

GROUND WATER DISCHARGE PERMIT
Sapphire Energy
Integrated Algal Biorefinery (IABR), DP-1785

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit, DP-1785, to Sapphire Energy – Integrated Algal Biorefinery (IABR) (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the Sapphire IABR (facility) into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met.

The activities which produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics of the discharge are briefly described as follows:

Up to 32,590,000 gallons of algae propagation water containing sodium chloride, plus lesser amounts of other salts, and chemical fertilizer containing primarily nitrogen and phosphorus as nutrients may be contained within 100 acres of synthetically lined propagation impoundments, for the purpose of algae propagation. The propagation impoundments shall be approximately one foot deep and shall be 95% compacted native soil, lined with 40-mil linear low density polyethylene (LLDPE). Up to 325,900 gallons of water containing sodium chloride, plus lesser amounts of other salts, and chemical fertilizer containing primarily nitrogen and phosphorus as nutrients may be contained within one acre of inoculation impoundments. The inoculation impoundments shall be approximately one foot deep and shall be constructed with 95% compacted native soil lined with 42-mil hypalon. Up to 1,694,000 gallons of water containing sodium chloride, plus lesser amounts of other salts, and chemical fertilizer containing primarily nitrogen and phosphorus as nutrients may be contained within 1.7 acres of harvest return impoundments. The harvest return impoundments shall be approximately three feet deep and shall be constructed with 95% compacted native soil lined with 40-mil LLDPE. Up to 538,000 gallons per day (gpd) of algae propagation wastewater containing sodium chloride, plus lesser amounts of other salts, and chemical fertilizer containing primarily nitrogen and phosphorus as nutrients may be discharged into total evaporation impoundments. The total evaporation impoundments shall be constructed of 95% compacted native soil lined with 40-mil HDPE, overlain by two feet of 95% compacted native soil. Individual evaporation impoundments shall not exceed seven acres in size. The total of the impoundments described above are referred to as Phase I of the proposed IABR facility. The discharge contains water contaminants or toxic pollutants which may be elevated above the standards of Section 20.6.2.3103 NMAC. The facility is located at 1500 West Highway 9, approximately 8 miles west of Columbus, in Sections 8 & 9, Township 29S, Range 9W, Luna County. Ground water most likely to be affected is at a depth greater than 398 feet and has a total dissolved solids concentration of approximately 526 to 945 milligrams per liter.

Integrated Algal Biorefinery (IABR), DP-1785

DATE

Page 2

The permittee's application constitutes the Discharge Plan and consists of the materials submitted by Bryn Davis dated September 12, 2011. The discharge shall be managed in accordance with the Discharge Plan as conditioned by this Discharge Permit.

Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a Discharge Permit Modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of ground water quality, and that more stringent requirements to protect and/or remediate ground water quality may be required by NMED. These requirements may include: lining/relining impoundments; expanding monitoring requirements; and/or implementing abatement of water pollution.

Issuance of this Discharge Permit does not relieve Sapphire Energy of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

The following abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation		Abbreviation	Explanation
BOD ₅	biochemical oxygen demand (5-day)		NMSA	New Mexico Statutes Annotated
CFR	Code of Federal Regulations		NO ₃ -N	nitrate-nitrogen
CFU	colony forming units		NTU	nephelometric turbidity units
Cl	chloride		TDS	total dissolved solids
LADS	land application data sheet(s)		TKN	total Kjeldahl nitrogen
mg/L	milligrams per liter		TSS	total suspended solids
mL	milliliters		total nitrogen	TKN+NO ₃ -N
NMAC	New Mexico Administrative Code		WQCC	Water Quality Control Commission
NMED	New Mexico Environment Department			

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.
2. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the meaning of Subsection A of 20.6.2.3101 NMAC.

