

NPDES Permit No. IL0079472
Notice No. 5780c

Public Notice Beginning Date: **April 12, 2011**

Public Notice Ending Date: **May 12, 2011**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft New NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water, Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-0610

Name and Address of Discharger:

Sugar Camp Energy, L.L.C.
430 Harper Park Drive
Beckley, WV 25801

Name and Address of Facility:

Sugar Camp Energy, L.L.C.
Sugar Camp Mine NW Portal
P.O. Box 357
Johnston City, IL 62951
9.5 miles northeast of Benton, Illinois
(Franklin County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue an NPDES permit to discharge into waters of the state and has prepared a draft permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. Comments will be accepted until the Public Notice period ending date indicated above, unless a request for an extension of the original comment period is granted by the Agency. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

As provided in Section 309.115(a) of the Act, any person may submit a request for a public hearing and if such written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. The Agency shall issue public notice of such hearing no less than thirty (30) days prior to the date of such hearing in the manner described by Sections 309.109 through 309.112 of the Act for public notice. The Agency's responses to written and/or oral comments will be provided in the Responsiveness Summary provided when the final permit is issued.

The applicant proposes an additional surface facilities area to an existing underground coal mine (SIC 1222). Mine operations result in the discharge of alkaline mine drainage and sanitary wastewater.

Application is made for two (2) new discharges which are located in Franklin, Illinois. The following information identifies the discharge points, receiving streams and stream classifications:

| <u>Outfall</u> | <u>Receiving Stream</u> | <u>Latitude (North)</u> | <u>Longitude (West)</u> | <u>Stream Classification</u> |
|----------------|--|-------------------------|-------------------------|------------------------------|
| 010 | Unnamed tributary to Middle Fork Big Muddy River | 38° 3' 29" | 88° 45' 44" | General Use |
| A10 | Pond 010 | 38° 3' 31" | 89° 45' 43" | General Use |

The stream segment NH-07 of Middle Fork Big Muddy River receiving the flow from the unnamed tributary into which Outfall 010 discharges is on the draft 2010 303(d) list of impaired waters. The following parameters have been identified as the pollutants causing impairment:

| <u>Outfall</u> | <u>Potential Causes</u> | <u>Sources</u> |
|----------------|--|--|
| 010 | Manganese, Oxygen, Dissolved Sedimentation/Siltation | Petroleum/natural Gas Activities Surface Mining, Animal Feeding Operations (NPS), Natural Sources, Crop Production (Crop Land or Dry Land) |

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 010

| Discharge Condition | Parameters | | | | | | | | | | |
|---------------------|-----------------------------------|---------------|------------------------------|---------------|---------------|------------------------|--------------------|-----------------|--------------|-----------------------|------------------------------|
| | Total Suspended Solids (3) (mg/l) | | Iron (total) (3), (4) (mg/l) | | pH (3) (S.U.) | Alkalinity/Acidity (3) | Sulfate (1) (mg/l) | Chloride (mg/l) | Hardness (5) | Flow (MGD) | Settleable Solids (2) (ml/l) |
| | 30 day average | daily maximum | 30 day average | daily maximum | | | | | | | |
| I | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1899 | 500 | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1899 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1899 | 500 | Monitor only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1899 | 500 | Monitor only | Measure When Sampling | - |

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
 - II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.62 inches.
 - III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
 - IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.
- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
 - (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
 - (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
 - (4) Discharges from Outfall 010, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
 - (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.

The sanitary discharge from this facility shall be monitored and limited at all times as follows:

