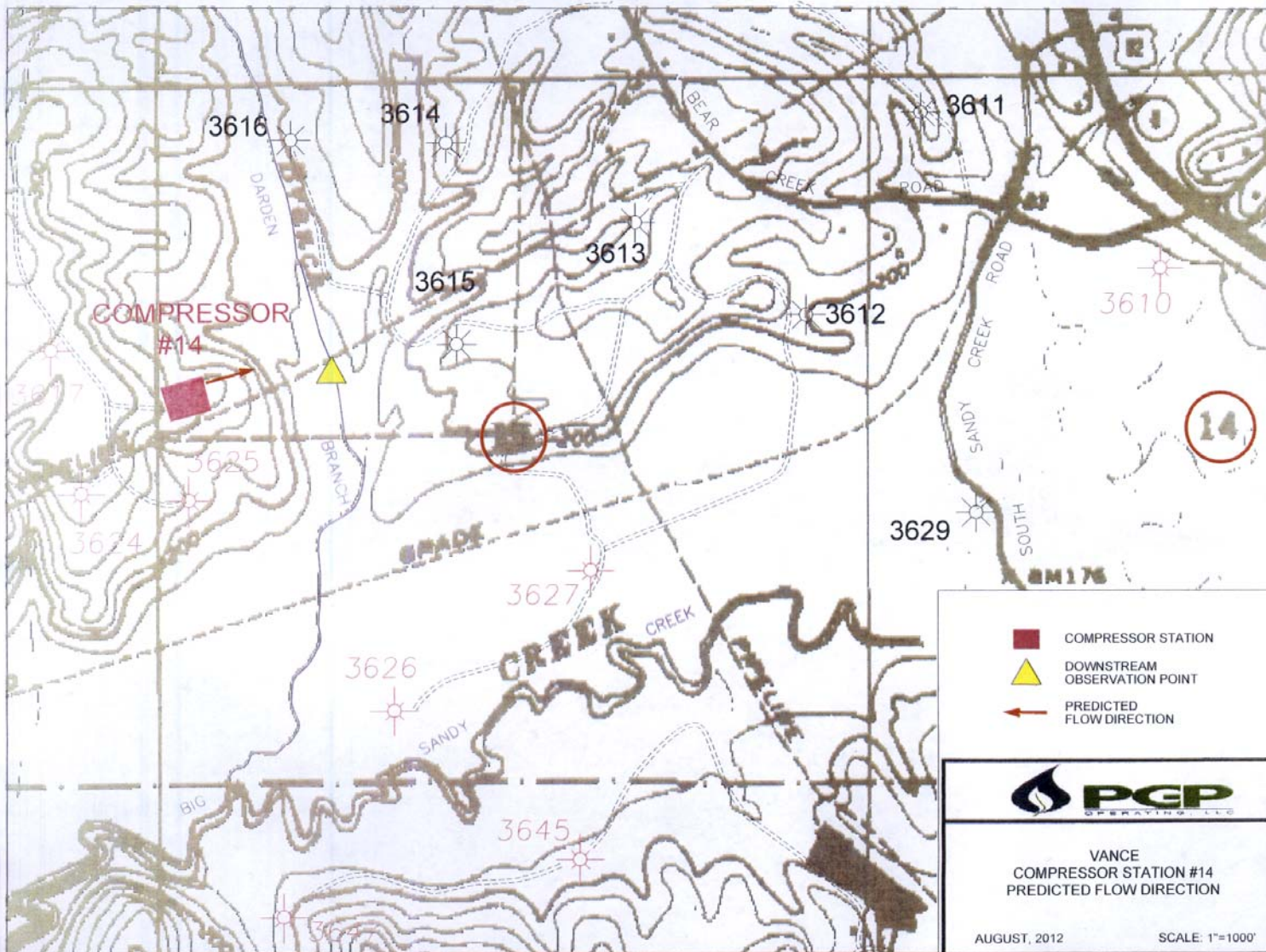
VANCE
COMPRESSOR STATION #13
PREDICTED FLOW DIRECTION




AUGUST, 2012


SCALE: 1"=1000'