3. The discharge from the facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

III. CONDITIONS

The following conditions shall be complied with by the permittee and are enforceable by NMED. The permittee is authorized to discharge water contaminants subject to the following conditions:

OPERATIONAL PLAN

#	Terms and Conditions
1.	The permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 1 and 2 NMAC. [20.6.2.3106.C NMAC, 20.6.2.3107 NMAC]
2.	The permittee shall operate in a manner such that standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC are not violated. [20.6.2.3101 NMAC, 20.6.2.3103 NMAC]
3.	The permittee is authorized to contain up to 32,590,000 gallons of water augmented with sodium chloride, plus lesser amounts of other salts, and/or chemical fertilizer containing primarily nitrogen and phosphorus as nutrients, within 100 acres of synthetically lined propagation impoundments. [20.6.2.3104 NMAC]
4.	The permittee is authorized to contain up to 325,900 gallons of water within one acre of synthetically lined inoculation impoundments. [20.6.2.3104 NMAC]
5.	The permittee is authorized to contain up to 1,694,000 gallons of water within 1.7 acres of synthetically lined harvest return impoundments. [20.6.2.3104 NMAC]
6.	The permittee is authorized to discharge up to 538,000 gallons per day (gpd) of algae propagation wastewater containing sodium chloride, plus lesser amounts of other salts, and chemical fertilizer containing primarily nitrogen and phosphorus as nutrients into synthetically lined, total evaporation impoundments. Individual total evaporation impoundments shall not exceed seven acres. [20.6.2.3104 NMAC and 20.6.2.3107 NMAC]
7.	Prior to discharging wastewater from the facility, the permittee shall give written notification to NMED stating the date the discharge is to commence. [20.6.2.3109.H NMAC]
8.	Following completion of any additions or changes to the facility which affect the following elements, the permittee shall update and resubmit the scaled map of the entire facility to NMED within 120 days of the additions or changes. The map shall be clear and legible, and drawn to a scale such that all necessary information is plainly shown and identified. The map shall show the scale in feet or metric measure, a graphical scale, a north arrow, and the effective date of the map. Documentation identifying the means used to locate the mapped elements (i.e., GPS, land survey, digital map interpolation, etc.) and the relative accuracy of the data (i.e., +/- XX feet or meters) shall be included with the map.

	<p>The map shall include the following elements:</p> <ul style="list-style-type: none"> a) overall facility layout; b) location of all algal impoundments, wastewater impoundments, monitoring wells, and septic tank/leachfield systems. <p>Any elements that cannot be directly shown, due to its location inside of existing structures, or because it is buried without surface identification, shall be identified on the map in a schematic format and identified as such. [20.6.2.3106 NMAC, 20.6.2.3109 NMAC]</p>
9.	<p>The permittee shall construct all proposed impoundments according to NMED approved final construction plans and specifications. The permittee shall notify NMED at the commencement of construction to allow NMED personnel to be onsite for inspection during the construction phase. Record drawings of the finished experimental liner test impoundments shall be submitted to NMED within 30 days of completion. A licensed New Mexico professional engineer shall certify all construction plans and specifications, supporting design calculations, and record drawings of the experimental liner impoundments. [20.6.2.3109 NMAC]</p>
10.	<p>The permittee shall maintain a minimum of six inches of freeboard in the propagation impoundments at all times. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
11.	<p>The permittee shall maintain a minimum of one foot of freeboard in the total evaporation impoundments at all times. In the event that a minimum of one foot of freeboard cannot be maintained at all times, the permittee shall submit a corrective action plan for NMED approval to modify the management of discharge volumes. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
12.	<p>Prior to discharging from the facility, the permittee shall post signs at the facility’s internal security access points indicating that the water is not potable. All signs shall remain visible and legible for the term of this Discharge Permit. [20.6.2.3109 NMAC]</p>
13.	<p>The permittee shall visually inspect the impoundments and surrounding berms on a monthly basis to ensure proper maintenance. Any conditions that could damage the impoundments liners or affect the structural integrity of the impoundments shall be corrected. Such conditions include but are not limited to erosion damage, animal activity/damage, the presence of potentially harmful vegetation such as woody shrubs or uncontrolled weeds, evidence of seepage, or the presence of large pieces or quantities of debris. The permittee shall keep a log of the inspection findings and repairs made. In the event that inspection findings reveal significant damage likely to affect the ability of the lined impoundments/lagoon to contain contaminants, the permittee shall submit a corrective action plan to NMED for approval. [20.6.2.3107 NMAC]</p>

