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DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

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August 8, 2013

Mr. William Rogers
Air Quality Permitting Coordinator
Idaho Department of Environmental Quality
1410 N. Hilton Street
Boise, Idaho 83706

Re: Gem State Processing, Inc., Heyburn, Idaho
PTC Revision Application for PM_{2.5} Compliance

Dear Mr. Rogers,

JBR Environmental Consultants, Inc. (JBR), on behalf of Gem State Processing, Inc. – Heyburn (Gem State), is submitting a permit application to revise Permit to Construct (PTC) of permit P-2010.0183, Project 61132, issued May 22, 2013. The purpose of this revision is to comply with all requirements outlined in Consent Order E-2010.0040, whereby facility-wide PM_{2.5} (annual and 24-hr averaging periods) National Ambient Air Quality Standards (NAAQS) compliance is demonstrated. This application has been developed to ensure all applicable state requirements as defined in IDAPA 58.01.01 are met. In addition, applicable federal requirements have been included.

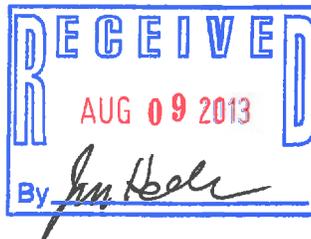
This submittal includes the PTC application, a detailed emissions inventory and appropriate modeling files. Where applicable, both hardcopy and electronic versions have been supplied.

Pursuant to IDAPA.01.01.123, all information contained within this application has been certified to be true, accurate and complete by Bill Schow of Gem State.

Should you have any questions please do not hesitate to call Bill Schow at (208) 678-6440 or myself at the number below.

Sincerely,
JBR Environmental Consultants, Inc.

Eric Clark, EIT
Environmental Analyst II
(208) 853-0883



Enclosures: PTC Application, CD containing all modeling and emissions data in electronic format

Gem State Processing, LLC

Permit- to-Construct Revision Application

Gem State Processing Heyburn Facility

Prepared for:

Gem State Processing, LLC

951 Highway 30

Heyburn, ID 83336

Contact: Bill Schow

Prepared by:

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August 2013



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1.0 INTRODUCTION

Gem State Processing, LLC (Gem State) is proposing to revise their current Permit to Construct (PTC), Permit No. P-2010.0183, Project 61132, issued May 22, 2013 to operate a potato processing facility in the Burley Industrial Park in Heyburn, ID. A site location map and plot plan is included in Appendix A. The purpose of this document is to comply with all requirements stated in Consent Order E-2010.0040, whereby facility-wide PM_{2.5} National Ambient Air Quality Standards (NAAQS) compliance is demonstrated. No other emission units are being added to the plant. However, there are three assumptions being made that help to demonstrate compliance. First, the background concentration is being reduced from 21.3 µg/m³ to 14.9 µg/m³. Secondly, the property boundary to ambient air is being expanded due to contractual lease agrees between Gem State and other entities. Lastly, Gem State is proposing two potential new stack configurations for the six drum dryers, six snifters tubes and one bubble sheet dryer. Potential option A is to route all 13 units to a newly constructed single stack adjacent to the building. Option B is to increase all current 13 stacks to 100 feet above ground level. As a result of this action there are no changes to emissions and the Gem State Heyburn facility will remain a minor source.

2.0 PROCESS DESCRIPTION

Gem State Processing, LLC is a potato processing company that processes, dehydrates and packs various potato products. The Heyburn facility will produce dehydrated potato flakes, seasoned agglomerated flakes, and other dehydrated potato products. Potatoes may be steam peeled, dry scrubbed, sorted, sliced, blanched, cooled, steam cooked and dried. Products are dried to approximately 8% moisture and are broken up and ground to customer specifications, packaged or stored, and then sold. The process includes natural gas fired boilers, steam drum dryers (flakers), fluidized bed dryers and utilizes pneumatic equipment to transport their products from production to storage or packaging. A process flow diagram is contained in Appendix C.

Raw potatoes are delivered to the facility and unloaded inside the potato receiving area of the facility building. The potatoes then go through a rock trap where they are rinsed with water to remove any large debris. Conveyors transfer the wet potatoes to storage bins until they are ready to be processed. The potatoes are transferred from the potato storage bin through an additional washing process and then are transferred via vertical conveyor belt to the steam peelers. After the peels are separated from the potato in the steam peeler, the potatoes are transferred to the brush scrubber and washer where the peel and any remaining dirt and debris are removed. Following inspection of the peeled and washed potatoes, they are transferred via vertical auger to

the slicer and then into a blancher where they are cooked. The potatoes are then cooled in water and transferred to the steam cooker. Following the steam cooker, the cooked potatoes are transferred through a ricer plate. The riced pieces are then transferred via auger into steam powered drum dryers (flakers). The drum dryers reduce the moisture in the potatoes from approximately 80% to 8%. Dried flakes are then either transferred to the packaging lines and silos or through the agglomeration line where oil and flavorings are added. The seasoned flakes from the agglomeration line are then transferred to the bubble sheet dryer (agglomeration line) and subsequently to the packaging lines. Steam for the steam peelers and drum dryers will be supplied by boilers operating on natural gas.

2.1 Emissions Sources

Emissions sources at the facility will include the following:

Boilers

The Gem State facility utilizes one 1600 hp and two 1200 hp natural gas fired boilers to produce steam for the various potato processing equipment installed at the facility. The boilers have low NO_x burners for control of NO_x and CO. The boilers are a source of natural gas combustion emissions. Emission factors from AP-42, Section 1.4 were used to calculate natural gas combustion emissions. Emission factors for NO_x and CO were provided by the manufacturer. Manufacturer information on the boilers is included in Appendix D (this information was also provided in the previous permitting application). There are no emission changes to these units from the current permit.

Air Makeup Units

Three 9.0 MMBtu/hr and one 10.0 MMBtu/hr Reyco Air Makeup Unit are used to provide fresh air into the facility, provide heating for employee comfort, and maintain positive pressure inside the processing areas. The air makeup unit burners are natural gas fired and exhaust into the facility building. During the warmer spring, summer and fall months, the facility does not need to be heated and the air makeup burners only run a limited number of hours. Gem State estimates that the air makeup burners will run 20% of the time in May, June, and September, 5% of the time in July and August, 50% of the time in October, and 100% of the time when the facility is operating in the remaining months of the year, for a total of 5270.4 operating hours per year. This is a conservative estimate because the burners may actually be shut off in mid-June through the end of August, when heat is not required for employee comfort. The air makeup unit fans run on electric power, and run whenever the facility is operating. The facility exhaust system, consisting of several rooftop exhaust stacks, is used to exhaust pollutants from the air makeup unit burners. The air makeup unit burners are a source of natural gas combustion

emissions. Emission factors from AP-42, Section 1.4 were used to calculate natural gas combustion emissions. There are no emission changes to these units from the current permit.

Bubble Sheet Dryers

The Gem State facility utilizes two natural gas fired bubble sheet dryers (fluidized bed dryers) for operation of the processing agglomeration line. Oils and other flavorings are added to the flakes coming out of the drum dryers. The flakes then pass through the bubble sheet dryers. The dryers are a source of both natural gas combustion emissions and process particulates.

An emission rate of 0.71 lb/hr was established during the previous permitting action and remains unchanged here. This rate was determined using previous performance test results and mathematical calculations as derived by Idaho DEQ.

Drum Dryers (Flakers)

Gem State operates six steam powered drum dryers. Emissions from the drum dryers include process particulate and exhaust through the drum fan hood or snifter fan drum exhausts. The primary purpose of the snifter fan drum is to pull moisture off of the drum dryers. Only a very small portion, approximately 0.05% of flakes passing through the drum dryer, will enter the snifter fan drum. Emissions from the snifter fan drums will be controlled by a Snifter Fan Collection System, designed and manufactured by Idaho Steel. Idaho Steel guarantees a collection efficiency of 80% of 10 micron or larger particles. The manufacturer guarantee is included in Appendix D. Any particulate not captured by the Snifter Fan Collection System will exhaust through the snifter fan hood rooftop exhausts.