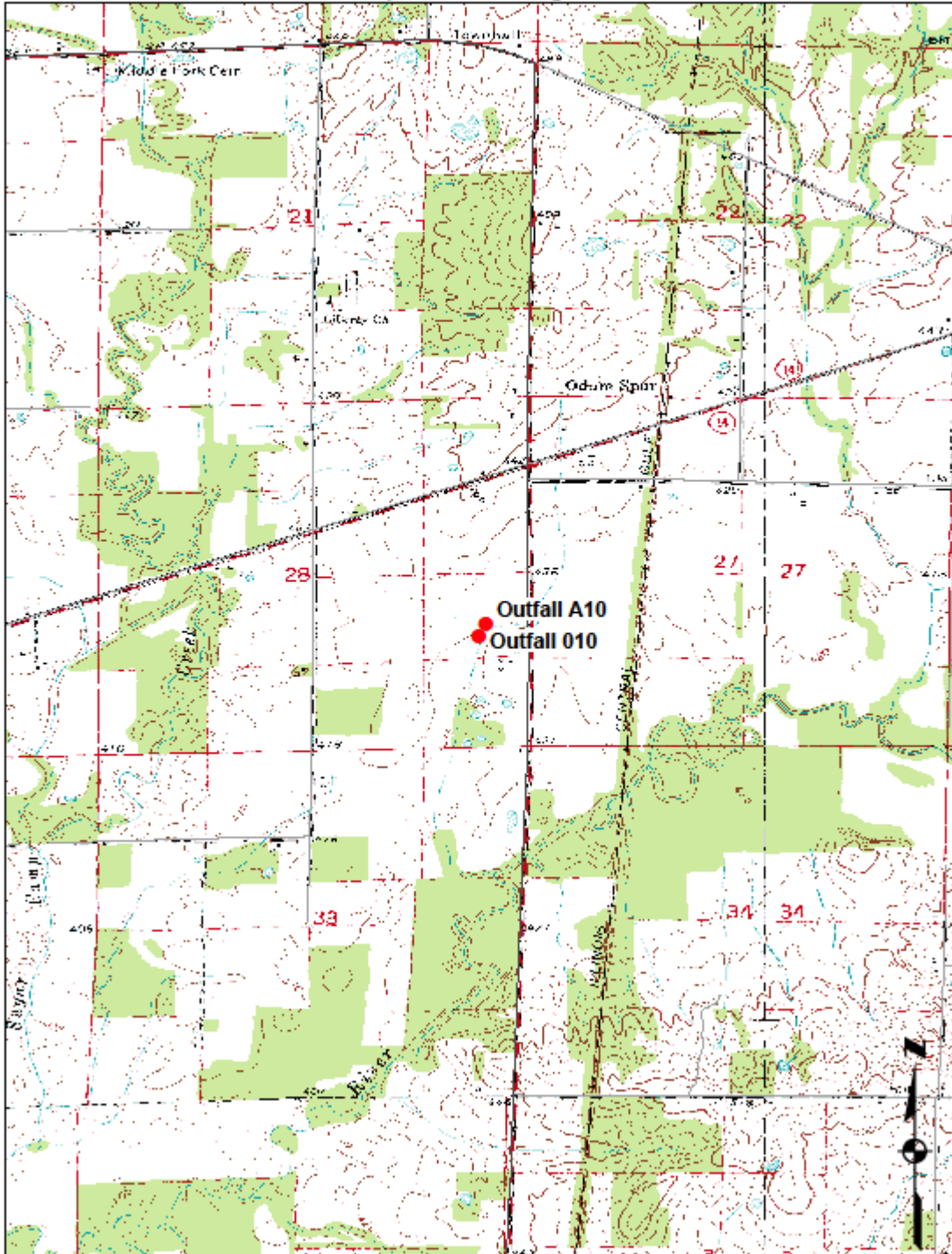
Outfall: A10

| Parameters | | | | | | | | | | |
|------------------------------------|---------------|---------------------------------|---------------|------------------------------|---------------|---------------------------------|---------------|----------------------|---------------------------|-----------------------|
| Total Suspended Solids (composite) | | | | BOD ₅ (composite) | | | | pH (S.U.) (grab) (3) | Fecal Coliform (grab) (2) | Flow (MGD) |
| Load Limits (1) (lbs/day) | | Concentration Limits (2) (mg/l) | | Load Limits (1) (lbs/day) | | Concentration Limits (2) (mg/l) | | | | |
| 30 day average | daily maximum | 30 day average | daily maximum | 30 day average | daily maximum | 30 day average | daily maximum | | daily maximum | |
| 0.37 | 0.75 | 30 | 60 | 0.37 | 0.75 | 30 | 60 | 6.0-9.0 | ≤400/100 ml | Measure When Sampling |

- (1) Load limits are calculated as follows:
Average Flow (MGD) x Average or Maximum Concentration Limit (mg/l) X 8.34 = lbs/day
- (2) General effluent standards for deoxygenating wastes are contained in 35 Ill. Adm. Code 304.120.
- (3) pH shall not be less than 6.0 nor greater than 9.0 S.U. pursuant to 35 Ill. Adm. Code 304.125(a).

To assist you in identifying the location of the discharges, please refer to the attached map. The permit area for this facility is located in Section 28, Township 5 South, Range 4 East, 3rd P.M., Franklin County, Illinois.

Sugar Camp Energy, L.L.C. - Sugar Camp Mine NW Portal
NPDES No. IL0079472
Franklin County
Township 5 South, Range 4 East



**Antidegradation Assessment
Sugar Camp Energy, L.L.C. – Sugar Camp Mine NW Portal
NPDES Permit No. IL0079472
Franklin County**

The subject facility has applied for an NPDES permit for discharges from a proposed portal associated with the Sugar Camp Energy, L.L.C. underground coal mine (NPDES No. IL0078565, IDNR Permit No. 382). The proposed portal is located outside of the mine permit area and is therefore included as an Incidental Boundary Revision (IBR) to IDNR Permit No. 382. The proposed outfalls associated with the portal consist of a sedimentation pond discharge (Outfall 010) and 1,500 gallons per day of sanitary wastewater treatment system discharge (Outfall A10). The sedimentation pond would have a capacity of 1.5 million gallons of water and is designed to have an average flow of 23,570 gallons per day. The potable water supply for the facility would be provided by Akin Water District, which has lines in the vicinity of the site. The treated wastewater would be received by the sedimentation pond and would ultimately discharge from Outfall 010. Stormwater that would be discharged from Outfall 010 would consist of runoff from buildings, paved areas, vegetated sub-soil and top-soil stockpiles, and a construction storage yard. No coal would be handled at this portal, therefore no surface water exposure to coal would occur. The combined discharges from Outfalls 010 and A10 would be received by an unnamed tributary of the Middle Fork Big Muddy River.