MONITORING, REPORTING, AND OTHER REQUIREMENTS

#	Terms and Conditions
14.	<p>The permittee shall conduct the monitoring, reporting, and other requirements listed below. [20.6.2.3107 NMAC]</p>
15.	<p>METHODOLOGY - Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following</p>

Integrated Algal Biorefinery (IABR), DP-1785

DATE

Page 5

	<p>documents:</p> <ul style="list-style-type: none">a) American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th or current)b) U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Wastec) U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Surveyd) American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Watere) Federal Register, latest methods published for monitoring pursuant to Resources Conservation Recovery Act regulationsf) U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisitiong) Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods, Part 2. Microbiological and Biochemical Properties, and Part 3. Chemical Methods. American Society of Agronomy. [20.6.2.3107.B NMAC]
16.	<p>The permittee shall submit semi-annual monitoring reports to NMED for the most recently completed semi-annual period by the 1st of February and August each year. [20.6.2.3107 NMAC]</p>
17.	<p>Prior to discharging from the facility the permittee shall install the following totalizing flow meters:</p> <ul style="list-style-type: none">a) A totalizing flow meter is to be installed on each supply well in use.b) A totalizing flow meter is to be installed on all influent lines to the total evaporation wastewater impoundments. <p>Confirmation of meter installation, type, calibration and locations shall be submitted to NMED within 60 days of completed installation. [20.6.2.3109 NMAC]</p>
18.	<p>The permittee shall measure the monthly volume of wastewater discharged to the total evaporative impoundment system. The permittee shall obtain readings from the totalizing flow meter(s) located on the influent lines on a monthly basis and calculate the monthly and average daily volume discharged to the total evaporative impoundment system. The monthly meter readings, and calculated monthly and average daily discharge volumes shall be submitted to NMED in the monitoring reports due by 1st of February and August each year. [NMSA 1978, § 74-6-5.D, Subsections B and C of 20.6.2.3109 NMAC]</p>
19.	<p>The permittee shall estimate the monthly volume of water discharged to the impoundment systems by recording meter readings for the facility's water supply on a monthly basis and calculating the monthly and average daily usage volumes. The estimated monthly discharge volume* (based upon meter readings) shall be used to calculate the average daily discharge volume by the formula below.</p> <p style="text-align: center;">estimated monthly discharge volume ÷ number of days between readings = average daily discharge volume</p> <p>Each month, the permittee shall make note of any significant uses of the water (e.g., irrigation, evaporative cooling or leaks) that do not contribute to the volume of water discharged to the impoundment system.</p>

Integrated Algal Biorefinery (IABR), DP-1785

DATE

Page 6

	<p>The monthly meter readings, estimated monthly and average daily discharge volumes, and notes and estimated volume of significant uses shall be submitted to NMED in the monitoring reports due by the 1st of February and August of each year.</p> <p>* Should more than one flow meter exist for the facility's water supply, the permittee shall calculate the estimated monthly discharge volume for the facility by adding the estimated monthly discharge volume for each meter. This summation should be completed prior to calculating the average daily discharge volume for the facility.</p> <p>[NMSA 1978, § 74-6-5.D, Subsections B and C of 20.6.2.3109 NMAC]</p>
20.	<p>The permittee shall estimate the volume of water exported to Las Cruces as part of the algae extraction process, and the volume of excess extraction water returned to the facility from Las Cruces. The monthly volume estimates shall be submitted to NMED in the monitoring reports due by 1st of February and August each year.</p> <p>[NMSA 1978, § 74-6-5.D, Subsections B and C of 20.6.2.3109 NMAC]</p>
21.	<p>All flow meters shall be capable of having their accuracy ascertained under actual working (field) conditions. A field calibration method shall be developed for each flow meter and that method shall be used to check the accuracy of each respective meter. Field calibrations shall be performed upon repair or replacement of a flow measurement device and, at a minimum, on an annual basis.</p> <p>Flow meters shall be calibrated to within plus or minus 10 percent of actual flow, as measured under field conditions. Field calibrations shall be performed by an individual knowledgeable in flow measurement and in the installation/operation of the particular device in use. A flow meter calibration report shall be prepared for each flow measurement device at the frequency calibration is required. The flow meter calibration report shall include the following information:</p> <ol style="list-style-type: none">The location and meter identification.The method of flow meter field calibration employed.The measured accuracy of each flow meter prior to adjustment indicating the positive or negative offset as a percentage of actual flow as determined by an in-field calibration check.The measured accuracy of each flow meter following adjustment, if necessary, indicating the positive or negative offset as a percentage of actual flow of the meter.Any flow meter repairs made during the previous year or during field calibration. <p>The permittee shall maintain records of flow meter calibration(s) at a location accessible for review by NMED during facility inspections.</p> <p>[NMSA 1978, § 74-6-5.D, Subsections B and C of 20.6.2.3109 NMAC]</p>
22.	<p>The permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. If a visual inspection indicates a flow meter is not functioning as required by this Discharge Permit, the permittee shall repair or replace the meter within 30 days of discovery. For <i>repaired</i> meters, the permittee shall submit a report to NMED with the next monitoring report following the repair that includes a description of the malfunction; a statement verifying the repair; and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. For <i>replacement</i> meters, the</p>