Equipment and process at the Gem State facility were originally thought to be similar to those at the Idahoan Foods, Lewisville facility. Emissions factors for the Gem State drum dryers were based on source tests from Flaker Line 1 and Flaker Line 2 at the Idahoan Lewisville facility. The Idahoan facility tested Flaker Line 1 twice and calculated emission factors of 0.69 lb PM₁₀/ton and 0.75 lb PM₁₀/ton based on the test data (Method 5/202, 12/1/2005). To conservatively estimate the emissions, the Gem State facility was using an emissions factor of 0.82 lb PM₁₀/hr for the drum dryers.

However, a performance test conducted on July 19, 2011 indicated that the drum dryer emission rate is 0.63 lb PM₁₀/ton (0.71 lb/hr). Also, the snifter stacks assumed a rate of 0.013 lb PM₁₀/hr, but test results indicate a rate of 0.02 lb PM₁₀/hr. All rates are consistent with the previous permitting analysis.

Baghouses

Baghouses are used to convey the dried flakes to the different packaging areas, and include a pneumatic conveying line (conveys flakes from the drum dryers), six plant receiver baghouses, truck loadout baghouse, rail load baghouse, and silo bin vent baghouses (only one of the four silo bin vent baghouses will operate at a time). There are also three negative air baghouses that are associated with the plant receiver baghouses. These baghouses are used as process equipment but also control PM₁₀ emissions. With the exception of the silo bin vent baghouses and the truck loadout baghouse, all the above listed baghouses initially discharged into the facility building. The railcar baghouse routes product from the baghouse to external railcars. A nuisance dust collector baghouse used to control fugitive emissions from process equipment and the above mentioned indoor discharging baghouses will now be exhausted outside the building. An emission factor of 0.007 grain/dscf (manufacturer's guarantee) was assumed for the indoor discharge baghouses, silo bin vent baghouses and rail load baghouse. Emissions from the nuisance dust collector were calculated by assuming 99.9% control of emissions from the indoor discharging baghouses. The manufacturer control guarantee for the nuisance dust collector baghouse is included in Appendix D.

2.2 Air Pollution Control Equipment

In a November 27, 1995 letter from David Solomon, USEPA Office of Air Quality Planning and Standards to Timothy J. Mohin, Government Affairs Manager, Intel Government Affairs, Mr. Solomon (included as Appendix F) address criteria for determining whether equipment is air pollution control equipment or process equipment. Mr. Solomon outlines three questions that should be considered in determine whether certain devices or practices should be treated as pollution controls or are inherent to the process. The questions are listed below.

- 1. Is the primary purpose of the equipment to control air pollution?*
- 2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?*
- 3. Would the equipment be installed if no air quality regulations are in place?*

Responses to each question as they apply to the Gem State Potato Processing facility in Heyburn, ID are given below.

1. The Gem State facility will utilize a total of 19 baghouses at the facility in Heyburn. These baghouses include six plant receiver baghouses, four bin vent baghouses, three negative air baghouses, two baghouses associated with the agglomerator line, one

truck loadout baghouse, one rail load baghouse, one pneumatic conveying line baghouse and one nuisance dust collector. With the exception of the nuisance dust collector, all of the above listed baghouses are used to convey or transfer product from one point in the process to the next or from the process or storage to the different shipping methods. The nuisance dust collector will be used to control dust and particulate from the process and indoor discharging baghouses. Therefore, with the exception of the nuisance dust collector, the primary purpose of the baghouses is not to control air pollution.

2. The baghouse equipment installed at the facility will not be used to recover product.
3. As described in #1 above, the primary purpose of the baghouses (with the exception of the nuisance dust collector) is to convey product. Therefore, the equipment would be installed if no air quality regulations were in place.

Based on the responses and explanations given in numbers one through three above, it is the opinion of JBR and Gem State that the baghouses installed at the Gem State facility in Heyburn, with the exception of the nuisance dust collector, should be considered inherent to the process, and should not be considered as pollution control equipment.

The three natural gas fired boilers will be equipped with Low NO_x burners for control of NO_x and CO. Manufacturer guaranteed emissions factors for NO_x and CO are included in Appendix D.

2.3 Stack Configuration Options

Gem State is evaluating two potential stack configurations that will ensure the facility is compliant with PM_{2.5} NAAQS. Economic considerations are being analyzed. It is possible that one option will require much more structure engineering than the other and increase costs. Secondly, structural integrity of the roof is being considered. It is possible that a substantial increase in weight will not be sustainable. Potential future expansion is also being considered which may play a role the configuration decision.

Configuration A consists of a large single stack approximately 40 feet to the southeast of the offices. All drum dryers, sniffers and the agglomerator line (Bubble Sheet Dryer) would be ducted to the new stack. Alternatively, configuration B would allow for each of the stacks mentioned above will remain in their current location but the stack height of all would be raised to 100 feet. A detailed description of each can be found in Section 5 of this document and the

corresponding modeling report. Due to the tight schedule of the consent order, Gem State requests that the permit allow for both options.

3.0 REGULATORY APPLICABILITY

A review of applicable State and Federal Rules for each emissions unit is provided in Sections 3.1 and 3.2 below.

3.1 State Regulatory Applicability

A review of applicable requirements of the Rules for the Control of Air Pollution in Idaho is provided in Table 3-1. Each regulation is described in the sections following the table.

Table 3-1 State Regulatory Applicability Summary

Section	Description	Regulatory Citation	Applicable?
3.1.1	Certification of Documents	IDAPA 58.01.01.123	Yes
3.1.2	Excess Emissions	IDAPA 58.01.01.130-136	Yes
3.1.3	Ambient Air Quality Standards for Specific Air Pollutants	IDAPA 58.01.01.577	Yes
3.1.4	Toxic Air Pollutants	IDAPA 58.01.01.585 and 586	Yes
3.1.5	New Source Performance Standards	IDAPA 58.01.01.590	Yes
3.1.6	National Emissions Standards for Hazardous Air Pollutants	IDAPA 58.01.01.591	Yes
3.1.7	Open Burning	IDAPA 58.01.01.600-616	Yes
3.1.8	Visible Emissions	IDAPA 58.01.01.625	Yes
3.1.9	Rules for Control of Fugitive Dust	IDAPA 58.01.01.650	Yes
3.1.10	Fuel Burning Equipment – Particulate Matter	IDAPA 58.01.01.675-681	Yes
3.1.11	Particulate Matter – Process Weight Limitations	IDAPA 58.01.01.701	Yes
3.1.12	Odors	IDAPA 58.01.01.775-776	Yes

3.1.1 Certification of Documents

IDAPA 58.01.01.123 requires all documents including application forms for permits to construct, records, and monitoring reports submitted to the Department shall contain a certification by a responsible official. Gem State will comply with this requirement and the appropriate certifications by a responsible official are being submitted with this application.

3.1.2 Excess Emissions

IDAPA 58.01.01.130-136 establishes procedures and requirements to be implemented in all excess emissions events. Gem State will comply with the procedures and requirements outlined in Section 131-136 and submit the necessary information and reports to DEQ related to excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

3.1.3 Ambient Air Quality Standards for Specific Air Pollutants

IDAPA 58.01.01.577 establishes ambient air quality standards for specific air pollutants including PM₁₀, Sulfur Dioxide, Ozone, Nitrogen Oxide, Carbon Monoxide, Fluorides and Lead. Gem State has demonstrated compliance with these standards. The previous permitting action was not required to demonstrate compliance with PM_{2.5} standards. Therefore, IDEQ asked that a significance analysis be conducted to show that the change in emission (an overall decrease) did not exceed the Significant Impact Level (SIL). This analysis and documentation of compliance is included in Section 5 of this application.

3.1.4 Toxic Air Pollutants

IDAPA 58.01.01.585 and 586 establishes requirements for compliance with toxic air pollutants. Gem State demonstrated compliance with the standards during the previous permitting action. There are no changes in toxic emissions due to this revision.

