



City of Omaha

Public Works Department

Air Quality Division
5600 South 10th Street
Omaha NE 68107-3501
Phone: (402) 444-6015
Telefax: (402) 444-6016

PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

AIR EMISSION CONSTRUCTION PERMIT

FOR

AMERICAN LABORATORIES, INC.

5020 S. 33rd Street

Omaha, NE 68107

Effective Date: ----- --, 2011

Omaha Air Quality Control
5600 S. 10th Street
Omaha, NE 68107-3501
(402) 444-3915

SOURCE IDENTIFICATION

OMAHA AIR QUALITY CONTROL CONSTRUCTION PERMIT

Class I, Permit No. C111317

Issue Date: ----- --, 2011

Effective Date: ----- --, 2011

In accordance with the provisions of the Omaha Municipal Code, Chapter 41 - Air Quality Control,

American Laboratories, Inc.
4410 S. 102nd Street
Omaha, NE 68127

is authorized to construct the emission units shown in Table A-1 at

5020 S. 33rd Street
Omaha, NE 68107

The equipment indicated is subject to the terms and conditions shown in Table A-2 and to the other terms and conditions specified in this permit.

The permit is issued pursuant to and consistent with the requirements of Title 129, Chapter 19 of the Nebraska Department of Environmental Quality and the Omaha Municipal Code, Section 41-2, which incorporates Nebraska DEQ Title 129, Chapter 19: Prevention of Significant Deterioration of Air Quality.

Each condition is followed by the source of the authority for said condition.

PERMIT APPROVAL

The granting of a permit to construct a PSD source shall not affect the responsibility of the owner or operator to comply with applicable provisions of the State Implementation Plan (SIP) and any other local, state, or federal requirements.

Application approved and PSD construction permit granted:

Signed: _____

(OAQC Officer)

Table A-1

Table A-1: Emission Unit Identification and Description					
Emission Unit Number	Emission Unit Description	Make	Model	Size	Control Equipment
36-01	Slurry Tank T-301	Not Available	Not Available	2500 Gallons	Enclosed
36-02	Defatting Tank T-302	Not Available	Not Available	3370 Gallons	Enclosed
36-03	Defatting Tank T-303	Not Available	Not Available	3370 Gallons	Enclosed
36-04	Screener S-301	Sweco	Not Available	12 GPM	Enclosed
36-05	Screener S-302	Sweco	Not Available	12 GPM	Enclosed
36-06	Fines Settling Tank T-320	Not Available	Not Available	3370 Gallons	Enclosed
36-07	(11) Double Bottom Tubs (DBT-301 through DBT-311)	Not Available	Not Available	3-5 Tubs/Batch	Enclosed
36-08	Low Temperature Vacuum Drying FD-301 and FD-302 and Pans	Not Available	Not Available	156 Pans/Cycle	Enclosed
36-09	IPA Distillation Column DISCOL-301	Not Available	Not Available	468 Gallons/Hr	Enclosed
36-10	Spent IPA Tank T-316	Not Available	Not Available	8000 Gallons	Enclosed
36-11	Virgin IPA Tank T-317	Not Available	Not Available	8000 Gallons	Enclosed
36-12	Recovered IPA Tank T-318	Not Available	Not Available	8000 Gallons	Enclosed
36-13	Boiler Natural Gas fired	Cleaver Brooks	Not Available	8.37 MMbtu/hr	None