Integrated Algal Biorefinery (IABR), DP-1785

DATE

Page 7

	<p>permittee shall submit a report to NMED with the next monitoring report following the replacement that includes a design schematic for the device and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. [NMSA 1978, § 74-6-5.D, Subsections B and C of 20.6.2.3109 NMAC]</p>
23.	<p>Prior to discharging from the facility the permittee shall install the following two new monitoring wells:</p> <ul style="list-style-type: none">• One monitoring well (MW-2) located in the center of the 100 acres of proposed algae propagation impoundments referred to as Phase I.• One monitoring well (MW-3) located 20 to 50 feet north-northeast of the proposed total evaporation wastewater impoundments. <p>All monitoring well locations shall be approved by NMED prior to installation. The wells shall be completed in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.1, March 2011. Construction and lithologic logs shall be submitted to NMED within 30 days of well completion. [20.6.2.3107 NMAC]</p>
24.	<p>Following installation of the new monitoring wells required by this Discharge Permit, the permittee shall sample ground water in the new wells and analyze the samples for NO₃-N, TKN, Cl, and TDS. The permittee shall sample the following wells:</p> <ul style="list-style-type: none">• MW-2, intended to be located in the center of the 100 acres of proposed algae propagation impoundments referred to as Phase I.• MW-3, intended to be located 20 to 50 feet north-northeast of the proposed total evaporation wastewater impoundments. <p>Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:</p> <ol style="list-style-type: none">a) Measure the depth-to-ground water from the top of well casing to the nearest hundredth of a foot.b) Purge three well volumes of water from the well prior to sample collection.c) Obtain samples from the well for analysis.d) Properly prepare, preserve and transport samples.e) Analyze samples in accordance with the methods authorized in this Discharge Permit. <p>Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of each well shall be submitted to NMED within 60 days of the installation of the monitoring wells. [20.6.2.3107 NMAC]</p>
25.	<p>The permittee shall perform semi-annually ground water sampling in three monitoring wells and analyze the samples for NO₃-N, TKN, Cl, and TDS. The permittee shall sample the following wells:</p> <ul style="list-style-type: none">• MW-1, intended to be located hydrologically upgradient of the facility, northwest of the algae inoculation impoundments.• MW-2, intended to be located in the center of the 100 acre area of proposed algae propagation impoundments referred to as Phase I.• MW-3, intended to be located 20 to 50 feet north-northeast of the proposed six acre

	<p>total evaporation wastewater impoundment.</p> <p>Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:</p> <ol style="list-style-type: none"> Measure the depth-to-ground water from the top of well casing to the nearest hundredth of a foot. Purge three well volumes of water from the well prior to sample collection. Obtain samples from the well for analysis. Properly prepare, preserve and transport samples. Analyze samples in accordance with the methods authorized in this Discharge Permit. <p>Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of each well shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]</p>
26.	<p>The permittee shall develop a ground water elevation contour map on a semi-annual basis using the monitoring well survey data and semi-annual depth-to-water measurements as required by this Discharge Permit. The ground water elevation contour map shall depict the ground water flow direction based on the ground water elevation contours. The data and ground water elevation contour maps shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]</p>
27.	<p>The permittee shall sample water from a representative location of an active cell of the total evaporation lagoon on a semi-annual basis and analyze the samples for TKN, NO₃-N, TDS and Cl. Samples shall be properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results shall be submitted to NMED in the monitoring reports due February 1st and August 1st. [20.6.2.3107 NMAC]</p>