3.1.5 New Source Performance Standards

New Source Performance Standards (NSPS) in 40 CFR Part 60 are applicable to new, modified, or reconstructed stationary sources that meet or exceed specified applicability thresholds. Subpart Dc of the NSPS, "Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units" applies to the proposed boilers because the total heat input is between 10 and 100 million British thermal units per hour (MMBtu/hr) and was constructed after 1989. The boilers are not subject to any SO₂ emission limitations in Subpart Dc because they will operate on natural gas and do not combust oil, coal, or combinations that include coal and/or oil. The boilers are not subject to any PM or PM opacity emissions limitations in Subpart

Dc because they do not combust coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels. The boilers are subject to the applicable monitoring and recordkeeping requirements identified in NSPS Subpart Dc Part 60.48c.

3.1.6 National Emission Standards for Hazardous Air Pollutants

Two sets of National Emissions Standards for Hazardous Air Pollutants (NESHAPs) may potentially apply to the Gem State facility. The first NESHAP regulations were developed under the auspices of the original Clean Air Act. These standards are codified in 40 CFR Part 61, and address a limited number of pollutants and industries. The Gem State facility does not fall under any of the industries or have the potential to emit any of the pollutants listed in 40 CFR Part 61, and therefore, 40 CFR Part 61 regulations do not apply to this facility.

Newer regulations are codified in 40 CFR Part 63 under the authority of the 1990 Clean Air Act Amendments (CAAA). These standards regulate HAP emissions from specific source categories and typically affect only major sources of HAPs. Part 63 regulations are frequently called Maximum Achievable Control Technology (MACT) standards. Major HAP sources have the PTE 10 tpy or more of any single HAP or 25 tpy or more of all combined HAP emissions. At the Gem State facility, potential emissions of individual HAPs will be less than 10 tpy and combined HAP emissions will be less than 25 tpy. Therefore, the facility is not subject to 40 CFR Part 63.

3.1.7 Open Burning

IDAPA 58.01.01.600 and 616 establishes requirements for open burning. Gem State does not expect to conduct open burning at the facility however will comply with the requirements under Section 600-616 if any allowable burning is to be conducted at the facility.

3.1.8 Visible Emissions

IDAPA 58.01.01.625 restricts discharge of air pollutants into the atmosphere which is greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. Gem State will comply with this rule by conducting monthly facility-wide inspections of potential sources of visible emissions, during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation for each potential source. If any visible emissions are observed Gem State will take corrective action or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. Gem State will keep records onsite documenting the monthly visible emission inspection and Method 9 test conducted. However, it should be noted that during the winter months, the opacity may

seem a bit higher. That is not due to anything more than water vapor being emitted from the stacks.

3.1.9 Rules for Control of Fugitive Dust

IDAPA 58.01.01.650 requires that all reasonable precautions be taken to prevent the generation of fugitive dust. Gem State will comply with fugitive particulate matter regulations, including through the use of hoods, fans and fabric filters to enclose and vent potential fugitive particulate matter.

3.1.10 Fuel Burning Equipment – Particulate Matter

IDAPA 58.01.01.676 restricts any fuel burning source of greater than 10 MMBtu to limit the PM released from combustion to 0.015 gr/dscf for gas fuel. The boilers and Reyco Air Makeup Unit #4 are greater than 10 MMBtu/hr, and will comply with this standard as shown in Table 3-2 below. All natural gas combustion equipment is in compliance with the grain loading standard.

Table 3-2 Grain Loading Emissions for Natural Gas Combustion

Source	PM Emission Factor (lb/scf) ^a	Gas Volume @ 3% O ₂ (dscf/MMBTU)	Combustion Volume of 1 cubic foot of gas (dscf/scf)	Grain Loading (grain/dscf)	Grain Loading Standard (grain/dscf)	Meet Grain Loading Standard?
Boiler #1	7.6 X 10 ⁻⁶	1.198 X 10 ⁴	12.58	4.23 X 10 ⁻³	0.015	Yes
Boiler #2	7.6 X 10 ⁻⁶	1.198 X 10 ⁴	12.58	4.23 X 10 ⁻³	0.015	Yes
Boiler #3	7.6 X 10 ⁻⁶	1.198 X 10 ⁴	12.58	4.23 X 10 ⁻³	0.015	Yes
AMU #4	7.6 X 10 ⁻⁶	1.198 X 10 ⁴	12.58	4.23 X 10 ⁻³	0.015	Yes

^aAP-42, Table 1.4-2, 1998.

3.1.11 Particulate Matter – Process Weight Limitations

IDAPA 58.01.01.701 promulgates restrictions on PM for the entire facility based on process weight. Fuel burning equipment at the facility is not subject to this requirement. Process weight calculations are shown in Table 3-3 below.

Table 3-3 Process Weight Calculations

Source	Process Weight, PW (lb/hr dry)	PM-10 Emissions - Estimated (lb/hr)	Process Weight Rate Limitations - E (lb/hr)	In Compliance? (Y/N)
Drum Dryer Drum Fan Hood #1	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum#1	1.125	0.02	0.05	Y
Drum Dryer Drum Fan Hood #2	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum #2	1.125	0.02	0.05	Y
Drum Dryer Drum Fan Hood #3	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum #3	1.125	0.02	0.05	Y
Drum Dryer Drum Fan Hood #4	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum #4	1.125	0.02	0.05	Y
Drum Dryer Drum Fan Hood #5	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum #5	1.125	0.02	0.05	Y
Drum Dryer Drum Fan Hood #6	2250	0.63	4.62	Y
Drum Dryer Snifter Fan Drum #6	1.125	0.02	0.05	Y
Bubble Sheet Dryer #1	3300	0.71	5.81	Y
Bubble Sheet Dryer #2	0	0.00	0.00	Y

E = Emission Limit = $0.045(PW)^{0.60}$, if PW is less than 9,250 lb/hr.

3.1.12 Odors

IDAPA 58.01.01.775-776 requires no emissions of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution. Gem State will comply with this requirement by keeping records of any odor complaints received and will take appropriate action for each complaint which has merit.

3.2 Federal Regulatory Applicability

A review of applicable Federal Rules is provided in Table 3-4. Included in Appendix B is the completed federal regulatory applicability FRA form.

Table 3-4 Federal Regulatory Applicability Summary

Section	Description	Regulatory Citation	Applicable?
3.2.1	National Ambient Air Quality Standards (NAAQS)- (dispersion modeling)	40 CFR Part 50	No
3.2.2	Title V Operating Permit	40 CFR Part 70	No
3.2.3	Air Pollutants (NESHAPs)	40 CFR Parts 61, 63	No
3.2.4	New Source Review (NSR)	40 CFR Part 52	No
3.2.5	New Source Performance Standards (NSPS)	40 CFR Part 60	Yes
3.2.6	Acid Rain Requirements	40 CFR Parts 72–78	No
3.2.7	Risk Management Programs For Chemical Accidental Release Prevention	40 CFR Part 68	No

3.2.1 National Ambient Air Quality Standards (NAAQS)

Primary National Ambient Air Quality Standards (NAAQS) are identified in 40 CFR Part 50 and define levels of air quality, which the United States Environmental Protection Agency (USEPA) deems necessary to protect the public health. Secondary NAAQS define levels of air quality, which the USEPA judges necessary to protect public welfare from any known, or anticipated adverse effects of a pollutant. Examples of public welfare include protecting wildlife, buildings, national monuments, vegetation, visibility, and property values from degradation due to excessive emissions of criteria pollutants.

Specific standards for the following pollutants have been promulgated by USEPA: PM_{2.5}, PM₁₀, SO₂, NO_x, CO, ozone, and lead. The Gem State facility will emit PM_{2.5}, PM₁₀, SO₂, NO_x, CO, and VOCs, a precursor to ozone. A facility-wide compliance demonstration of PM_{2.5} is described in detail in Section 5.

3.2.2 Title V (Part 70) Operating Permit

Title V of the Clean Air Act (CAA) created the federal operating permit program. These permitting requirements are codified in 40 CFR Part 70. These permits are required for major sources with a PTE (considering federally enforceable limitations) greater than 100 tpy for any criteria pollutant, 25 tpy for all hazardous air pollutants (HAPs) in aggregate, or 10 tpy of any single HAP. Gem State is a minor source because the potential to emit of any criteria pollutant is less than 100 tons per year, the potential to emit of all HAPs in aggregate is less than 25 tpy, and the potential to emit of any single HAP is less than 10 tpy.