Table A-2

Table A-2: Emission Unit Emission Limits and Work Practice Standards				
Emission Unit Number	Pollutant/Parameter	Emission Limit/ Work Practice Standard	Permit Condition	Monitoring Requirements
36-01, 36-02, 36-03, 36-06	Tanks	<ul style="list-style-type: none"> shall be equipped with a lid and permanently attached piping for solvents 	Specific Condition 1.c.	None
36-04, 36-05	Coarse Discharge Points	<ul style="list-style-type: none"> shall be fitted with flexible rubber boots 	Specific Condition 1.d.	None
	Fine Discharge Points	<ul style="list-style-type: none"> shall be fitted with flexible rubber boots 	Specific Condition 1.e.	None
36-07	Tubs (DBT)	<ul style="list-style-type: none"> shall be mobile and be covered as much as possible 	Specific Condition 1.f.	None
36-08	Trays	<ul style="list-style-type: none"> shall be large enough to eliminate cooler storage 	Specific Condition 1.g.	None
	Condensers	<ul style="list-style-type: none"> shall always be functioning properly to capture and recover solvent 	Specific Condition 1.h.	Recordkeeping
36-09	Distillate Column	<ul style="list-style-type: none"> shall be equipped with thermometers, a level alarm and flow alarms 	Specific Condition 1.i.	None
36-10, 36-11, 36-12	Tanks	<ul style="list-style-type: none"> shall be equipped with emergency relief valves and flame arrestors 	Specific Condition 1.j.	None
Building 36	IPA Recovery Rate	<ul style="list-style-type: none"> shall be at least 93% calculated on a 12-month rolling average 	Specific Condition 1.b.	Recordkeeping
	Process Vessels	<ul style="list-style-type: none"> shall have solvent resistant gaskets where possible 	Specific Condition 1.k.	None
	All VOCs	<ul style="list-style-type: none"> All VOC consumed is considered emitted, unless there are records for IPA loss that is not emitted and accounts for recovered material 	Specific Condition 1.l.	Recordkeeping

SPECIFIC CONDITIONS

1. Emission Limits / Work Practice Standards

1.a. [No alternative scenarios are identified in this permit.]

Best Achievable Control Technology (BACT):

- 1.b.** The Permittee shall recover and reuse at least 93% of total IPA used at Building 36, calculated on a 12-month rolling average basis. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.c.** Emission units 36-01, 36-02, 36-03 and 36-20 shall each be equipped with a lid opening on top and permanently attached piping for the addition of solvent. [Omaha Municipal Code, Section 41-2, Chapter 19.017.02]
- 1.d.** The coarse discharge points for emission units 36-04 and 36-05 shall be fitted with flexible rubber boots that will allow emission unit 36-07 to be more effectively covered during the coarse separation tank filling operation. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.e.** The fine discharge points for emission units 36-04 and 36-05 shall be fitted with flexible rubber boots that will allow emission unit 36-06 to be more effectively covered during the fine separation tank filling operation. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.f.** Emission unit 36-07 shall consist of several tanks that are covered and mobile. The tanks shall separate the solids and IPA/water shall drain to portable receivers in the cooler. The IPA/water shall then be transferred to a pump system and shall be pumped to emission unit 36-10. The tanks shall be covered as much as possible during the filling process and completely during storage in the cooler. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.g.** Emission unit 36-08 shall use trays large enough to eliminate the need to store full trays in the cooler before drying. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.h.** Emission unit 36-08 shall be equipped with condensers where vapors are condensed and spent solvent is recovered. The condensers shall operate as follows:
- 1.h.i.** The condensers shall be properly installed, operated and maintained and shall be operating whenever emission unit 36-08 is in operation;
 - 1.h.ii.** All condenser-associated capture and air-handling equipment shall be in good repair and operating properly to allow solvent to be recovered by the condensers.
 - 1.h.iii.** The condensers shall be inspected at least once a day. The inspector shall determine and record whether there are any problems related to the condenser; and
 - 1.h.iv.** Corrective action shall be taken immediately upon knowledge that either condenser is not operating properly. The permittee shall have routine condenser maintenance items located on-site or available locally to facilitate rapid repair. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]

- 1.i.** Emission unit 36-09 shall be totally enclosed and shall be properly operated and maintained in order to recover solvent. The unit shall be equipped with:
 - 1.i.i.** Thermometers to monitor the temperature at the top and the bottom of the column that sound an alarm if the bottom temperature drops below the set point;
 - 1.i.ii.** Level alarm on the reflux drum that sounds an alarm if readings are over the set points; and
 - 1.i.iii.** Flow alarms on the feed and steam streams that will activate an alarm if readings are either over or under the set points. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.j.** Emission units 36-10, 36-11 and 36-12 shall be equipped with emergency relief valves and flame arrestors. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.k.** Solvent resistant gaskets will be placed on metal to metal contact points (lids) on process vessels where possible to further reduce VOC emissions from enclosed process tanks. The gaskets shall be included in the Plant's preventive maintenance program. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]
- 1.l.** VOC emissions shall be calculated as follows: assume that all VOC consumed (as determined by a monthly inventory and purchase records) is emitted, unless the Permittee maintains records of IPA loss pursuant to permit condition 4.a.iii. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 19.017.02]

2. Testing Requirements

- 2.a.** Testing requirements are not applicable to any emission units at this source.