RANGE 6 EAST

TOWNSHIP 24 NORTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION

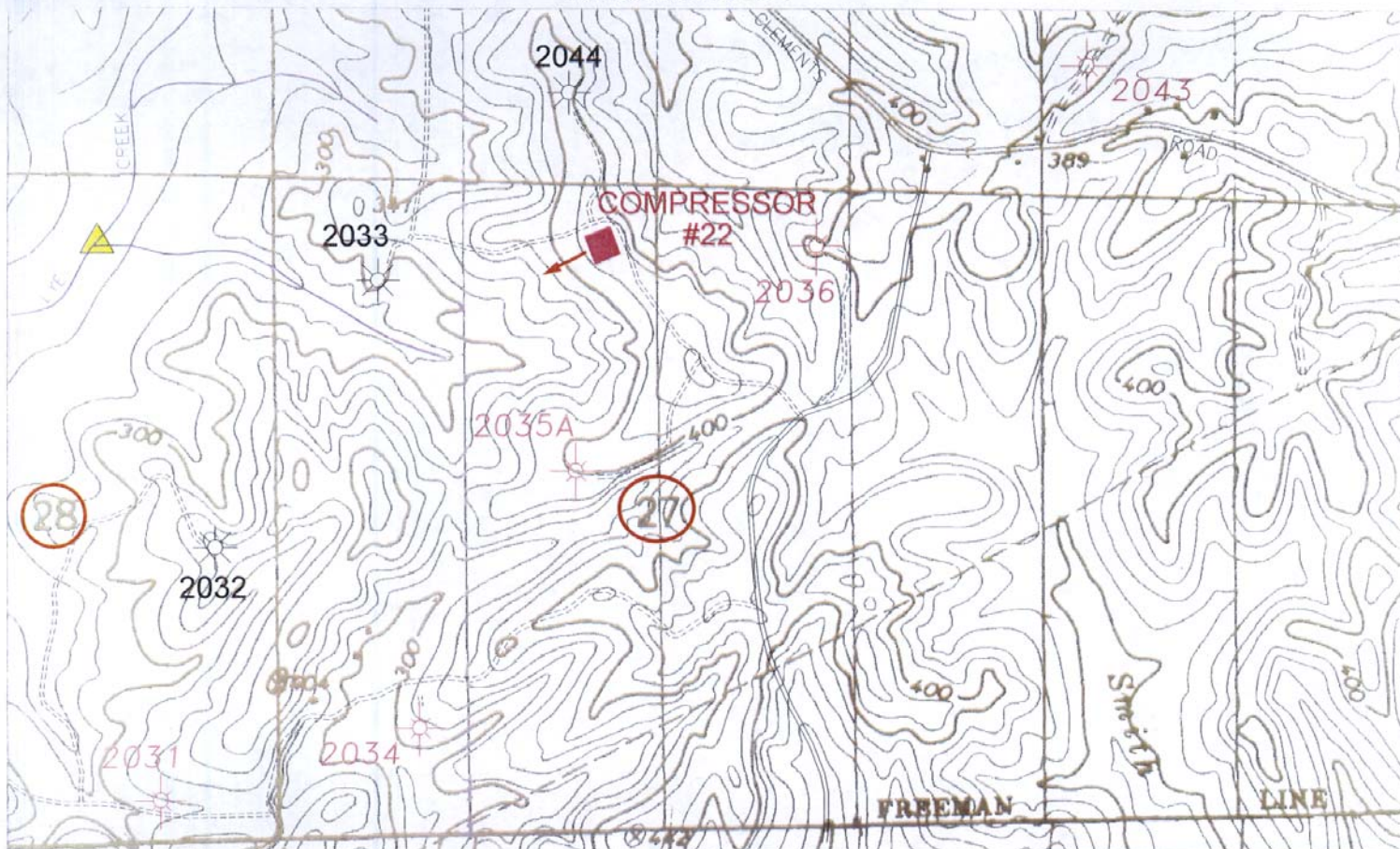





VANCE
COMPRESSOR STATION #14
PREDICTED FLOW DIRECTION

AUGUST, 2012 SCALE: 1"=1000'