Identification and Characterization of the Affected Water Body.

The unnamed tributary of the Middle Fork Big Muddy River is a General Use water with zero 7Q10 flow. It has not been assessed under the Agency's 305(b)/303(d) program and has not been given an integrity rating or been listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The water body is not enhanced in regards to the dissolved oxygen water quality standard. According to the USGS Illinois Streamstats basin characteristics program the watershed size of the unnamed tributary upstream of the proposed discharge point is 0.30 square miles. The Illinois State Water Survey has determined that southern Illinois streams with five square miles of watershed or less are characterized as 7Q1.1 zero flow streams and are therefore expected to have at least seven days of continuous zero flow nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found. Given this flow regime, no additional biological characterization of the unnamed tributary is required.

Downstream waters that may be impacted by this project include Segment NH-07 of the Middle Fork Big Muddy River. The Middle Fork Big Muddy River is a General Use water with zero 7Q10 flow. It is listed on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for aquatic life use, with causes of impairment listed as manganese, dissolved oxygen (non-pollutant), and sedimentation/siltation. At its confluence with the unnamed tributary, the Middle Fork Big Muddy River is not listed as a Biologically Significant stream nor has it been given an integrity rating based on the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. However, the Middle Fork Big Muddy River has been given a "C" integrity rating downstream of its confluence with Sugar Camp Creek, which is located approximately one mile downstream of the confluence of the unnamed tributary with Middle Fork Big Muddy River.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

Ammonia, biochemical oxygen demand, and total residual chlorine would be present in the wastewater treatment system discharge but would be expected to meet permit limits at Outfall A10 prior to discharge into the sedimentation basin. A measurable increase of these parameters to the unnamed tributary would not occur given the small volume of wastewater effluent being received by the sedimentation pond. The unnamed tributary could potentially receive a slight increase in chloride loading due to salt application on paved areas during winter months. Sulfate, manganese, and total suspended solids loading could potentially increase during construction activities but would be minimized by the sedimentation pond. Phosphorus would be present in small quantities in the treated wastewater and in runoff during construction activities. The current land use of the area is agricultural, therefore an increased loading of these parameters compared to existing conditions would not be expected to persist following completion of construction activities. Sulfate and chloride would be regulated at Outfall 010 with no mixing allowance to assure attainment of water quality standards in the receiving water. No adverse impacts to designated uses of the receiving water would be anticipated.

Fate and Effect of Parameters Proposed for Increased Loading.

The potential increases in sulfate, manganese, and total suspended solids loadings during construction activities and the minor increases in chloride loading during winter months would not adversely affect the receiving water. Sulfate and chloride would remain dissolved in the receiving waters and small amounts would be removed by aquatic life for biological functions. Suspended manganese would eventually become a very minor part of the sediment load of the receiving water and dissolved manganese would remain in the water column except for small amounts removed by aquatic life. Concentrations of all three constituents would meet water quality standards and would not adversely impact the receiving water. The temporary increase of suspended solids during construction activities would be incorporated into bed sediments in the receiving water.

**Antidegradation Assessment
Sugar Camp Energy, L.L.C. – Sugar Camp Mine NW Portal
NPDES Permit No. IL0079472
Franklin County**

Purpose and Anticipated Benefits of the Proposed Activity.

The proposed portal is vital to the mining operations of Sugar Camp Mine. The portal would provide ventilation to underground operations, which is essential to the safety of the employees. Secondly, the portal would provide closer access for personnel once mining operations progress to the northern area of the permit.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

The applicant provided information on several alternatives that were considered in place of the proposed surface water discharges. The following is a brief description of the alternatives and the reasoning for rejection.

Alternatives to the Proposed Outfalls.

Do Not Construct: The facility would provide two vital services to the Sugar Camp Mine by providing ventilation and expediting travel of personnel to and from mining operations. Without the portal and ventilation facility the continued operation of the Sugar Camp Mine would be compromised. Considering the services provided by the portal and economic considerations associated with the Sugar Camp Mine, this alternative is not considered practical.

Eliminate Stormwater Discharge: Considering that the area of the proposed portal receives greater than 40 inches of annual precipitation it is not feasible to contain all stormwater on-site. Stormwater from the facility is expected to be benign and all water quality standards would be attained during time of discharge. Total elimination of stormwater discharges from the proposed sedimentation pond is not a viable option.

Reduce the Number of Outfalls: Since only one discharge point is proposed for the site this is not a viable option.

Combine the Discharge with Other Discharge Points at the Original Mine Site: Combining this site with the original mine site would be possible but is not considered practical due to the factors explained below. Due to the additional cost required and the expected zero gain in overall water quality, this alternative was eliminated from consideration.