3. Monitoring Requirements

- 3.a.** The Permittee shall track IPA recovery as provided in Specific Condition 4.a. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 8.004.01]
- 3.b.** The Permittee shall monitor process parameters as provided in Specific Condition 4.b. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 8.004.01]
- 3.c.** The Permittee shall monitor the condenser operations as provided in Specific Condition 4.c. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 8.004.01]
- 3.d.** Excess emissions during period of start-up, shutdown, or malfunctions are not violations of the emission standards, if the Permittee complies with OAQC notification and recordkeeping requirements. This can include notification prior to a planned start-up or shut-down, or submission of records upon receipt of a notice of excess emissions. If a notice of excess emissions is sent to the Permittee, the Permittee may submit information showing that the excess emissions were the result of a malfunction, start-up, or shutdown. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 35]

4. Record Keeping Requirements

4.a. The Permittee shall maintain IPA recovery records for Building 36 on a monthly basis. All recorded values, calculations and supporting documentation shall be available for inspection by the 15th of the month and shall cover the previous calendar month. The records shall include the following:

4.a.i. An IPA inventory report consisting of the following information:

- 4.a.i.(1)** The amount of IPA, in gallons of 99.9% IPA, in inventory at the end of the previous calendar month for each of the following emission units: 36-02, 36-03, 36-06, 36-10, 36-11 and 36-12;
- 4.a.i.(2)** The total amount of IPA, in pounds of 99.9% IPA, in inventory at the end of the previous calendar month at Building 36;
- 4.a.i.(3)** The total amount of IPA, in pounds of 99.9% IPA, in inventory at the beginning of the previous calendar month at Building 36;
- 4.a.i.(4)** The total amount of IPA, in pounds of 99.9% IPA, that was added to the inventory (purchased) during the previous calendar month at Building 36; and
- 4.a.i.(5)** The total amount of IPA, in pounds of 99.9% IPA, that was used during the previous calendar month at Building 36.

4.a.ii. An IPA recovery report consisting of the following information:

- 4.a.ii.(1)** The number of batches that was processed during each of the 12 previous calendar months;
- 4.a.ii.(2)** The total amount of IPA, in pounds of 99.9% IPA, in inventory at the beginning of each of the 12 previous calendar months at Building 36;
- 4.a.ii.(3)** The total amount of IPA, in pounds of 99.9% IPA, in inventory at the end of each of the 12 previous calendar months at Building 36;
- 4.a.ii.(4)** The total amount of IPA, in pounds of 99.9% IPA, that was added to the inventory (purchased) during each of the 12 previous calendar months at Building 36;
- 4.a.ii.(5)** The total amount of IPA, in pounds of 99.9% IPA, that was used during each of the 12 previous calendar months at Building 36;
- 4.a.ii.(6)** The total amount of IPA, in pounds of 99.9% IPA, that was added to the batches during each of the 12 previous calendar months at Building 36;
- 4.a.ii.(7)** The IPA recovery, in percent, for each of the previous 12 calendar months;
- 4.a.ii.(8)** The average monthly amount of IPA, in pounds of 99.9% IPA, that was used over the previous 12 month period;
- 4.a.ii.(9)** The average monthly amount of IPA, in pounds of 99.9% IPA, that was added to batches over the previous 12 month period; and
- 4.a.ii.(10)** The average IPA recovery rate, in percent, for the previous rolling 12-month period. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]

4.a.iii. The Permittee also may maintain records of IPA loss that is not emitted and may account for the material as recovered. The Permittee may submit this record with the reports

described in Specific Conditions 4.a.i. and 4.a.ii. above. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]

- 4.b.** The Permittee shall maintain process parameter records for Building 36 on a per batch basis. All recorded values, calculations and supporting documentation shall be available for inspection by the 3rd business day after completion of each batch. The records shall include the information detailed in Appendix A: Parametric Monitoring. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]
- 4.c.** A log of condenser maintenance record of problems, per Specific Condition 1.h.iii, shall be maintained and shall be updated when maintenance is conducted on the unit or if emission unit 36-08 is not operating properly. The inspector shall determine and record whether there are any problems related to the condenser that would affect the operation of the condenser. The log shall include any maintenance or repair work and the initials of the person conducting the inspection. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]
- 4.d.** All records required herein and support information shall be maintained on site for inspection and shall be retained for a period of five years. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 8.004.02B]