RANGE 8 WEST

TOWNSHIP 22 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



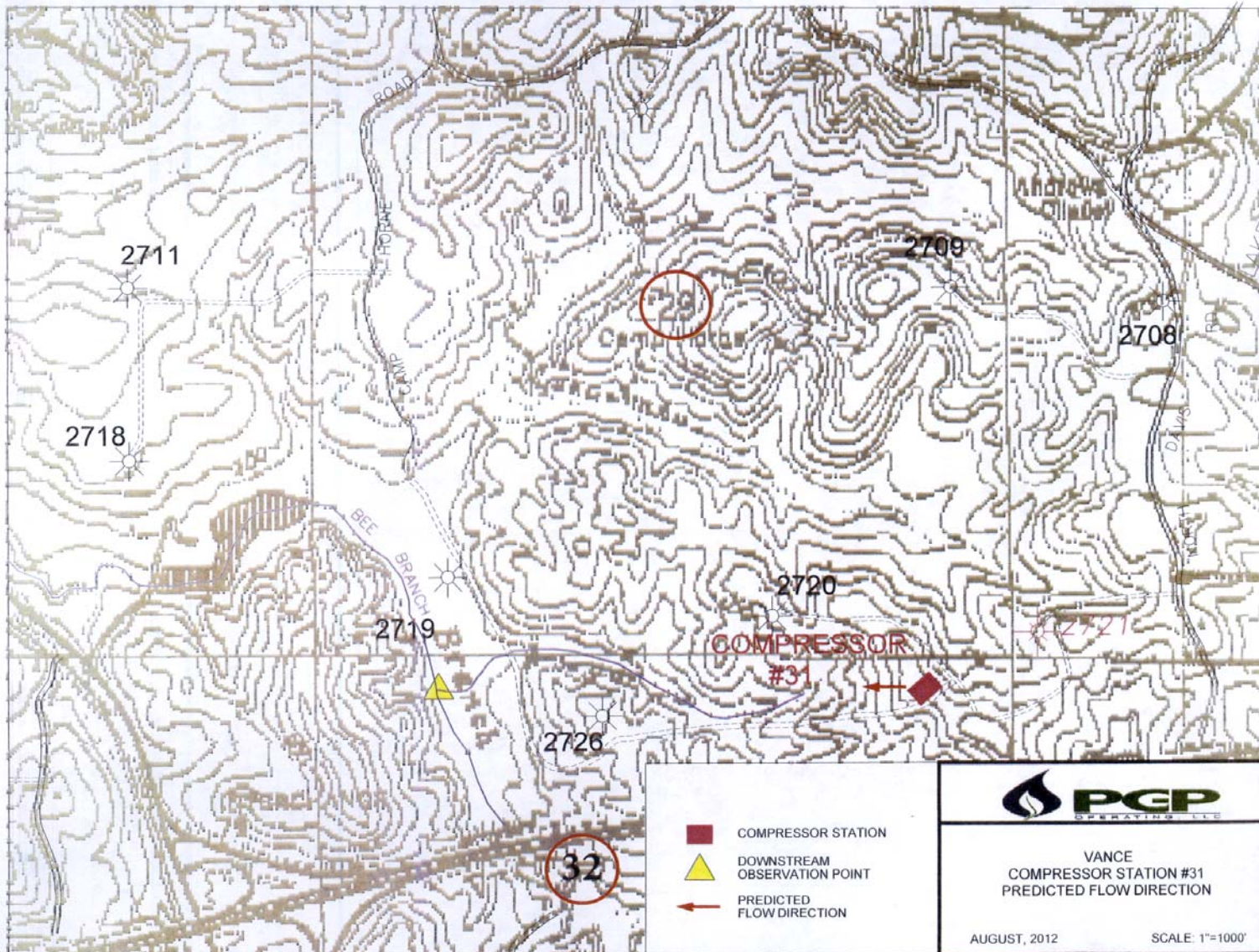
VANCE
COMPRESSOR STATION #22
PREDICTED FLOW DIRECTION

AUGUST, 2012


SCALE: 1"=1000'