- **Geographic Separation:** The proposed sedimentation pond is approximately two miles from the nearest pond on the original mine site. Construction of a pipe line of this length would be prohibitively expensive.
- **Topography:** Due to the topography between the sites, a pipeline with gravity flow is not possible. This would require a pressure pipe connection with pumping required from the proposed pond to the existing mine site. Installation and operating costs of such a pressure system would be prohibitive.
- **Zero net gain in overall water quality:** The treatment processes available at the existing mine site are identical to those proposed for the portal site. Thus, treated water quality should be comparable between the two. Further, discharges from the proposed system and the existing site would eventually be received by the same watershed.

Use Alternative Sediment Control and Treatment Devices: Sediment control alternatives such as chemical soil stabilizers, erosion control blankets, geotextile filter bags, fiber rolls, silt fencing, straw mulch, straw bale dikes, and temporary seeding may be used in small portions of the permit area that cannot be directed to the sedimentation pond. However, the use of these practices to eliminate the proposed sedimentation pond is not feasible.

Alternative Treatment System for Sanitary Wastewater Discharges: The proposed water treatment system consists of three septic tanks with final treatment provided by a buried sand filter. The system is the same system that was approved for the original Sugar Camp mine permit by the Bi-County Health Department in Marion, Illinois. A surface discharge system was selected due to the presence of clay soils at the location which makes a sub-surface leaching field infeasible. Given the excellent results expected from this treatment system, other alternatives to the wastewater treatment system were not considered.

Advanced Treatment Technologies

The use of a sedimentation basin is the most cost-effective and practical method of treatment of surface water runoff from the proposed facility. The following treatment technologies were considered as possible alternatives but were rejected due to the reasons stated below.

**Antidegradation Assessment
Sugar Camp Energy, L.L.C. – Sugar Camp Mine NW Portal
NPDES Permit No. IL0079472
Franklin County**

Filtration: This technology was eliminated from consideration for the following reasons: filtration does not remove dissolved solids and filters only a portion of suspended material, filtration processes require a steady stream of water for treatment which would not be present given that stormwater is the predominant effluent, a larger tract of land would be required for such a facility, and filtration would be much more expensive based on initial cost and long-term maintenance due to costs associated with operation/supervision of the system and disposal of solids.

Reverse Osmosis: This technology would not be practical given the high energy and maintenance requirements. The source water would likely require chemical treatment to prevent biological growth, corrosion, and mineral scaling within the system and the reject water from the system would require treatment with a coagulant to collect the precipitate. The precipitate from the reject water would also require landfill disposal.

Bioremediation: There are several limitations to bioremediation which make this alternative infeasible. A large tract of land would be required to construct a wetland of sufficient size to treat stormwater runoff and the intermittent discharge would pose problems in providing bacteria with a constant food source. Additionally, treatment during winter would be inhibited due to reduced biological activity of bacterial and aerobic plant life, and sludge accumulation would eventually require dredging and wetland reconstruction.

Chemical Precipitation: Use of alkaline chemicals to precipitate metals and reduce acidity is not necessary for the proposed sedimentation basin since water quality standards are expected to be achieved upon outfall. Use of chemical additives would result in unnecessary risks to worker safety, increased costs due to operation and maintenance, and the system would be susceptible to malfunction due to the high volume of flows that may occur during storm events.

Ion Exchange: Ion exchange equipment would require a constant water supply and the concentrated wastewater would have to be disposed of offsite. This technology is impractical for treating stormwater runoff.

Cost-Effective Sulfate Removal (CESR) Process: CESR is a developing proprietary technology that uses hydrated lime and proprietary chemicals to precipitate gypsum, metals, and ettringite. The technology is time consuming, requires large amounts of land, has high infrastructure costs and requires increased supervision and maintenance, has issues with scaling and precipitation of minerals, produces an effluent with high specific conductivity and a high concentration of total dissolved solids, and would produce a sludge that would require landfill disposal. This technology is impractical at the proposed facility due to the aforementioned drawbacks, as well as the consideration that stormwater runoff from the site is expected to meet water quality standards upon outfall from the sedimentation basin.

Supervac: This sludge treatment technology would only be appropriate in conjunction with another water treatment technology. This technology is not considered a viable alternative given that a sedimentation basin is the most practical and feasible treatment for the facility and sludge wastes will not be produced.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.

The Illinois Department of Natural Resources was consulted regarding threatened and endangered species issues via the EcoCAT system on February 14, 2011. It was determined that no aquatic threatened or endangered species reside in the receiving stream and consultation was immediately terminated.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft permit was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all existing uses of the receiving stream will be maintained; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity would be beneficial to the safety and efficiency of mining operations. Comments received during the NPDES permit public notice period will be evaluated before a final decision is made by the Agency.