5. Reporting Requirements

- 5.a.** The source shall submit the monthly logs required in Specific Condition 4.a. to the OAQC Air Quality Director via e-mail. The logs must be submitted by the 15th of every month for the previous calendar month. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]
- 5.b.** The source shall submit a notification via e-mail to the OAQC Air Quality Director for every month that the monthly IPA recapture rate is less than 93%. The notification shall be submitted by the 15th of the following month and shall include a discussion about the factors that contributed to the lower IPA recapture rate. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]
- 5.c.** The source shall submit a notification via e-mail to the OAQC Air Quality Director if the monthly IPA recapture rate is less than 93% for 2 consecutive months. The notification shall be submitted within 30 days of the two month period and shall include the following information:
 - 5.c.i.** An analysis and discussion of the factors that contributed to the lower IPA recapture rate over the two month period;
 - 5.c.ii.** The process parameter records required by Specific Condition 4.b. for the previous three months;
 - 5.c.iii.** Any other supporting information that contributed to the analysis and discussion; and
 - 5.c.iv.** An action plan that explains what the source will be doing to achieve a higher IPA recapture rate and to ensure that the 12-month rolling average will not violate Specific Condition 1.b. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]

Appendix A: Parametric Monitoring

1. The parametric monitoring records required by Specific Condition 4.b. shall include the following information:
 - 1.a.i. The amount of material number 1, in pounds, that was added to the batch;
 - 1.a.ii. The amount of material number 2, in pounds, that was added to the batch;
 - 1.a.iii. The amount of virgin IPA, in gallons, that was added to emission unit 36-02 prior to the first wash;
 - 1.a.iv. The amount of recovered IPA, in gallons, that was added to emission unit 36-02 prior to the first wash;
 - 1.a.v. The starting volume of material, in gallons, that was in emission unit 36-02 prior to the first wash;
 - 1.a.vi. The amount of material, in gallons, left in emission unit 36-02 after the first wash decantation;
 - 1.a.vii. The amount of clear supernate, in gallons, that was decanted from emission unit 36-02 after the first wash;
 - 1.a.viii. The amount of recovered IPA, in gallons, that was added to emission unit 36-02 prior to the second wash;
 - 1.a.ix. The starting volume of material, in gallons, that was in emission unit 36-02 prior to the second wash;
 - 1.a.x. The amount of material, in gallons, left in emission unit 36-02 after the second wash decantation;
 - 1.a.xi. The amount of clear supernate, in gallons, that was decanted from emission unit 36-02 after the second wash;
 - 1.a.xii. The starting volume of fines, in gallons, that was in emission unit 36-03;
 - 1.a.xiii. The amount of material, in gallons, left in emission unit 36-03 after decantation;
 - 1.a.xiv. The amount of clear supernate, in gallons, that was decanted from emission unit 36-03;
 - 1.a.xv. The amount of solids, in pounds, that was panned for drying;
 - 1.a.xvi. The amount of fines, in pounds, that was panned for drying;
 - 1.a.xvii. The total weight of dried product, in pounds, from all of the dryer loads; and
 - 1.a.xviii. The physical weight yield, in percent, of the batch. [Omaha Municipal Code, Section 41-2, incorporating NDEQ regulations, Chapter 34.008.03]

BASIS OF PERMIT

American Laboratories, Inc.
5020 S. 33rd Street
Omaha NE 68107

DESCRIPTION OF THE FACILITY:

American Laboratories, Inc. is a food grade enzyme manufacturing facility. The 2 digit Standard Industrial Classification (SIC) Code for the facility is 28.

DESCRIPTION OF THE PERMIT ACTIVITY:

American Laboratories, Inc. (ALI) constructed this process in 1999 and failed to submit a construction permit application. EPA Region VII took an enforcement action against ALI that included a penalty and a formal consent decree. ALI subsequently submitted a historical PSD application to OAQC (December 10, 2009) for this process.