3.2.3 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

National Emission Standards for Hazardous Air Pollutants are discussed in Section 3.1.7 above.

3.2.4 New Source Review (NSR) Requirements

Minidoka County is designated as an attainment area for all criteria pollutants. Therefore, the prevention of significant deterioration (PSD) regulations codified in 40 CFR Part 52 could potentially apply to the proposed facility. The PSD rule applies to: (1) a new major source that has the potential to emit 100 tons per year or more for any criteria pollutant for a facility that is one of the 28 industrial source categories listed in 40 CFR § 52.21(b)(1)(i)(a); or (2) a new major source that has the potential to emit 250 tons per year or more of a regulated pollutant if the facility is not on the list of industrial source categories; or (3) a modification to an existing major source that results in a net emission increase greater than a PSD significant emission rate as specified in 40 CFR § 52.21 (b)(23)(i); or (4) a modification to an existing minor source that is major in itself. The Gem State facility does not fall under one of the 28 industrial source categories, nor will the PTE exceed 250 tpy for any regulated pollutant. Therefore, Gem State is not subject to PSD regulations.

3.2.5 New Source Performance Standards (NSPS)

New Source Performance Standards are discussed in Section 3.1.6 above.

3.2.6 Acid Rain Requirements

The acid rain requirements codified in 40 CFR Parts 72-78 apply only to utilities and other facilities that combust fossil fuel and generate electricity for wholesale or retail sale. The proposed facility will not produce electrical power for sale. Therefore, the facility is not subject to the acid rain provisions and will not require an acid rain permit.

3.2.7 Risk Management Programs for Chemical Accidental Release Prevention

The facility is not subject to the Chemical Accidental Release Prevention Program and will not be required to develop a Risk Management Plan (RMP). Facilities that produce, process, store, or use any regulated toxic or flammable substance in excess of the thresholds listed in 40 CFR Part 68 must develop a RMP. The facility does not store any regulated toxic or flammable substances in excess of the applicable thresholds. A RMP is not necessary for this facility.

4.0 EMISSIONS SUMMARY

There are no emission changes resulting from this revision. A complete emissions inventory is included in Appendix E.

As discussed in Section 2.2, even though several baghouses will be installed at the Gem State facility, only one, the nuisance dust collector is considered as pollution control equipment. The nuisance dust collector has a manufacturer guaranteed collection efficiency of 99.9% of incoming particulate 2 micron and larger. In addition to the nuisance dust collector baghouse, process particulate will be controlled by the Idaho Steel Snifter Fan Collection System, installed on each of the drum dryer snifter fan drums. The snifter fan filter system has a manufacturer guaranteed removal efficiency of 80% of 10 micron or larger particles. Both the nuisance dust collector and snifter fan collection system will be used to control PM, PM₁₀ and PM_{2.5}.

Documentation of compliance with NAAQS standards, Acceptable Ambient Concentrations (AACs) for IDAPA 58.01.01.585 non-carcinogen TAPs and Acceptable Ambient Concentrations for Carcinogens for IDAPA 58.01.01.586 carcinogen TAPs is documented in the air quality modeling report included in Appendix E.

4.1 Criteria Pollutants

As discussed in Section 2.1, sources of criteria pollutant emissions at the Gem State facility will be natural gas combustion from the boilers, air makeup unit burners, bubble sheet dryers and National Dryer and process particulates from the drum dryers, bubble sheet dryers process baghouses, and the nuisance dust collector. Emission factors for natural gas combustion were obtained from AP-42 Section 1.4.

Table 4-1 illustrates that there is no change in total particulate emissions related to this revision. No other criteria pollutants are affected. It should be noted that PM_{2.5} and PM₁₀ are assumed to be equivalent.

Table 4-1 Facility Criteria Pollutant PTE Difference

	NO_x		CO		PM_{2.5/10}		SO_x		VOC		Lead	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project	10.81	40.15	10.65	40.43	6.26	26.42	0.12	0.47	0.92	3.60	0.0001	0.0001
Post-Project	10.81	40.15	10.65	40.43	6.26	26.42	0.12	0.47	0.92	3.60	0.0001	0.0001
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.2 Toxic Air Pollutants

Sources of toxic air pollutants (TAPs) at the Gem State facility include emissions from natural gas combustion. The boilers, air makeup unit burners, bubble sheet dryers (fluidized bed dryers) and National Dryer will run on natural gas. There are no changes to TAPs emissions as the natural gas usage remains constant.

5.0 AMBIENT AIR QUALITY ANALYSIS

As part of Consent Order E-2010.0040, Gem State is required to demonstrate facility-wide compliance with the 24-hr and annual PM_{2.5} standards. This section outlines how Gem State is meeting these standards. For explicit detail as to the development of the modeling assumptions please refer to the modeling report with Appendix G of this application.

5.1 Background Concentration Reduction

The current background concentration used and accepted by Idaho DEQ for the Twin Falls area, of which Heyburn is considered, is a 21.3 µg/m³ for 24-hr PM_{2.5}. However, those data are quite dated (2000-2002). A comparison analysis was done between the EPA reference method monitor used to establish the background concentration and a Tampered Element Oscillating Microbalance (TEOM) monitor at that same location during 2000-2002. As described in detail in Appendix C of the modeling report, there is a significant correlation between the two data sets. The previous three of data (2010-2012) were also examined for the TEOM. These data suggest that the background level should be reduced as to better correlate with the recent data. The 98th percentile averaged over those three years suggests a background concentration of 16.3µg/m³. In conjunction with exceptional fire events in 2012, Gem State is proposing to reduce the acceptable background to 14.9µg/m³. Refer to Appendix C of the modeling report for rationale.

5.2 New Ambient Air Boundary

Gem State has leased area to the southwest of current ambient air boundary whereby expanding to include the storage building. The area will increase by approximately 2.2 acres (see Appendix B of the modeling report). Gem State has also leased area of the spur rails adjacent to the northwest property boundary. An agreement with Eastern Idaho Railroad (EIRR) has expanded the ambient boundary out approximately 75 feet. This does not include the mainline, is within 25 feet of its centerline. Appendix B of the modeling report contains a memorandum describing the contents of the agreements.

5.3 Configuration Option A – Large Single Stack

A single stack at a height of 75 feet will be added adjacent to the current building. An addition to the building may be added that will surround the stack. The stack diameter will be 9 feet, with an estimated flow rate of 227,500 cubic feet per min (cfm). These parameters equate to an exit velocity of 3,576 ft/min or 19.08 m/s. The expected exit temperature will be 120.7 °F. An addition to the building may be necessary. Should this occur, the addition may be constructed prior to permit issuance as no emission units will be present prior to receiving the permit. This was concurred upon by William Rogers during an August 2nd telephone conversation.

5.4 Configuration Option B - Increase Stack Height

The previously analysis assumed a 65 foot stack height for each of the six drum dryers and associated snifter stack. The bubble sheet dryer was also at a height of 65 feet. All thirteen (13) stacks will be increased to 100 feet. Temperature change due to the stack height increase will be negligible because the previously assumed exit temperatures are low. All three emission unit types are near ambient temperatures. The drum dryers assume a temperature of 119°F; the snifters 111°F and the bubble sheet dryer is 131°F. Similarly, due to variable speed fans, the manufacturer, Idaho Steel, indicated that the assumed flow rates can be maintained with the higher stacks. It is likely the horsepower to the fans would need to increase somewhat to keep the flows consistent, but it can and will be done. The anticipated exit velocities are 19.56 m/s, 16.17 m/s and 12.91 m/s, respectively.

5.5 No Realistic NAAQS Violation

There are no performance methods that allow for adequate particle size distribution. As stated throughout this document, the assumption has been made that PM_{2.5}/PM₁₀ is equivalent to PM. While that is the most conservative approach it is also not very realistic. There are isolated exceedances¹ of 35 µg/m³ along the northwestern boundary of the Gem State property. However, all of these occur with privately own land along the mainline of the Eastern Idaho railroad. As described in Appendix D of the modeling report, there is a combined “weight of evidence” supporting the fact that there truly would not be an exceedance of the NAAQS causing adverse human health concerns.