NPDES Permit No. IL0079472

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue, East

P.O. Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

New NPDES Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Permittee:

Sugar Camp Energy, L.L.C.
430 Harper Park Drive
Beckley, WV 25801

Facility Name and Address:

Sugar Camp Energy, L.L.C.
Sugar Camp Mine NW Portal
P.O. Box 357
Johnston City, IL 62951
9.5 miles northeast of Benton, Illinois
(Franklin County)

Discharge Number and Classification:

010 Alkaline Mine Drainage

A10 Sanitary Wastewater

Receiving waters

Unnamed tributary to Middle Fork Big Muddy River

Pond 010

In compliance with the provisions of the Illinois Environmental Protection Act, Subtitle C and/or Subtitle D Rules and Regulations of the Illinois Pollution Control Board, and the Clean Water Act, the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Ronald E. Morse, Manager
Mine Pollution Control Program
Bureau of Water

REM:LDC:5780c/03-04-11

NPDES Coal Mine Permit
 NPDES Permit No. IL0079472
 Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall*: 010 (Alkaline Mine Drainage)

| Discharge Condition | Parameters | | | | | | | | | | |
|---------------------|-----------------------------------|---------------|-------------------------|---------------|-----------------|-------------------------|--------------------|---------------------|--------------|-----------------------|--------------------------|
| | Total Suspended Solids (mg/l) *** | | Iron (total) (mg/l) *** | | pH** (S.U.) *** | Alkalinity/ Acidity *** | Sulfate (mg/l) *** | Chloride (mg/l) *** | Hardness *** | Flow (MGD) | Settleable Solids (ml/l) |
| | 30 day average | daily maximum | 30 day average | daily maximum | | | | | | | |
| I | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1899 | 500 | Monitor Only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1899 | 500 | Monitor Only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1899 | 500 | Monitor Only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1899 | 500 | Monitor Only | Measure When Sampling | - |

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.62 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

*** There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 8 and 12 for the discharges from Outfall 010 and unnamed tributary to Middle Fork Big Muddy River receiving such discharges.

** No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

NPDES Coal Mine Permit
 NPDES Permit No. IL0079472
 Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall*: A10 (Sanitary Wastewater)

| Parameters | | | | | | | | | | |
|------------------------------|------------------|-----------------------------------|------------------|--------------------------|------------------|-----------------------------------|------------------|--------------------|-------------------------|-----------------------------|
| Total Suspended Solids ** | | | | BOD ₅ ** | | | | pH (S.U.) ** | Fecal Coliform ** | Flow (MGD) |
| Load Limits (lbs/day) | | Concentration Limits (mg/l) | | Load Limits (lbs/day) | | Concentration Limits (mg/l) | | | | |
| 30 day average | daily maximum | 30 day average | daily maximum | 30 day average | daily maximum | 30 day average | daily maximum | | | |
| 0.37 | 0.75 | 30 | 60 | 0.37 | 0.75 | 30 | 60 | 6.0-9.0 | ≤400/100 ml | Measure When Sampling |

* Sample only when Outfall A10 is discharging.

** A minimum of three (3) samples per month shall be collected and analyzed for the indicated parameter; however, such sampling and analysis is required only if and/or when a discharge occurs from Outfall A10. No more than one (1) sample shall be collected during any individual monitoring event.

NPDES Coal Mine Permit
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Effluent Limitations and Monitoring

Upon completion of Special Condition No. 9 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall*: 010 (Reclamation Area Drainage)

| Discharge Condition | Parameters | | | | | |
|---------------------|-----------------------|--------------------------|---------------------------|-----------------|-----------------------------|---------------------------------------|
| | pH** (S.U.) *** | Sulfate (mg/l) *** | Chloride (mg/l) *** | Hardness *** | Flow (MGD) | Settleable Solids (ml/l) *** |
| I | 6.5-9.0 | 1899 | 500 | Monitor only | Measure When Sampling | 0.5 |
| II | 6.0-9.0 | 1899 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | 6.0-9.0 | 1899 | 500 | Monitor only | Measure When Sampling | - |
| IV | 6.5-9.0 | 1899 | 500 | Monitor only | Measure When Sampling | 0.5 |

- I Dry weather discharge (base flow, if present) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.109(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations. The 10-year, 24-hour precipitation event for this area is considered to be 4.62 inches.
- III In accordance with 35 Ill. Adm. Code 406.109(c), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.109(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For reclamation area discharges, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method. A "no flow" situation is not considered to be a sample of the discharge.

*** One sample per month (1/month) shall be collected if and/or when a discharge occurs under either Discharge Condition I, II or IV and analyzed for the parameters identified in the table above. In addition, at least three (3) grab samples shall be taken each quarter from separate precipitation events under Discharge Condition III and analyzed for parameters indicated in the above table. For quarters in which there are less than 3 such precipitation events, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s).

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 12 for the discharges from Outfall 010 and unnamed tributary to Middle Fork Big Muddy River receiving such discharges.