CONTINGENCY PLAN

#	Terms and Conditions
28.	<p>In the event that ground water monitoring indicates that one or more of the ground water standards of Section 20.6.2.3103 NMAC are violated during the term of this Discharge Permit, upon closure of the facility or during post-closure monitoring, the permittee shall perform the following actions:</p> <ol style="list-style-type: none"> Collect a second sample from the monitoring well(s) within 30 days of the initial sample analysis date to verify the initial results. Submit the analytical results for both the initial and second ground water samples to NMED within 30 days of the analysis date of the second ground water sample. <p>In the event that analytical results of the second ground water sample verify the exceedance of one or more of the ground water standards of Section 20.6.2.3103 NMAC, within 60 days of the second sample analysis date the permittee shall submit a corrective action plan to NMED and implement the plan upon NMED approval. The corrective action plan shall propose measures to mitigate damage from the discharge including, at a minimum, source control measures and an implementation schedule. The permittee may be required to abate</p>

	<p>water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC, if the corrective action plan will not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within 180 days of confirmed ground water contamination. [20.6.2.1203 NMAC, 20.6.2.4105.A(8) NMAC]</p>
<p>29.</p>	<p>In the event that information available to NMED indicates that a well(s) is not appropriately constructed to effectively monitor ground water quality, contains insufficient water to allow the collection of representative ground water samples, or is not completed in a manner that is protective of ground water quality, the permittee shall install a replacement well(s) within 90 days of notification from NMED. The replacement well location(s) shall be approved by NMED prior to installation and completed in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.1, March 2011. Construction and lithologic logs shall be submitted to NMED within 60 days of well completion.</p> <p>Upon completion of the replacement monitoring well(s), the monitoring well(s) requiring replacement shall be properly plugged and abandoned. The well(s) shall be plugged and abandoned in accordance with the abandonment details in the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.1, March 2011, and any applicable local, state, and federal regulations. Documentation describing the plugging and abandonment procedures, including photographic documentation, shall be submitted to NMED within 60 days of completed well abandonment. [20.6.2.3107 NMAC]</p>
<p>30.</p>	<p>In the event that information on the direction of ground water flow obtained pursuant to this Discharge Permit indicates that a monitoring well(s) is not located hydrologically downgradient of the discharge location(s) the well(s) is intended to monitor, the permittee shall propose a location(s) for a replacement monitoring well(s) within 30 days of notification from NMED. The permittee shall propose a replacement monitoring well location(s) that is anticipated to be hydrologically downgradient of the discharge location(s) to be monitored. The permittee shall install the replacement monitoring well(s) within 90 days of NMED approval of the proposed replacement monitoring well location(s). The replacement monitoring well(s) shall be completed in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.1, March 2011. Construction and lithologic logs shall be submitted to NMED within 60 days of well completion. [20.6.2.3107 NMAC]</p>
<p>31.</p>	<p>In the event of a spill or release that is not authorized under this Discharge Permit, the permittee shall initiate the notifications and corrective actions as required in Section 20.6.2.1203 NMAC. The permittee shall take immediate corrective action to contain and remove or mitigate the damage caused by the discharge. Within 24 hours after discovery of the discharge, the permittee shall verbally notify NMED and provide the information required by Paragraph (1) of Subsection A of 20.6.2.1203 NMAC. Within seven days of discovering the discharge, the permittee shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. The permittee shall submit a corrective action report within 15 days after discovery of the discharge. [20.6.2.1203 NMAC]</p>

32.	In the event NMED or the permittee identifies any other failures of the Discharge Permit or system not specifically noted herein, NMED may require the permittee to develop for NMED approval contingency plans and schedules to cope with the failures. [20.6.2.3107.A(10) NMAC]
-----	---