A minimal reduction of the assumed 100% PM to PM_{2.5} ratio to 91% is still very conservative and is likely as realistic. The impacts occur in areas where there is limited use by railroad employees. EIRR employees rarely stop along that stretch of the mainline and are never there for longer than 30 minutes. The time duration is such shorter than the averaging period of the standard and the emission rate (lb/hr) used to estimate the impact. Lastly, any member of the general public would need to be trespassing on private property to be potentially adversely impacted. Please review Appendix D of the modeling report for details.

5.6 NO_x and SO_x Discussion

The following discussion is identical to previous permit application. This section was added to reiterate that NO_x and SO_x were analyzed before and IDEQ confirmed that they were satisfied.

¹ Please note that there were only exceedances described above should Configuration B were selected.

The proposed project does not create a change in either NO_x or SO_x emissions. However, all the exhaust stack parameters from the AMUs were part of the June verification; as were the three permitted boilers. Because of the stack changes it was necessary to confirm that there were no substantial differences to the ambient impact previously modeled.

Originally, annual NO₂ was only at 51% of the NAAQS and no SO₂ modeling was required as nothing exceeded the modeling thresholds. However, since the previous permitting action, two new 1-hr standards have been promulgated. All fourteen exhaust points associated with the AMUs were originally modeled with a stack height of 35 feet from ground level. The updated verification included all stack heights greater than 35 feet ranging from 35.7 to 38.8 feet. Stack temperatures remained unchanged for all units. All but one changed exit velocity; the one that did actually increased which would allow for better dispersion than previously modeled. Lastly, the boilers remained with an identical stack temperature, exit velocity and stack diameter. The stack height was slightly increased from 60 feet to 60.79 feet.

Overall, the changes to the stack parameters were not substantial enough to warrant any major change to the ambient impacts expected from NO_x and SO_x. In fact, these verification parameters would have most likely improved the modeled results. Therefore, no verification runs were conducted for this project.

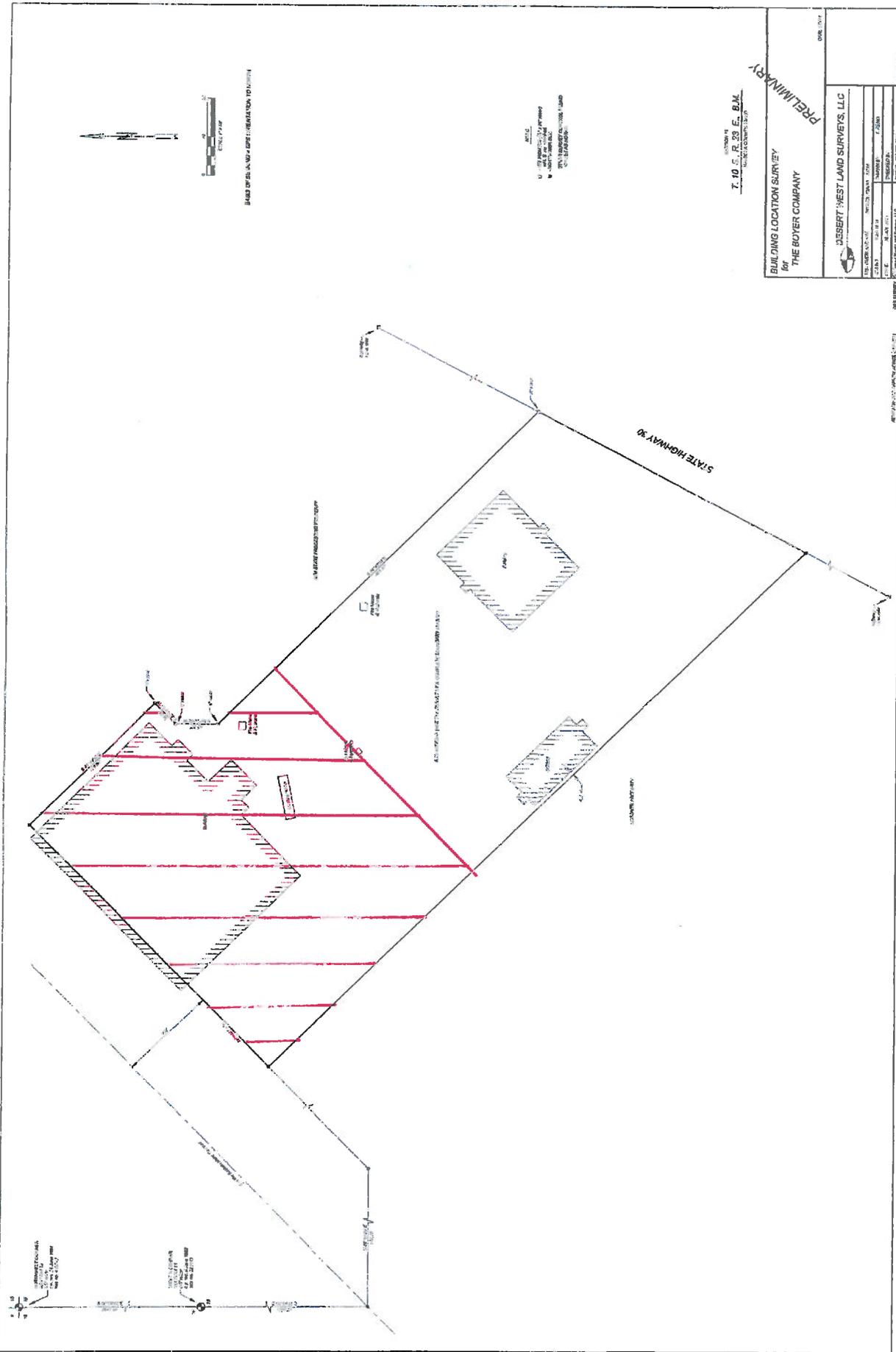
APPENDIX A

Site Location Map and Plot Plan



**Gem State Potato Processing
Heyburn, ID**

Figure 1 – Site Location



BASED UPON SURVEY DATA OBTAINED FROM THE FOLLOWING:

NOTE:
 1. ALL DIMENSIONS ARE IN FEET AND INCHES.
 2. ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD.
 3. ALL DIMENSIONS ARE TO THE CENTERLINE OF THE DRIVEWAY.