TYPE AND QUANTITY OF AIR CONTAMINANT EMISSIONS ANTICIPATED:

The following table summarizes the predicted maximum emissions:

<u>Regulated Pollutant</u>	<u>Emissions (tpy)</u>
PM10	0.1
SO _x	0.1
NO _x	1.4
VOC	1097.4
CO	1.2

A review of IPA logs over the last 34 months show actual 12-month IPA emissions that range from a low of 41 tpy to a high of 68 tpy.

APPLICABLE REQUIREMENTS :

This project is a Prevention of Significant Deterioration (PSD) construction permit.

The facility has chosen to control VOC emissions, specifically IPA, by capturing and reusing the IPA.

The permit conditions specific to the proposed permit are as follows:

1. Emission Limits / Work Practice Standards

- 1.a. This condition states that there are no alternative scenarios for this source.
- 1.b. This condition states that the permittee shall recover and reuse at least 93% of total IPA used for this process. This condition is a BACT requirement.
- 1.c. This condition requires that certain tanks be equipped with a lid opening and permanently attached piping. This condition is a BACT requirement.
- 1.d. This condition requires that coarse discharge points be fitted with flexible rubber boots. This condition is a BACT requirement.
- 1.e. This condition requires that fine discharge points be fitted with flexible rubber boots. This condition is a BACT requirement.
- 1.f. This condition requires that certain tubs be covered and shall be able to drain the separated IPA for transfer. This condition is a BACT requirement.
- 1.g. This condition requires that the drying system use trays that are large enough to eliminate storage of full trays in the cooler. This condition is a BACT requirement.
- 1.h. This condition requires that the drying system be equipped with condensers that operate properly to condense and recover the IPA. This condition is a BACT requirement.
- 1.i. This condition requires that the distillate column be totally enclosed and to operate properly in order to recover the IPA. This condition is a BACT requirement.
- 1.j. This condition requires that certain tanks be equipped with emergency relief valves and flame arrestors. This condition is a BACT requirement.

- 1.k. This condition requires that solvent resistant gaskets be placed on lids wherever possible. This condition is a BACT requirement.
- 1.l. This condition states that the all VOC lost shall be considered emitted, with the exception of condition 4.a.iii. This condition is a BACT requirement.

2. Testing Requirements

- 2.a. There are no testing requirements.

3. Monitoring Requirements

- 3.a. This condition requires the monitoring of the IPA recovery rate. This is a local, state and federal requirement.
- 3.b. This condition requires the monitoring of certain process parameters. This is a local, state and federal requirement.
- 3.c. This condition requires that the condensers are monitored to ensure proper operation. This is a local, state and federal requirement.
- 3.d. This condition states that excess emissions during periods of start-up, shutdown, or malfunctions are not necessarily violations of emission standards. This is a local, state and federal requirement.

4. Recordkeeping Requirements

- 4.a. This condition requires that IPA recovery records be kept. This is a local, state and federal requirement.
- 4.b. This condition requires that process parameter records be kept. This is a local, state and federal requirement.
- 4.c. This condition requires that condenser operation records be kept. This is a local, state and federal requirement.
- 4.d. This condition requires that all records required herein and support information be kept on site and be available for inspection. This is a local, state and federal requirement.

5. Reporting Requirements

- 5.a. This condition requires that a monthly IPA recovery report be submitted. This is a local, state and federal requirement.

- 5.b. This condition requires the permittee to submit a notification for every month that the IPA recovery rate is less than 93%. This is a local, state and federal requirement.
- 5.c. This condition requires the permittee to submit a notification and an action plan for every 2-month period that the IPA recovery rate is less than 93%. This is a local, state and federal requirement.

STATUTORY OR REGULATORY PROVISIONS:

Operating Permits [Omaha Municipal Code, Section 41-2, Chapter 5]-

The facility is a major source and requires a Title V operating permit.

NSPS [Omaha Municipal Code, Section 41-2, Chapter 18]-

The constructed units are not subject to any NSPS requirements.

PSD [Omaha Municipal Code, Section 41-2, Chapter 19]-

The constructed units required a PSD construction permit. A BACT analysis was submitted as part of the application. Modeling for VOC and its impact on the ozone standard was deemed not practical. There has been no increment established for the area.