** No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

NPDES Coal Mine Permit
NPDES Permit No. IL0079472
Effluent Limitations and Monitoring

Upon completion of Special Condition No. 10 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfalls: 010 (Stormwater Discharge)

| Parameters | |
|---------------------|-----------------------------------|
| pH* (S.U.) ** | Settleable Solids (ml/l) ** |
| 6.0-9.0 | 0.5 |

Stormwater discharge monitoring is subject to the following reporting requirements:

Analysis of samples must be submitted with second quarter Discharge Monitoring Reports.

Annual stormwater monitoring is required for all discharges until Final SMCRA Bond is released and approval to cease such monitoring is obtained from the Agency.

* No discharge is allowed from any above referenced permitted outfalls during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

** One (1) sample per year shall be collected and analyzed for the indicated parameter; however, such sampling and analysis is required only if and/or when a discharge occurs from the individual Outfall(s) identified above.

NPDES Permit No. IL0079472

Construction Authorization No. 8389-10

C.A. Date: March 15, 2011

Authorization is hereby granted to the above designee to construct and operate the mine facilities described as follows:

Surface facilities in support of an underground mine containing a total of 19.8 acres, as described and depicted in IEPA Log Nos. 8389-10 and 8389-10-A and located in Sections 28, Township 5 South, Range 4 East, Franklin County, 3rd P.M., Illinois.

These surface facilities in support of the underground mine contains the intake shaft with man elevator, parking lots, access roads, drainage control structures, bath house, change rooms, topsoil and subsoil stockpile areas, shaft excavation stockpile, shaft construction drill pit, sediment pond and wastewater treatment system.

Surface drainage control is provided by one (1) sedimentation pond with discharge designated as Outfall 010, classified as alkaline mine drainage.

Discharge from the sanitary wastewater treatment system, identified as Outfall A10, will be tributary to Pond 010 via Ditch 010-B.

Location and receiving stream of the Outfalls at this facility is as follows:

| Outfall Number | Latitude | | | Longitude | | | Receiving Water |
|----------------|----------|-----|-----|-----------|-----|-----|--|
| | DEG | MIN | SEC | DEG | MIN | SEC | |
| 010 | 38° | 3' | 29" | 88° | 45' | 44" | Unnamed tributary to Middle Fork Big Muddy River |
| A10 | 38° | 3' | 31" | 88° | 45' | 43" | Pond 010 |

This facility is not approved for coal stockpiling or coal refuse disposal.

The abandonment plan shall be executed and completed in accordance with 35 Ill. Adm. Code 405.109.

All water remaining upon abandonment must meet the requirements of 35 Ill. Adm. Code 406.202. For the constituents not covered by Parts 302 or 303, all water remaining upon abandonment must meet the requirements of 35 Ill. Adm. Code 406.106.

This Authorization is issued subject to the following Condition(s). If such Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval to secure issuance of a Supplemental Authorization to Construct.

1. If any statement or representation is found to be incorrect, this permit may be revoked and the permittee thereupon waives all rights thereunder.
2. The issuance of this permit (a) shall not be considered as in any manner affecting the title of the premises upon which the mine or mine refuse area is to be located; (b) does not release the permittee from any liability for damage to person or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (c) does not take into consideration the structural stability of any units or parts of the project; and (d) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or with applicable local laws, regulations or ordinances.
3. Final plans, specifications, application and supporting documents as submitted by the person indicated on Page 1 as approved shall constitute part of this permit and are identified by Log # (VARIABLE NO) in the records of the Illinois Environmental Protection Agency.
4. There shall be no deviations from the approved plans and specifications unless revised plans, specifications and application shall first have been submitted to the Illinois Environmental Protection Agency and a supplemental permit issued.
5. The permit holder shall notify the Environmental Protection Agency (217/782-3637) immediately of an emergency at the mine or mine refuse area which causes or threatens to cause a sudden discharge of contaminants into the waters of Illinois and shall immediately undertake necessary corrective measures as required by 35 Ill. Adm. Code 405.111. (217/782-3637 for calls between the hours of 5:00 p.m. to 8:30 a.m. and on weekends.)
6. The termination of an NPDES discharge monitoring point or cessation of monitoring of an NPDES discharge is not authorized by this Agency until the permittee submits adequate justification to show what alternate treatment is provided or that untreated drainage will meet applicable effluent and water quality standards.