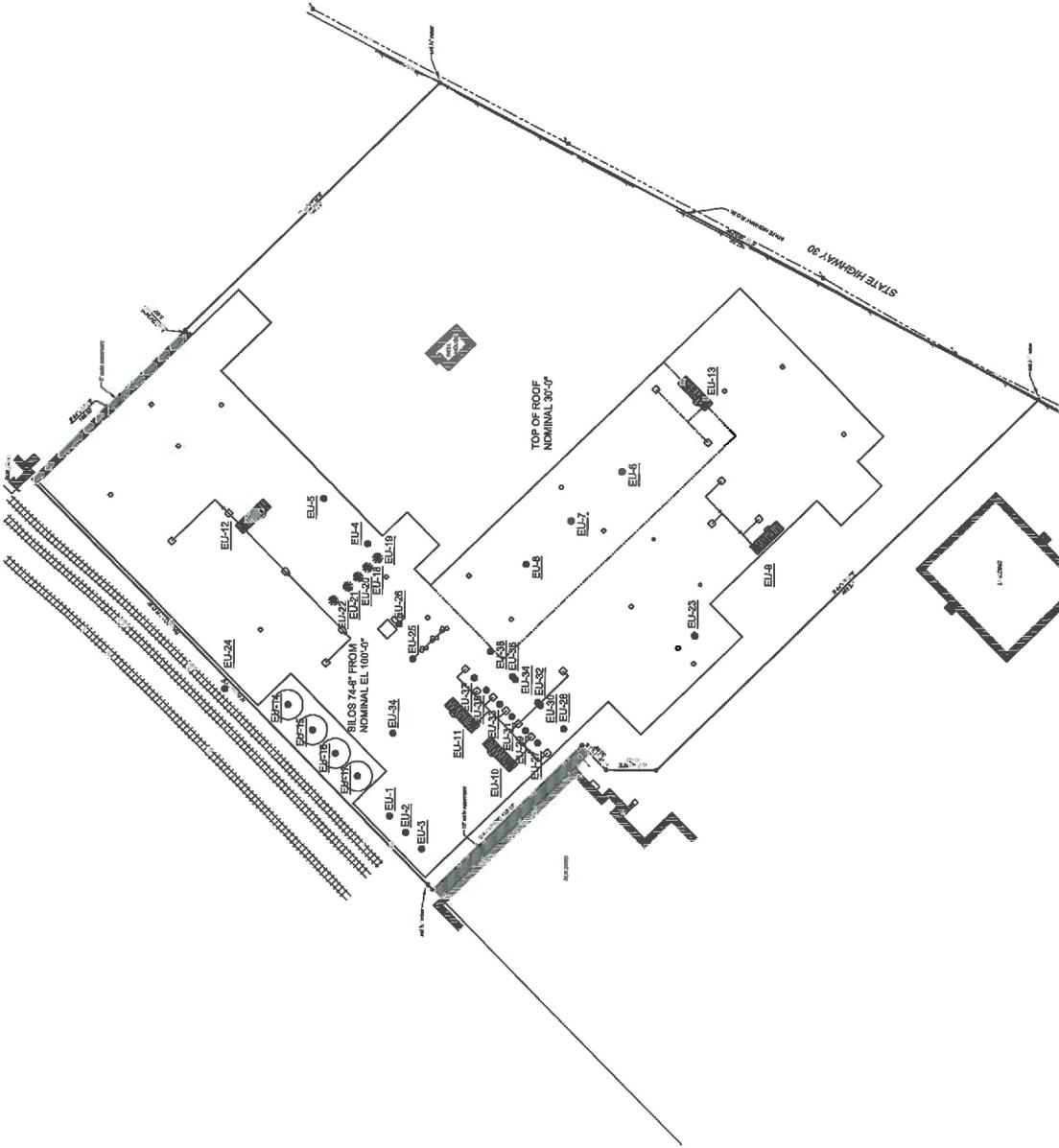
SECTION 14
 T. 10 S., R. 23 E., B.M.
 SOUTHWEST CORNER 36-36

BUILDING LOCATION SURVEY
 for
 THE BOYER COMPANY

PRELIMINARY

JESBERT WEST LAND SURVEYS, LLC	
DATE	09/15/2017
PROJECT	BOYER COMPANY
CLIENT	BOYER COMPANY
LOCATION	SECTION 14, T. 10 S., R. 23 E., B.M. SOUTHWEST CORNER 36-36
SCALE	AS SHOWN
PROJECT NO.	17-0001
DRAWN BY	JESBERT WEST LAND SURVEYS, LLC
CHECKED BY	JESBERT WEST LAND SURVEYS, LLC

DATE PLOTTED: 09/15/2017 09:15:00 AM



LEGEND	
	POWER LINE
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
	FIRE HYDRANT
	FIRE MAIN POST
	LIGHT POLE
	EMISSION POINT
	TELEPHONE SERVICE RITER
FACILITY	
GEM STATE PROCESSING LLC. 951 HIGHWAY 30 HEYBURN, ID 83336	

 IDAHO STEEL PRODUCTS CO. Registered and Manufactured by: 535 E. Antietam, Idaho Falls, ID 83401	GEM STATE PROCESSING-PERMIT PLAN DATE: 12/14/10 DRAWN BY: JTD CHECKED BY: JTD SCALE: 1" = 50'-0"
	GEM STATE PROCESSING LLC 10-10080 HEYBURN, ID 10-10080-AD1-3
NOTICE THE DRAWING IS FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION AND CONDITIONS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. IDAHO FALLS, IDAHO, U.S.A.	UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS SHALL BE IN FEET AND INCHES. DIMENSIONS SHALL BE TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS SHALL BE TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS SHALL BE TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED.

PLAN VIEW

APPENDIX B

DEQ PTC Forms and Checklists



Please see instructions on back page before filling out the form. All information is required. If information is missing, the application will not be processed.

Identification

1. Facility name: Gem State Processing, LLC
 2. Existing facility identification number:
 Check if new facility (not yet operating)
 3. Brief project description: Revision to update emission factors of drum dryers, sniffers bubble sheets dryers

Facility Information

4. Primary facility permitting contact name: Bill Schow Contact type: Responsible official
 Telephone number: 208-678-6440 E-mail: bill@gemstateprocessing.com
 5. Alternate facility permitting contact name: Miguel Rementeria Alternate contact type: Responsible official
 Telephone number: 208-678-6436 E-mail: mrementeria@gemstateprocessing.com
 6. Mailing address where permit will be sent (street/city/county/state/zip code): 951 Highway 30, Heyburn, Minidoka, Idaho 83336
 7. Physical address of permitted facility (if different than mailing address) (street/city/county/state/zip code): Same as above
 8. Is the equipment portable? Yes* No *If yes, complete and attach PERF; see instructions.
 9. NAICS codes: Primary NAICS: 311423 Secondary NAICS:
 10. Brief business description and principal product produced: Producer of dehydrated potato flakes and other dehydrated potato products
 11. Identify any adjacent or contiguous facility this company owns and/or operates: N/A
 12. Specify type of application Permit to construct (PTC); application fee of \$1,000 required. See instructions.
 Tier I permit Tier II permit Tier II/Permit to construct

For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.

Co-process Tier I modification and PTC Incorporate PTC at the time of Tier I renewal Administratively amend the Tier I permit to incorporate the PTC upon applicant's request (IDAPA 58.01.01.209.05.a, b, or c)

Certification

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

13. Responsible official's name: Bill Schow Official's title: General Manager
 Official's address: 951 Highway 30, Heyburn, Idaho 83336
 Telephone number: 208-678-6440 E-mail: bill@gemstateprocessing.com
 Official's signature: *Bill Schow* Date: 8/3/13

14. Check here to indicate that you want to review the draft permit before final issuance.



DEQ AIR QUALITY PROGRAM

1410 N. Hilton, Boise, ID 83706

For assistance, call the

Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Gem State Processing, LLC		
2. Facility Name	Gem State – Heyburn Facility	3. Facility ID No.	067-00038
4. Brief Project Description - One sentence or less	Revision of permit for potato processing facility in Heyburn, ID as required by enforcement action		

PERMIT APPLICATION TYPE

5.	<input type="checkbox"/> New Source	<input type="checkbox"/> New Source at Existing Facility	<input type="checkbox"/> PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
	<input type="checkbox"/> Unpermitted Existing Source	<input type="checkbox"/> Facility Emissions Cap	<input checked="" type="checkbox"/> Modify Existing Source: Permit No.: <u>P-2010.0183</u> Date Issued: <u>3/22/13</u>
	<input checked="" type="checkbox"/> Required by Enforcement Action: Case No.: <u>E-2010.0040</u>		
6.	<input checked="" type="checkbox"/> Minor PTC	<input type="checkbox"/> Major PTC	

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSPTC – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information	Please specify number of EU3s attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information	Please specify number of EU4s attached: <u>3</u> <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: ____ <input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI-CP1 - EI-CP4– Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>



Please see instructions on page 2 before filling out the form.