Particulate Emissions [Omaha Municipal Code, Section 41-2, Chapter 20, Section 002]-

The constructed units are expected to comply with this regulation because the only fuel combusted is in the form of natural gas.

Opacity [Omaha Municipal Code, Section 41-2, Chapter 20, Section 004]-

The constructed units are expected to comply with this regulation because the only fuel combusted is in the form of natural gas and there are no other units that are expected to contribute particulate emissions.

Sulfur Compound Emissions [Omaha Municipal Code, Section 41-2, Chapter 24]-

The constructed units are expected to comply with this regulation because the only fuel combusted is in the form of natural gas.

Acid Rain [Omaha Municipal Code, Section 41-2, Chapter 26]-

The facility is not subject to Acid Rain requirements because it does not produce electricity for sale.

State BACT [Omaha Municipal Code, Section 41-2, Chapter 28]-

The facility is not subject to Nebraska BACT requirements.

NESHAP [Omaha Municipal Code, Section 41-2, Chapter 28]-
The facility is not subject to any MACT requirements.

PROCEDURES FOR FINAL DETERMINATION:

The public notice, as required under NAQR Chapter 14, shall be published on October 26, 2011. Persons or groups shall have 30 days from that issuance of public notice (November 26, 2011) to provide the OAQC with any written comments concerning the proposed permit action and/or to request a public hearing, in accordance with NAQR Chapter 14. Persons having comments or requesting a public hearing may contact:

John Finlan Mayne
Air Quality Engineer
Air Quality Control Division
Omaha Public Works Department
5600 S 10th Street
Omaha NE 68107

If no public hearing is requested, the permit may be granted at the close of the 30-day comment period. If a public hearing is requested, the Director may choose to extend the date on which the permit is to be granted until after that public hearing has been held.

Telephone inquiries may be made at: (402) 444-3915



Air Quality Construction Permit Application Form 4.0: Applicable Requirements

FACILITY NAME: <u>American Laboratories, Inc.</u>	DATE: <u>12/08/09</u>
NDEQ Facility ID#: <u>0317</u>	

Section 4.3: Prevention of Significant Deterioration (PSD) Information

IMPORTANT: READ THE INSTRUCTIONS ACCOMPANYING THIS SECTION
Do NOT use pencil to fill out this application. Please type responses or use black ink.

Please check if a separate document is used as a replacement for this Section. Identify separate summary document with the title of this Section and attach to this form. Be sure to include all requested information.

1) Is this source included as one of the listed 28 source categories? Yes No

2) Change in Potential to Emit		
PSD Regulated Pollutants*	Pre-Project PTE (ton/year)	Post-Project PTE (ton/year)
Particulate Matter, PM		
PM equal to or less than 10 micrometers, PM ₁₀		
Sulfur dioxide, SO ₂		
Nitrogen dioxide, NO ₂		
Carbon dioxide, CO		
Volatile Organic Compounds, VOC		1088.2
Elemental Lead, Pb		
Fluorides, Fl		
Sulfuric Acid Mist, H ₂ SO ₄		
Total Reduced Sulfur Compounds, TRS		
Hydrogen Sulfide, H ₂ S		
Other: _____		

*See instructions for additional pollutants regulated under the PSD program.

3) Unit Information

List the Emissions Units whose Emissions will be affected by the Proposed Project:

Unit ID#	Unit Description	Unit Status (date began operation)	Affected How:
4-001	Slurry Tank	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-002	Defatting Tanks	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-003	Screeners	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-004	Settling Tank	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-005	Double Bottom Tubs	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-006	Vacuum Dryers	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-007	Distillation Column	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-008	Spent IPA Holding Tank	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-009	Virgin IPA Storage Tank	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.
4-010	Recovered IPA Tank	<input checked="" type="checkbox"/> New <input type="checkbox"/> Existing: _____	<input type="checkbox"/> Utilization <input type="checkbox"/> Physical Mod.