NPDES Permit No. IL0079472

Construction Authorization No. 8389-10-A

C.A. Date: March 15, 2011

7. Initial construction activities in areas to be disturbed shall be for collection and treatment facilities only. Prior to the start of other activities, surface drainage controls shall be constructed and operated to avoid violations of the Act or Subtitle D. At such time as runoff water is collected in the sedimentation pond, a sample shall be collected and analyzed, for the parameters designated as 1M through 15M under Part 5-C of Form 2C and the effluent parameters designated herein with the results sent to this Agency. Should additional treatment be necessary to meet the standards of 35 Ill. Adm. Code 406.106, a Supplemental Permit must be obtained. Discharge from ponds is not allowed unless applicable effluent and water quality standards are met in the basin discharge(s).
8. This Agency must be informed in writing and an application submitted if drainage, which was previously classified as alkaline (pH greater than 6.0), becomes acid (pH less than 6.0) or ferruginous (base flow with an iron concentration greater than 10 mg/l). The type of drainage reporting to the basin should be reclassified in a manner consistent with the applicable rule of 35 Ill. Adm. Code 406 as amended in R84-29 at 11 Ill. Reg. 12899. The application should discuss the treatment method and demonstrate how the discharge will meet the applicable standards.
9. A permittee has the obligation to add a settling aid if necessary to meet the suspended solids or settleable solids effluent standards. The selection of a settling aid and the application practice shall be in accordance with a. or b. below
 - a. Alum ($\text{Al}_2(\text{SO}_4)_3$), hydrated lime ($\text{Ca}(\text{OH})_2$), soda ash (Na_2CO_3), alkaline pit pumpage, acetylene production by-product (tested for impurities), and ground limestone are acceptable settling aids and are hereby permitted for alkaline mine drainage sedimentation ponds.
 - b. Any other settling aids such as commercial flocculents and coagulants are permitted only on prior approval from the Agency. To obtain approval a permitted must demonstrate in writing to the Agency that such use will not cause a violation of the toxic substances standard of 35 Ill. Adm. Code 302.210 or of the appropriate effluent and water quality standards of 35 Ill. Adm. Code parts 302, 304, and 406.
10. A general plan for the nature and disposition of all liquids used to drill boreholes shall be filed with this Agency prior to any such operation. This plan should be filed at such time that the operator becomes aware of the need to drill unless the plan of operation was contained in a previously approved application. After settling, recirculation water which meets the requirements of 35 Ill. Adm. Code 406.106 and 406.202, may be discharged. The use of additives in the recirculation water which require treatment other than settling to comply with the Act will require a revised permit.
11. Any of the following shall be a violation of the provisions required under 35 Ill. Adm. Code 406.202:
 - a. It is demonstrated that an adverse effect on the environment in and around the receiving stream has occurred or is likely to occur.
 - b. It is demonstrated that the discharge has adversely affected or is likely to adversely affect any public water supply.
 - c. The Agency determines that the permittee is not utilizing Good Mining Practices in accordance with 35 Ill. Adm. Code 406.204 which are fully described in detail in Sections 406.205, 406.206, 406.207 and 406.208 in order to minimize the discharge of total dissolved solids, chloride, sulfate, iron and manganese. To the extent practical, such Good Mining Practices shall be implemented to:
 - i. Stop or minimize water from coming into contact with disturbed areas through the use of diversions and/or runoff controls (Section 406.205).
 - ii. Retention and control within the site of waters exposed to disturbed materials utilizing erosion controls, sedimentation controls, water reuse or recirculation, minimization of exposure to disturbed materials, etc. (Section 406.206).
 - iii. Control and treatment of waters discharged from the site by regulation of flow of discharges and/or routing of discharges to more suitable discharge locations (Section 406.207).
 - iv. Utilized unconventional practices to prevent the production or discharge of waters containing elevated contaminant concentrations such as diversion of groundwater prior to entry into a surface or underground mine, dewatering practices to remove clean water prior to contacting disturbed materials and/or any additional practices demonstrated to be effective in reducing contaminant levels in discharges (Section 406.208).

NPDES Permit No. IL0079472

Special Conditions

Special Condition No. 1: No effluent from any mine related facility area under this permit shall, alone or in combination with other sources, cause a violation of any applicable water quality standard as set out in the Illinois Pollution Control Board Rules and Regulations, Subtitle C: Water Pollution.

Special Condition No. 2: Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

Special Condition No. 3: All periodic monitoring and reporting forms, including Discharge Monitoring Report (DMR) forms, shall be submitted to the Agency according to the schedule outlined in Special Condition No. 4 or 5 below with one (1) copy forwarded to each of the following addresses:

Illinois Environmental Protection Agency
 Division of Water Pollution Control
 1021 North Grand Ave., East
 P.O. Box 19276
 Springfield, IL 62794-9276

Illinois Environmental Protection Agency
 Mine Pollution Control Program
 2309 West Main Street, Suite 116
 Marion, Illinois 62959

Attn: Compliance Assurance Section

Should electronic filing be available and elected for any periodic monitoring and reporting requirements, the Agency shall be notified via correspondence or e-mail at such time that the electronic filing has been completed.

Special Condition No. 4: Completed Discharge Monitoring Report (DMR) forms and stream monitoring results, shall be retained by the Permittee for a period of three (3) months and shall be mailed and received by the IEPA at the addresses indicated in Special Condition No. 3 above in accordance with the following schedule, unless otherwise specified by the permitting authority.

| Period | Received by IEPA |
|-----------------------------|------------------|
| January, February, March | April 15 |
| April, May, June | July 15 |
| July, August, September | October 15 |
| October, November, December | January 15 |

The Permittee shall record discharge monitoring results on Discharge Monitoring Report forms (DMR's) using one such form for each applicable Discharge Condition each month.