IDENTIFICATION							
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067			
4. Brief Project Description: Modification of Current PTC							
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION							
5. Emissions Unit (EU) Name:		REYCO AMU #1					
6. EU ID Number:		EU-9					
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:			Date Issued:		
8. Manufacturer:		REYCO					
9. Model:		GASPAC 850					
10. Maximum Capacity:		9.0 MMBTU/HR					
11. Date of Construction:		2/1/2011					
12. Date of Modification (if any):		NA					
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.							
EMISSIONS CONTROL EQUIPMENT							
14. Control Equipment Name and ID:							
15. Date of Installation:			16. Date of Modification (if any):				
17. Manufacturer and Model Number:							
18. ID(s) of Emission Unit Controlled:							
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No							
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)							
		Pollutant Controlled					
		PM	PM10	SO ₂	NO _x	VOC	CO
Control Efficiency							
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.							
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)							
22. Actual Operation:		8520 HRS/YEAR					
23. Maximum Operation:		8520 HRS/YEAR					
REQUESTED LIMITS							
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)							
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year					
<input type="checkbox"/> Production Limit(s):							
<input type="checkbox"/> Material Usage Limit(s):							
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:							
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION					



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: REYCO AIR MAKEUP UNIT (AMU) #2						
6. EU ID Number: EU-10						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source – Previous Permit #: Date Issued:						
8. Manufacturer: REYCO						
9. Model: GASPAC 1000						
10. Maximum Capacity: 9.0 MMBTU/HR						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description:		Modification of Current PTC				
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		REYCO AIR MAKEUP UNIT (AMU) #3				
6. EU ID Number:		EU-11				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		REYCO				
9. Model:		GASPAC 1000				
10. Maximum Capacity:		9.0 MMBTU/HR				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.				
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input type="checkbox"/> No				
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)				
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		REYCO AIR MAKEUP UNIT (AMU) #4				
6. EU ID Number:		EU-12				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source			Date Issued:	
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		REYCO				
9. Model:		GASPAC 1250				
10. Maximum Capacity:		10.0 MMBTU/HR				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description:		Modification of Current PTC				
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		REYCO AIR MAKEUP UNIT (AMU) #5				
6. EU ID Number:		EU-13				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		REYCO				
9. Model:		GASPAC 1000				
10. Maximum Capacity:		9.0 MMBTU/HR				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.				
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)				
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 067-00038		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: BOILER #1						
6. EU ID Number: EU-1						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: JOHNSTON BOILER COMPANY						
9. Model: PFTA 1200-4						
10. Maximum Capacity: 49.13 MMBTU/HR						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: Low NOx burner #1						
15. Date of Installation: 2/1/2011 16. Date of Modification (if any): NA						
17. Manufacturer and Model Number: Johnston Boiler Company						
18. ID(s) of Emission Unit Controlled: EU-1						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x 0.036 lb/MMBtu	VOC	CO 0.037 lb/MMBtu
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 067-00038		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		BOILER #2				
6. EU ID Number:		EU-2				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:				
8. Manufacturer:		JOHNSTON BOILER COMPANY				
9. Model:		PFTA 1200-4				
10. Maximum Capacity:		49.13 MMBTU/HR				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:		Low NOx burner #2				
15. Date of Installation:		2/1/2011		16. Date of Modification (if any): NA		
17. Manufacturer and Model Number:		Johnston Boiler Company				
18. ID(s) of Emission Unit Controlled:		EU-2				
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x 0.036 lb/MMBtu	VOC	CO 0.037 lb/MMBtu
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 067-00038		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: BOILER #3						
6. EU ID Number: EU-3						
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source		Date Issued:		
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer: JOHNSTON BOILER COMPANY						
9. Model: PFTA 1600-4						
10. Maximum Capacity: 65.43 MMBTU/HR						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: Low NOx burner #3						
15. Date of Installation: 2/1/2011		16. Date of Modification (if any): NA				
17. Manufacturer and Model Number: Johnston Boiler Company						
18. ID(s) of Emission Unit Controlled: EU-3						
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x 0.036 lb/MMBtu	VOC	CO 0.037 lb/MMBtu
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)				
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description:		Modification of Current PTC				
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		BUBBLE SHEET DRYER #1				
6. EU ID Number:		EU-4				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:				
8. Manufacturer:		Idaho Steel				
9. Model:		TBD				
10. Maximum Capacity:		6.0 MMBTU/HR				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.				
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification to Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: BUBBLE SHEET DRYER #2						
6. EU ID Number: EU-5						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: Idaho Steel						
9. Model: TBD						
10. Maximum Capacity: 6.0 MMBTU/HR						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER DRUM FAN HOOD #1				
6. EU ID Number:		EU-27				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		ESTIMATED 2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number: I						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
		Pollutant Controlled				
		PM	PM10	SO ₂	NO _x	VOC
Control Efficiency						CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s):		2250 lb/hr dry				
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: DRUM DRYER DRUM FAN HOOD #2						
6. EU ID Number: EU-29						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: IDAHO STEEL						
9. Model: TBD						
10. Maximum Capacity: 2250 LB/HR DRY						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number: I						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s): 2250 lb/hr dry						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER DRUM FAN HOOD #3				
6. EU ID Number:		EU-31				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number: I						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s):		2250 lb/hr dry				
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER DRUM FAN HOOD #4				
6. EU ID Number:		EU-33				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:			Date Issued:	
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s):		2250 lb/hr dry				
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER DRUM FAN HOOD #5				
6. EU ID Number:		EU-35				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:			Date Issued:	
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		ESTIMATED 2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number: I						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s):		2250 lb/hr dry				
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: DRUM DRYER DRUM FAN HOOD #6						
6. EU ID Number: EU-37						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: IDAHO STEEL						
9. Model: TBD						
10.. Maximum Capacity: 2250 LB/HR DRY						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number: I						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input checked="" type="checkbox"/> Material Usage Limit(s): 2250 lb/hr dry						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility			3. Facility ID No: 038-00067	
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: NUISANCE DUST COLLECTOR						
6. EU ID Number: EU-26						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: MC4-64						
10. Maximum Capacity: 30,000 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: North Mosen Fabric Filter						
15. Date of Installation: 2/1/2011 16. Date of Modification (if any): NA						
17. Manufacturer and Model Number: North Mosen/F15214-196						
18. ID(s) of Emission Unit Controlled: EU-26						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
		Pollutant Controlled				
		PM	PM10	SO ₂	NOx	VOC
Control Efficiency	99.9%	99.9%				CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: PNEUMATIC CONVEYING LINE BAGHOUSE						
6. EU ID Number: EU-25						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: FRC-R-25-102						
10. Maximum Capacity: 450 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.007 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		Plant Reciever BAGHOUSE #1				
6. EU ID Number:		EU-19				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		FILTAIR				
9. Model:		BVB-16-58				
10. Maximum Capacity:		450 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency		Pollutant Controlled				
		PM	PM10	SO ₂	NO _x	VOC
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.007 GRAIN/SCF				
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: PLANT RECIEVER BAGHOUSE #2						
6. EU ID Number: EU-20						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: BVB-16-58						
10.. Maximum Capacity: 450 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.007 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility			3. Facility ID No:	
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		PLANT RECIEVER BAGHOUSE #3				
6. EU ID Number:		EU-21				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:			Date Issued:	
8. Manufacturer:		FILTAIR				
9. Model:		BVB-16-58				
10. Maximum Capacity:		450 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (if Yes, attach and label manufacturer guarantee)						
Control Efficiency		Pollutant Controlled				
		PM	PM10	SO ₂	NO _x	VOC
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.03 GRAIN/SCF				
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification to Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: PLANT RECIEVER BAGHOUSE #4						
6. EU ID Number: EU-22						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: BVB-16-58						
10.. Maximum Capacity: 450 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.007 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: RAIL LOAD BAGHOUSE						
6. EU ID Number: EU-24						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: FRC-R-25-175						
10. Maximum Capacity: 850 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.007 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification to Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: REJECT SILO BAGHOUSE						
6. EU ID Number: EU-18						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source – Previous Permit #: _____ Date Issued: _____						
8. Manufacturer: FILTAIR						
9. Model: FRC-R-25-102						
10. Maximum Capacity: 450 SCFM						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.007 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): TO COMPLY WITH AMBIENT IMPACT STANDARDS						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		SILO BIN VENT BAGHOUSE #1				
6. EU ID Number:		EU-14				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:				
8. Manufacturer:		FILTAIR				
9. Model:		BVB-25-58				
10. Maximum Capacity:		450 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.				
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.007 GRAIN/SCF				
25. Rationale for Requesting the Limit(s):		TO COMPLY WITH AMBIENT IMPACT STANDARDS				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		SILO BIN VENT BAGHOUSE #2				
6. EU ID Number:		EU-15				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source			Date Issued:	
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		FILTAIR				
9. Model:		BVB-25-58				
10.. Maximum Capacity:		450 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.007 GRAIN/SCF				
25. Rationale for Requesting the Limit(s): TO COMPLY WITH AMBIENT IMPACT STANDARDS						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		SILO BIN VENT BAGHOUSE #3				
6. EU ID Number:		EU-16				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		FILT AIR				
9. Model:		BVB-25-58				
10. Maximum Capacity:		450 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
		Pollutant Controlled				
		PM	PM10	SO ₂	NO _x	VOC
Control Efficiency						CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.007 GRAIN/SCF				
25. Rationale for Requesting the Limit(s): TO COMPLY WITH AMBIENT IMPACT STANDARDS						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: modification to Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: SILO BIN VENT BAGHOUSE #4						
6. EU ID Number: EU-17						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: FILTAIR						
9. Model: BVB-25-58						
10. Maximum Capacity: 450 SCFM						
11. Date of Construction: ESTIMATED 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input checked="" type="checkbox"/> Other: 0.03 GRAIN/SCF						
25. Rationale for Requesting the Limit(s): TO COMPLY WITH AMBIENT IMPACT STANDARDS						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility			3. Facility ID No: 038-00067	
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER SNIFTER FAN DRUM #1				
6. EU ID Number:		EU-28				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10.. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		ESTIMATED 2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:		Snifter Fan Collection System #1				
15. Date of Installation:		2/1/2011		16. Date of Modification (if any): NA		
17. Manufacturer and Model Number:		Idaho Steel				
18. ID(s) of Emission Unit Controlled:		EU-28				
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
	80%	80%				
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: DRUM DRYER SNIFTER FAN DRUM #2						
6. EU ID Number: EU-30						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: IDAHO STEEL						
9. Model: TBD						
10. Maximum Capacity: 2250 LB/HR DRY						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: Snifter Fan Collection System #2						
15. Date of Installation: 2/1/2011 16. Date of Modification (if any): NA						
17. Manufacturer and Model Number: Idaho Steel						
18. ID(s) of Emission Unit Controlled: EU-30						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NO _x	VOC	CO
	80%	80%				
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION							
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility			3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC							
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION							
5. Emissions Unit (EU) Name:		DRUM DRYER SNIFFER FAN DRUM #3					
6. EU ID Number:		EU-32					
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:			Date Issued:		
8. Manufacturer:		IDAHO STEEL					
9. Model:		TBD					
10. Maximum Capacity:		2250 LB/HR DRY					
11. Date of Construction:		2/1/2011					
12. Date of Modification (if any):		NA					
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.							
EMISSIONS CONTROL EQUIPMENT							
14. Control Equipment Name and ID:		Sniffer Fan Collection System #3					
15. Date of Installation:		2/1/2011		16. Date of Modification (if any): NA			
17. Manufacturer and Model Number:		Idaho Steel					
18. ID(s) of Emission Unit Controlled:		EU-32					
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)					
		Pollutant Controlled					
		PM	PM10	SO ₂	NO _x	VOC	CO
Control Efficiency		80%	80%				
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.							
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)							
22. Actual Operation:		8520 HRS/YEAR					
23. Maximum Operation:		8520 HRS/YEAR					
REQUESTED LIMITS							
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)							
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year					
<input type="checkbox"/> Production Limit(s):							
<input type="checkbox"/> Material Usage Limit(s):							
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:							
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION					