Note: See Instructions for Definitions of New and Existing Units



Air Quality Construction Permit Application

Form 4.0: Applicable Requirements

FACILITY NAME: <u>American Laboratories, Inc.</u>	DATE: <u>12/08/09</u>
NDEQ Facility ID#: <u>0317</u>	

Section 4.3: PSD Information (continued)

4) Determine Project Emissions Increase			
Regulated Pollutant being Analyzed: <u>VOC (Isopropyl Alcohol)</u>			
BAE Time Period Selected: <u>NA – new construction</u>			
Unit ID#	(A) BAE (ton/yr)	(B) <input checked="" type="checkbox"/> PTE or <input type="checkbox"/> PAE (ton/yr)	(B) – (A) (ton/yr)
4-001	0 <input type="checkbox"/> Adjusted		
4-002	0 <input type="checkbox"/> Adjusted		
4-003	0 <input type="checkbox"/> Adjusted		
4-004	0 <input type="checkbox"/> Adjusted		
4-005	0 <input type="checkbox"/> Adjusted		
4-006	0 <input type="checkbox"/> Adjusted		
4-007	0 <input type="checkbox"/> Adjusted		
4-008	0 <input type="checkbox"/> Adjusted		
4-009	0 <input type="checkbox"/> Adjusted		
4-010	0 <input type="checkbox"/> Adjusted		
Total Project Emissions (ton/yr)			
Regulated Pollutant PSD Threshold (ton/yr)			
Note: If a BAE was adjusted or PAE used, attach an additional page explaining the adjustment(s) and/or assumptions that were made.			

4) Determine Project Emissions Increase			
Regulated Pollutant being Analyzed:			
BAE Time Period Selected:			
Unit ID#	(A) BAE (ton/yr)	(B) <input type="checkbox"/> PTE or <input type="checkbox"/> PAE (ton/yr)	(B) – (A) (ton/yr)
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
	<input type="checkbox"/> Adjusted		
Total Project Emissions (ton/yr)			
Regulated Pollutant PSD Threshold (ton/yr)			
Note: If a BAE was adjusted, attach an additional page explaining the adjustment(s) that was made.			



Air Quality Construction Permit Application

Form 4.0: Applicable Requirements

FACILITY NAME: American Laboratories, Inc.	DATE: 12/08/09
NDEQ Facility ID#: 0317	

Section 4.3: PSD Information (continued)

Plant-wide Applicability Limits

9) Are you interested in obtaining a Plant-wide Applicability Limit, also known as a PAL? YES NO

If YES, contact the Department in order to discuss the necessary information needed to establish the PAL(s).

Best Available Control Technology - Chapter 19, Section 017

Title 129, Chapter 19, Section 017 requires a new major stationary source or a major modification to apply BACT for each regulated NSR pollutant for which there would be a significant net emissions increase at the source. BACT must be applied to each emissions unit that undergoes a physical change or change in method of operation that emits the pollutant for which there is a significant net emissions increase at the source.

10) Select each regulated NSR pollutant for which there will be a significant net emissions increase at the source as a result of the project (significance thresholds for each listed pollutant are in parenthesis).

- | | |
|---|---|
| <input type="checkbox"/> Particulate Matter, PM (25 tpy) | <input type="checkbox"/> Sulfuric Acid Mist, H ₂ SO ₄ (7 tpy) |
| <input type="checkbox"/> PM with aerodynamic diameter equal to or less than 10 micrometers, PM ₁₀ (15 tpy) | <input type="checkbox"/> Municipal Solid Waste Landfill Emissions, Non-Methane Organic Compounds (50 tpy) |
| <input type="checkbox"/> Nitrogen dioxide, NO ₂ (40 tpy) | <input type="checkbox"/> Total Reduced Sulfur Compounds, TRS (10 tpy) |
| <input type="checkbox"/> Sulfur dioxide, SO ₂ (40 tpy) | <input type="checkbox"/> Hydrogen Sulfide, H ₂ S (10 tpy) |
| <input type="checkbox"/> Carbon dioxide, CO (100 tpy) | <input type="checkbox"/> Municipal Waste Combustor Acid Gases (40 tpy) |
| <input checked="" type="checkbox"/> Volatile Organic Compounds, VOC (40 tpy) | <input type="checkbox"/> MWC Metals (15 tpy) |
| <input type="checkbox"/> Elemental Lead, Pb (0.6 tpy) | <input type="checkbox"/> MWC Organics (3.5 x 10 ⁻⁶ tpy) |
| <input type="checkbox"/> Fluorides (3 tpy) | <input type="checkbox"/> Ozone Depleting Substances, ODS (Any increase) |
| <input type="checkbox"/> Other: _____ | |

For each of the pollutants selected above, a BACT analysis must be conducted for each emission unit that is emitting that pollutant if that unit is being physically modified or undergoing a change in method of operation. A BACT analysis must be submitted to the Department as an attachment to this permit application. Contact the Department if help is needed determining the information that should be submitted for the BACT analysis and be sure to review the guidance document available on the Department's website.