CLOSURE PLAN

#	Terms and Conditions
33.	<p>In the event a facility, or a component of a facility, is proposed to be permanently closed, upon ceasing discharging, the permittee shall perform the following closure measures:</p> <p>Within <u>60 days</u> of ceasing discharging to the impoundment(s), the lines leading to the impoundment(s) shall be plugged so that a discharge can no longer occur.</p> <p>Within <u>60 days</u> of ceasing discharging to the impoundment(s), wastewater shall be drained or evaporated from the impoundment(s) and any other wastewater system components and it shall be disposed of in accordance with all local, state, and federal regulations.</p> <p>Within <u>90 days</u> of ceasing discharging to the impoundment(s), the permittee shall empty impoundments and dispose of algae growth media and/or salt crusts in a manner that is protective of ground water quality and is in accordance with all local, state and federal regulations.</p> <p>Within <u>one year</u> following completion of the algae growth media and/or salt crust removal and disposal, the permittee shall complete the following closure measures:</p> <ol style="list-style-type: none"> a) Remove all lines leading to and from the impoundment(s), or permanently plug and abandon them in place. b) Remove or demolish any other wastewater system components and re-grade area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. c) Perforate or remove the impoundment liner(s). d) Fill the impoundment(s) with suitable fill. e) Re-grade the impoundment site to blend with surface topography, promote positive drainage and prevent ponding. <p>The permittee shall complete the installation of all monitoring wells as required by this Discharge Permit.</p> <p>The permittee shall continue ground water monitoring until the requirements of this condition have been met and ground water monitoring confirms for a minimum of two years of consecutive ground water sampling events that the standards of Section 20.6.2.3103 NMAC are not exceeded and toxic pollutants are not present in ground water.</p>

	<p>If monitoring results show that a ground water quality standard in Section 20.6.2.3103 NMAC is exceeded; the total nitrogen concentration in ground water is greater than 10 mg/L; or a toxic pollutant (defined in Subsection WW of 20.6.2.7 NMAC) is present in ground water, the permittee shall implement the contingency plan required by this Discharge Permit.</p> <p>Following notification from NMED that post-closure monitoring may cease, the permittee shall plug and abandon the monitoring well(s) in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.1, March 2011.</p> <p>When all closure and post-closure requirements have been met, the permittee may submit a written request for termination of the Discharge Permit to NMED. [NMSA 1978, § 74-6-5.D, Subsection B of 20.6.2.3109 NMAC, Subsection A of 20.6.2.3107 NMAC, 40 CFR Part 503]</p>
--	---

GENERAL TERMS AND CONDITIONS

#	Terms and Conditions
34.	<p>RECORD KEEPING - The permittee shall maintain a written record of the following information:</p> <ul style="list-style-type: none"> a) Information and data used to complete the application for this Discharge Permit. b) Records of any releases (commonly known as “spills”) not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC. c) Records of the operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater. d) Facility record drawings (plans and specifications) showing the actual construction of the facility and bear the seal and signature of a licensed New Mexico professional engineer. e) Copies of monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit. f) The volume of wastewater or other wastes discharged pursuant to this Discharge Permit. g) Ground water quality and wastewater quality data collected pursuant to this Discharge Permit. h) Copies of construction records (well log) for all ground water monitoring wells required to be sampled pursuant to this Discharge Permit. i) Records of the maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit. j) Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit. The following information shall be recorded and shall be made available to NMED upon request: <ul style="list-style-type: none"> i) The dates, location and times of sampling or field measurements; ii) The name and job title of the individuals who performed each sample collection