RANGE 8 WEST

TOWNSHIP 21 SOUTH






- COMPRESSOR STATION
- ▲ DOWNSTREAM OBSERVATION POINT
- PREDICTED FLOW DIRECTION


VANCE
COMPRESSOR STATION #31
PREDICTED FLOW DIRECTION

RANGE 8 WEST

TOWNSHIP 22 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



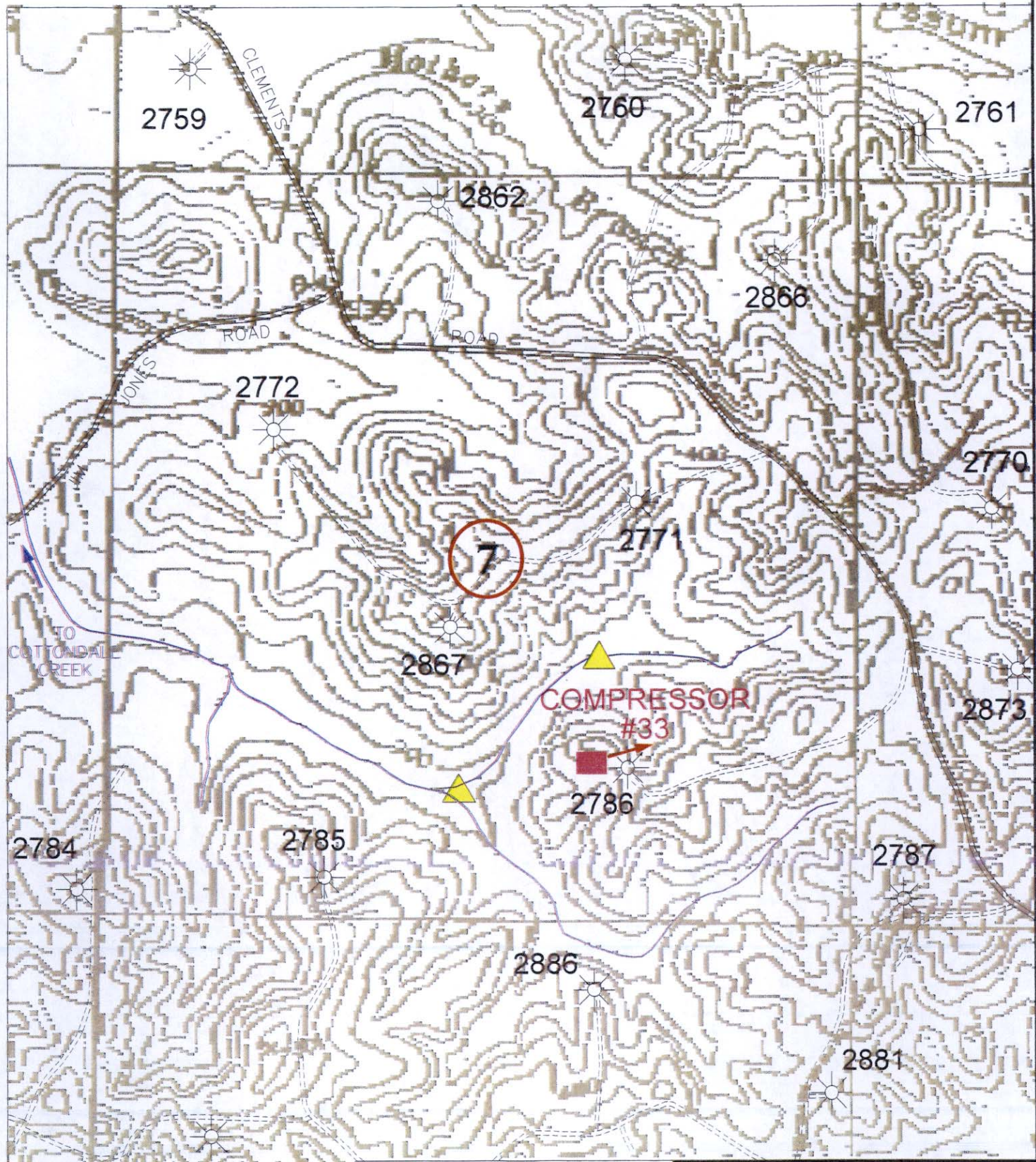
VANCE
 COMPRESSOR STATION #32
 PREDICTED FLOW DIRECTION




AUGUST, 2012

SCALE: 1"=1000'