Best Available Control Technology Analysis and Determination for each pollutant selected above is attached.



Ambient Air Impact Analysis – Chapter 19, Section 018

Title 129, Chapter 19, Section 018 requires the owner or operator of the proposed source or modification to demonstrate that the allowable emission increases from the proposed source or modification will not cause or contribute to air pollution in violation of any ambient air quality standard or increment. Please consult the "*Atmospheric Dispersion Modeling Guidance for Permits*" guidance document for information on PSD modeling. This document can be found on the Department's website (www.deq.state.ne.us). The guidance document also contains information on the proper procedure for conducting and submitting modeling to the Department. Contact the Department if there are any questions on whether or not modeling is required. Form 2.0 must be completed as appropriate.

An Air Dispersion Modeling Protocol has been approved by the Department and is attached.

American Laboratories Inc. will be emitting greater than 40 tons per year of IPA, a regulated volatile organic compound (VOC). In order to determine if emissions from the Source could cause or contribute to a violation of the applicable ambient air quality standard, it would be necessary to conduct significant air dispersion modeling. There are no available models specifically for VOCs. VOCs are precursors for the formation of ozone, which is the pollutant of concern. There are models for simulation of ozone formation, but they are highly complex and require information not only from the source but from the surrounding area. Assessing the impact of an individual VOC source is commonly done by the regulating agency incorporating source information into the regional ozone model. This Source is the first PSD permit applicant in the area, and increment has yet to be established. American Laboratories, Inc. does not have sufficient area information, nor is there an appropriate model available for assessing the impact of their VOC emissions on the formation of atmospheric ozone. For this reason also, air quality modeling as set forth in 129-19-019 is not appropriate for this site.



Air Quality Construction Permit Application Form 4.0: Applicable Requirements

FACILITY NAME: <u>American Laboratories, Inc.</u>	DATE: <u>12/08/09</u>
NDEQ Facility ID#: <u>0317</u>	

Section 4.3: PSD Information (continued)

Pre-application Ambient Air Quality Analysis – Chapter 19, Section 020.01

Title 129, Chapter 19, Section 020.01 requires a source needing to obtain a PSD construction permit to conduct an analysis of the ambient air quality in the area that the major stationary source or major modification will occur for the pollutants in which the source will have the potential to emit the pollutant in excess of the significance threshold or for which there will be a significant net emissions increase as a result of the major modification. If a pre-application analysis is necessary, you may request to utilize pre-existing ambient air quality data if the data is representative of the air quality where the major source is/will be located. Refer to EPA document EPA-450/4-87-007 titled “*Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*” for guidance on the use of representative air quality data.

As stated previously, American Laboratories Inc. will be emitting greater than 40 tons per year of IPA, a regulated volatile organic compound (VOC). There are no available models specifically for VOCs. VOCs are precursors for the formation of ozone, which is the pollutant of concern. There are models for simulation of ozone formation, but they are highly complex and require information not only from the source but from the surrounding area. For this reason an air quality analysis as set forth in 129-19-020 is not appropriate for this site.

Additional Impact Analysis - Chapter 19, Section 022

Title 129, Chapter 19, Section 022 requires the owner or operator to provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or major modification.

Additional Impact Analysis is attached.

American Laboratories Inc., is the first facility to apply for a PSD permit in the area. The City has yet to establish an increment for VOCs in the region, and the modeling of an ozone precursor for a specific source requires more area information than is currently available. Without the modeling information regarding area baseline conditions prior to installation of the Facility operation for which this application is submitted, it is not possible to assess the impact of Source emissions on soils, vegetation or visibility. In addition, the Facility is located in an industrial area and is surrounded by major road and rail transportation corridors. It would not be possible to single out the effect of Source emissions under such conditions.