	<p>or field measurement;</p> <ul style="list-style-type: none"> iii) The sample analysis date of each sample; iv) The name and address of the laboratory, and the name of the signatory authority for the laboratory analysis; v) The analytical technique or method used to analyze each sample or collect each field measurement; vi) The results of each analysis or field measurement, including raw data; vii) The results of any split, spiked, duplicate or repeat sample; and viii) A copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used. <p>The written record shall be maintained by the permittee at a location accessible during a facility inspection by NMED for a period of at least five years from the date of application, report, collection or measurement and shall be made available to the department upon request. [NMSA 1978, § 74-6-5.D, 20.6.2.3109.B NMAC, 20.6.2.3107.A NMAC]</p>
35.	<p>INSPECTION and ENTRY – The permittee shall allow inspection by NMED of the facility and its operations which are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.</p> <p>The permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations.</p> <p>Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations. [20.6.2.3107.D NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
36.	<p>DUTY to PROVIDE INFORMATION - The permittee shall, upon NMED’s request, allow NMED’s inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records. [NMSA 1978, § 74-6-5.D, 20.6.2.3109.B NMAC 20.6.2.3107.D NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
37.	<p>MODIFICATIONS and/or AMENDMENTS – In the event the permittee proposes a change to the facility or the facility’s discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the facility, the permittee shall notify NMED prior to implementing such changes. The permittee shall obtain approval (which may require modification of this Discharge Permit) by NMED prior to implementing such changes. [NMSA 1978, § 74-6-5.D, 20.6.2.3109.E NMAC, 20.6.2.3107.C NMAC]</p>
38.	<p>PLANS and SPECIFICATIONS – In the event the permittee is proposing to construct a wastewater system or change a process unit of an existing system such that the quantity or</p>

	<p>quality of the discharge will change substantially from that authorized by this Discharge Permit, the permittee shall submit construction plans and specifications to NMED for the proposed system or process unit prior to the commencement of construction.</p> <p>In the event the permittee implements changes to the wastewater system authorized by this Discharge Permit which result in only a minor effect on the character of the discharge, the permittee shall report such changes (including the submission of record drawings, where applicable) as of January 1 and June 30 of each year to NMED. [NMSA 1978, § 74-6-5.D, 20.6.2.3109.B NMAC, 20.6.2.1202 NMAC]</p>
39.	<p>CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [NMSA 1978, §§ 74-6-10 and 74-6-10.1,]</p>
40.	<p>CRIMINAL PENALTIES – No person shall:</p> <ol style="list-style-type: none"> 1) make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA; 2) falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or 3) fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. <p>Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily</p>

Integrated Algal Biorefinery (IABR), DP-1785

DATE

Page 14

	<p>injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. [NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]</p>
41.	<p>COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders. [20.6.2 NMAC]</p>
42.	<p>RIGHT to APPEAL - The permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues to be raised and the relief sought. Unless a timely petition for review is made, the decision of NMED shall be final and not subject to judicial review. [NMSA 1978, § 74-6-5.O]</p>
43.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this facility or any portion thereof, the permittee shall:</p> <ol style="list-style-type: none">1) notify the proposed transferee in writing of the existence of this Discharge Permit;2) include a copy of this Discharge Permit with the notice; and3) deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. <p>Until both ownership and possession of the facility have been transferred to the transferee, the permittee shall continue to be responsible for any discharge from the facility. [20.6.2.3111 NMAC]</p>
44.	<p>PERMIT FEES - Payment of permit fees is due at the time of Discharge Permit approval. Permit fees shall be paid in a single payment or shall be paid in equal installments on a yearly basis over the term of the Discharge Permit. Single payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date. Initial installment payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date; subsequent installment payments shall be remitted to NMED no later than the anniversary of the Discharge Permit effective date.</p> <p>Permit fees are associated with <u>issuance</u> of this Discharge Permit. Nothing in this Discharge Permit shall be construed as relieving the permittee of the obligation to pay all permit fees assessed by NMED. A permittee that ceases discharging or does not commence discharging from the facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. An approved Discharge Permit shall be suspended or terminated if the facility fails to remit an installment payment by its due date. [20.6.2.3114.F NMAC, NMSA 1978, § 74-6-5.K]</p>
45.	<p>TERM - Pursuant to WQA 74-6-5(I) and Subsection H of 20.6.2.3109 NMAC, the term of this Discharge Permit is five years from its effective date. To renew this Discharge Permit, the permittee must submit an application for renewal at least 180 days before the termination date. [20.6.2.3109.H NMAC, 74-6-5(I) WQA]</p>

PERMIT TERM & SIGNATURE

EFFECTIVE DATE: [effective date]

TERM ENDS: Seven years from the effective date (i.e., date) or five years from the date the discharge commences, whichever occurs first.

[20.6.2.3109.H NMAC, NMSA 1978, § 74-6-5.I]

JERRY SCHOEPPNER
Acting Chief, Ground Water Quality Bureau
New Mexico Environment Department

DRAFT