RANGE 8 WEST

TOWNSHIP 22 SOUTH



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION






VANCE
 COMPRESSOR STATION #33
 PREDICTED FLOW DIRECTION

AUGUST, 2012

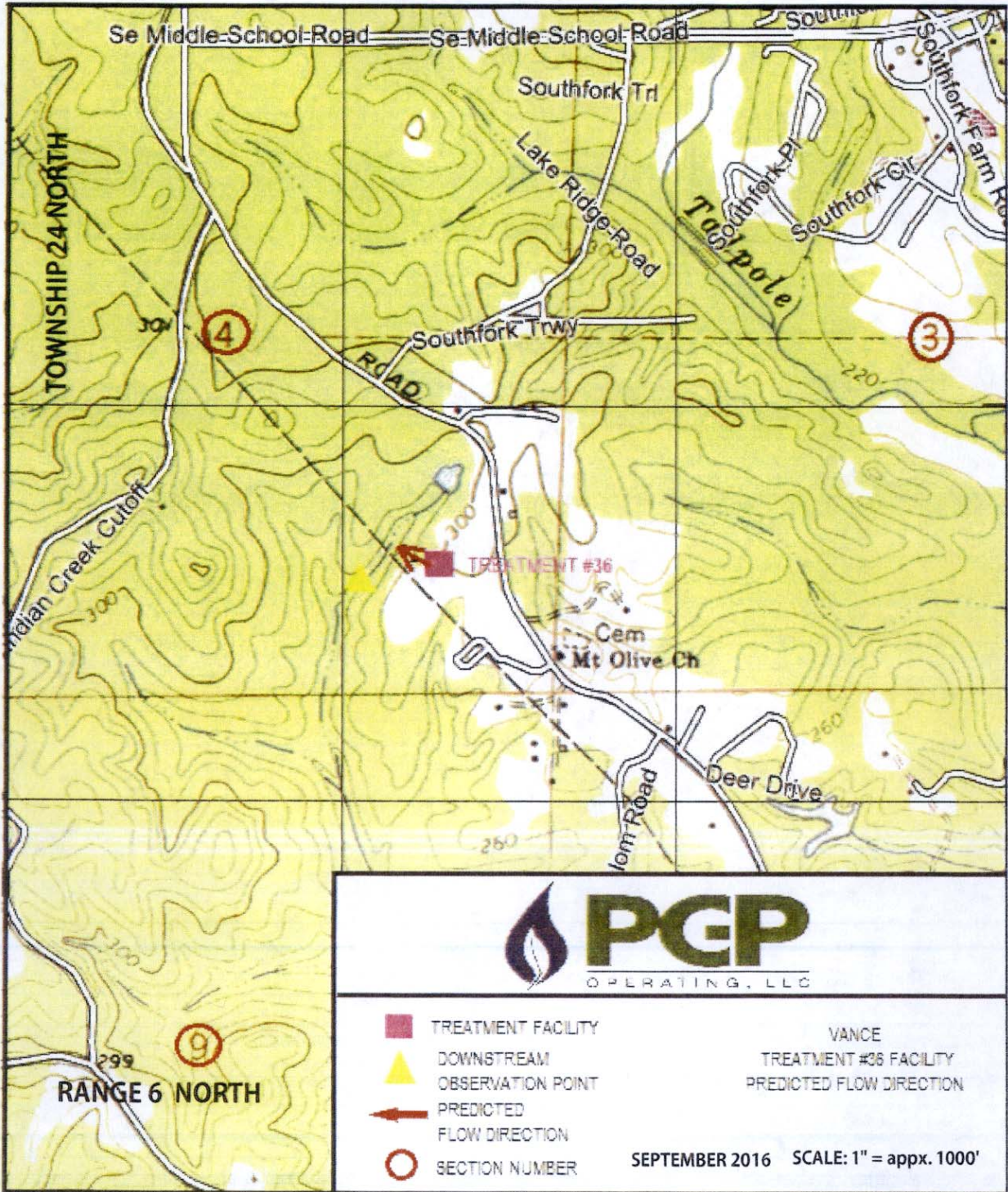
SCALE: 1"=1000'