Special Condition No. 5: Completed periodic monitoring and reporting, other than DMR's and stream monitoring (i.e., groundwater monitoring, coal combustion waste analysis reports, etc.), shall be retained by the Permittee for a period of three (3) months and shall be mailed and received by the IEPA at the addresses indicated in Special Condition No. 3 above in accordance with the following schedule, unless otherwise specified by the permitting authority.

| Period | Received by IEPA |
|-----------------------------|------------------|
| January, February, March | May 1 |
| April, May, June | August 1 |
| July, August, September | November 1 |
| October, November, December | February 1 |

Special Condition No. 6: If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

Special Condition No. 7: The permittee shall notify the Agency in writing by certified mail within thirty days of abandonment, cessation, or suspension of active mining for thirty days or more unless caused by a labor dispute. During cessation or suspension of active mining, whether caused by a labor dispute or not, the permittee shall provide whatever interim impoundment, drainage diversion, and wastewater treatment is necessary to avoid violations of the Act or Subtitle D.

Special Condition No. 8: Plans must be submitted to and approved by this Agency prior to construction of a sedimentation pond. At such time as runoff water is collected in the sedimentation pond, a sample shall be collected and analyzed for the parameters designated as 1M-15M under Part 5-C of Form 2C and the effluent parameters designated herein with the results sent to this Agency. Should additional treatment be necessary to meet these standards, a Supplemental Permit must also be obtained. Discharge from a pond is not allowed unless applicable effluent and water quality standards are met.

Special Conditions

Special Condition No. 9: The special reclamation area effluent standards of 35 Ill. Adm. Code 406.109 apply only on approval from the Agency. To obtain approval, a request form and supporting documentation shall be submitted 45 days prior to the month that the permittee wishes the discharge be classified as a reclamation area discharge. The Agency will notify the permittee upon approval of the change.

Special Condition No. 10: The special stormwater effluent standards apply only on approval from the Agency. To obtain approval, a request with supporting documentation shall be submitted 45 days prior to the month that the permittee proposes the discharge to be classified as a stormwater discharge. The documentation supporting the request shall include analysis results indicating the discharge will consistently comply with reclamation area discharge effluent standards. The Agency will notify the permittee upon approval of the change.

Special Condition No. 11: Annual stormwater monitoring is required for all discharges not reporting to a sediment basin until Final SMCRA Bond is released and approval to cease such monitoring is obtained from the Agency.

- A. Each discharge must be monitored for pH and settleable solids annually.
- B. Analysis of samples must be submitted with second quarter Discharge Monitoring Reports. A map with discharge locations must be included in this submittal.
- C. If discharges can be shown to be similar, a plan may be submitted by November 1 of each year preceding sampling to propose grouping of similar discharges and/or update previously submitted groupings. If updating of a previously submitted plan is not necessary, a written notification to the Agency indicating such is required. Upon approval from the Agency, one representative sample for each group may be submitted.

Special Condition No. 12: Sediment Pond Operation and Maintenance (Outfall 010):

- a. For discharges resulting from precipitation events, in addition to the alternate effluent (Discharge Condition Nos. II and III) monitoring requirements, as indicated on the applicable effluent pages of this Permit, discharges from Outfall 010 shall be monitored and reported for Discharge Rate, Sulfate, Chloride and Hardness.
- b. The following sampling and monitoring requirements are applicable to flow in the unnamed tributary to Middle Fork Big Muddy River which receive discharges from Outfall 010.
 - i. All sampling and monitoring required under 12(b)(ii) and (iii) below shall be performed during a discharge and monitoring event from the associated outfall.
 - ii. Unnamed tributary to Middle Fork Big Muddy River shall be monitored and reported quarterly for Discharge Rate, Chloride, Sulfate and Hardness downstream of the associated outfall. This downstream monitoring shall be performed a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred. At such time that sufficient information has been collected regarding receiving stream flow characteristics and in-stream contaminant concentrations the permittee may request a re-evaluation of the monitoring frequency required herein for possible reduction or elimination. For the purpose of re-evaluating the downstream monitoring frequency of the receiving stream, "sufficient information" is defined as a minimum of ten (10) quarterly sampling events.

In the event that downstream monitoring of the receiving waters is eliminated during the term of this permit based on an evaluation of the quarterly data, a minimum of three (3) additional samples analyzed for the parameters identified above must be submitted with the permit renewal application a minimum of 180 days prior to expiration of this permit.
 - iii. Unnamed tributary to Middle Fork Big Muddy River shall be monitored and reported annually for Discharge Rate, Chloride, Sulfate and Hardness upstream of the associated outfall.

Special Condition No. 13: Data collected in accordance with Special Condition No. 12 above will be utilized to evaluate the appropriateness of the effluent limits established in this Permit. Should the Agency's evaluation of this data indicate revised effluent limits are warranted; this permit may be reopened and modified to incorporate more appropriate effluent limitations. This data will also be used for determination of effluent limitations at the time of permit renewal.