-  COMPRESSOR STATION
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION

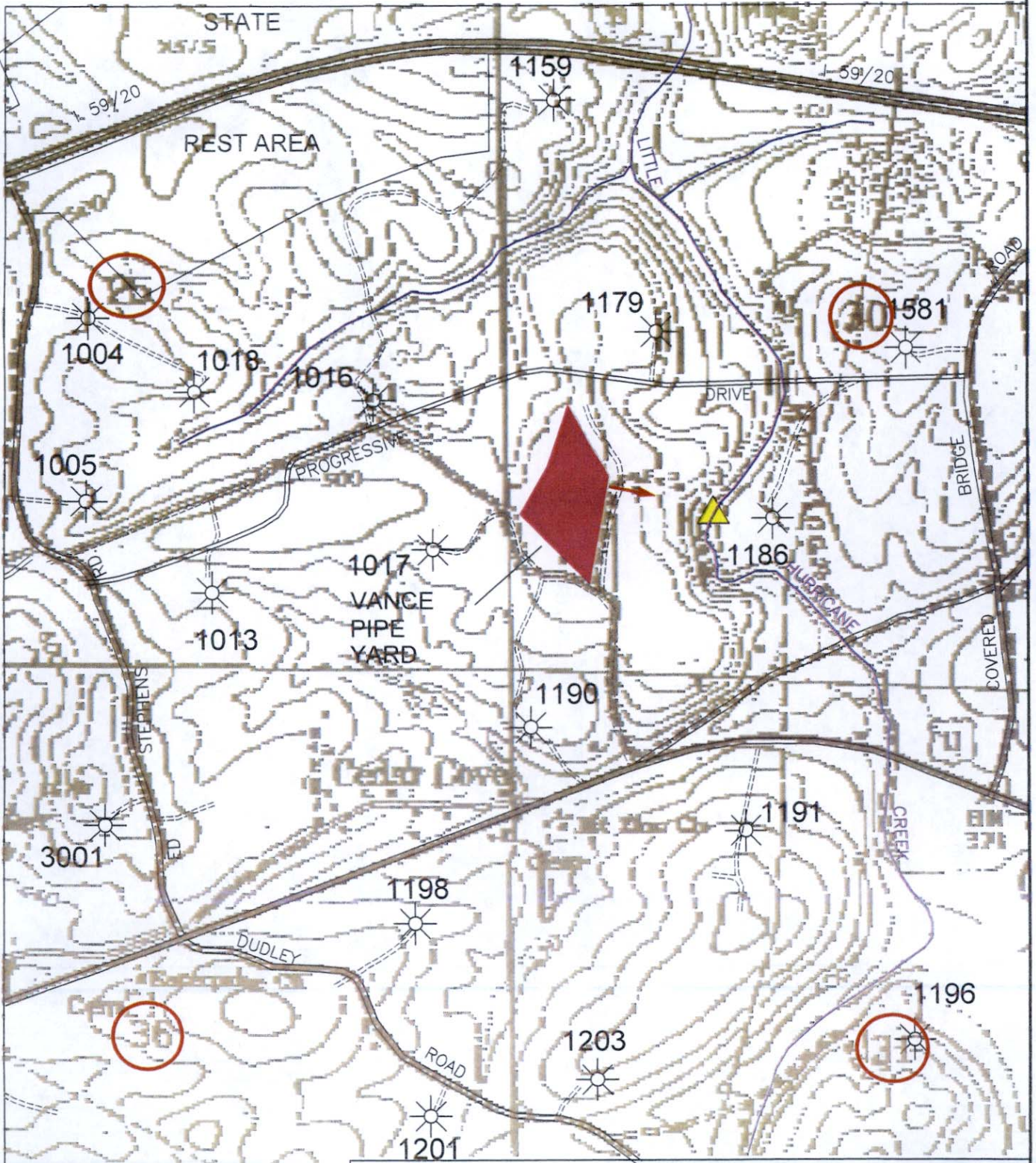





VANCE
 COMPRESSOR STATION #34
 PREDICTED FLOW DIRECTION




RANGE 8 WEST

TOWNSHIP 21 SOUTH



-  PIPE YARD
-  DOWNSTREAM OBSERVATION POINT
-  PREDICTED FLOW DIRECTION



VANCE
PIPE YARD
PREDICTED FLOW DIRECTION

AUGUST, 2012 SCALE: 1"=1000'