Please see instructions on page 2 before filling out the form.

IDENTIFICATION							
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067			
4. Brief Project Description: Modification of Current PTC							
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION							
5. Emissions Unit (EU) Name:		DRUM DRYER SNIFFER FAN DRUM #4					
6. EU ID Number:		EU-34					
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:			Date Issued:		
8. Manufacturer:		IDAHO STEEL					
9. Model:		TBD					
10. Maximum Capacity:		2250 LB/HR DRY					
11. Date of Construction:		ESTIMATED 2/1/2011					
12. Date of Modification (if any):		NA					
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.							
EMISSIONS CONTROL EQUIPMENT							
14. Control Equipment Name and ID:		Sniffer Fan Collection System #4					
15. Date of Installation:		2/1/2011		16. Date of Modification (if any): NA			
17. Manufacturer and Model Number:		Idaho Steel					
18. ID(s) of Emission Unit Controlled:		EU-34					
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)					
		Pollutant Controlled					
		PM	PM10	SO ₂	NO _x	VOC	CO
Control Efficiency		80%	80%				
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.							
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)							
22. Actual Operation:		8520 HRS/YEAR					
23. Maximum Operation:		8520 HRS/YEAR					
REQUESTED LIMITS							
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)							
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year					
<input type="checkbox"/> Production Limit(s):							
<input type="checkbox"/> Material Usage Limit(s):							
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:							
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION					



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility			3. Facility ID No: 038-00067	
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		DRUM DRYER SNIFTER FAN DRUM #5				
6. EU ID Number:		EU-36				
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:			Date Issued:	
8. Manufacturer:		IDAHO STEEL				
9. Model:		TBD				
10.. Maximum Capacity:		2250 LB/HR DRY				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:		Snifter Fan Collection System #5				
15. Date of Installation:		2/1/2011		16. Date of Modification (if any): NA		
17. Manufacturer and Model Number:		idaho Steel				
18. ID(s) of Emission Unit Controlled:		EU-36				
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)				
		Pollutant Controlled				
		PM	PM10	SO ₂	NOx	VOC
Control Efficiency		80%	80%			CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		UNCHANGED FROM PREVIOUS PERMITTING ACTION				



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC	2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067			
4. Brief Project Description: Construction and operation of a new potato processing facility in Heyburn, ID						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name: DRUM DRYER SNIFFER FAN DRUM #6						
6. EU ID Number: EU-38						
7. EU Type: <input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:						
8. Manufacturer: IDAHO STEEL						
9. Model: TBD						
10.. Maximum Capacity: 2250 LB/HR DRY						
11. Date of Construction: 2/1/2011						
12. Date of Modification (if any): NA						
13. Is this a Controlled Emission Unit? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID: Sniffer Fan Collection System #6						
15. Date of Installation: 2/1/2011 16. Date of Modification (if any): NA						
17. Manufacturer and Model Number: Idaho Steel						
18. ID(s) of Emission Unit Controlled: EU-38						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Pollutant Controlled						
	PM	PM10	SO ₂	NO _x	VOC	CO
Control Efficiency	80%	80%				
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation: 8520 HRS/YEAR						
23. Maximum Operation: 8520 HRS/YEAR						
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s): 8520 hrs/year						
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing: Please attach all relevant stack testing summary reports						
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Gem State Processing, LLC		2. Facility Name: Gem State -Heyburn Facility		3. Facility ID No: 038-00067		
4. Brief Project Description: Modification of Current PTC						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		TRUCK LOADOUT BAGHOUSE				
6. EU ID Number:		EU-23				
7. EU Type:		<input checked="" type="checkbox"/> New Source		<input type="checkbox"/> Unpermitted Existing Source		Date Issued:
		<input type="checkbox"/> Modification to a Permitted Source – Previous Permit #:				
8. Manufacturer:		FILT AIR				
9. Model:		BVB-28-58				
10. Maximum Capacity:		850 SCFM				
11. Date of Construction:		2/1/2011				
12. Date of Modification (if any):		NA				
13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.						
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		8520 HRS/YEAR				
23. Maximum Operation:		8520 HRS/YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)						
<input checked="" type="checkbox"/> Operation Hour Limit(s):		8520 hrs/year				
<input type="checkbox"/> Production Limit(s):						
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input checked="" type="checkbox"/> Other:		0.007 GRAIN/SCF				
25. Rationale for Requesting the Limit(s): UNCHANGED FROM PREVIOUS PERMITTING ACTION						



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
 10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Gem State Processing, LLC	2. Facility Name: Gem State - Heyburn Facility
3. Brief Project Description: Revision to permit for potato processing facility in Heyburn, ID	
APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): Subpart Dc See Section 3.1.6 of the permit application <input type="checkbox"/> Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63 . Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): <input checked="" type="checkbox"/> Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. Note - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 10px;"> DEQ received a full analysis w/ the app for Permit P-2010.0183. It was submitted December 21, 2010 </div> <input checked="" type="checkbox"/> A detailed regulatory review is provided (Follow instructions and example). <input type="checkbox"/> DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.
<p>IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT</p> <p><i>It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are <u>prior</u> to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.</i></p>	

5. DEQ will assist in identifying the applicable requirements that the applicant must include in the application but will not perform the required technical or regulatory analysis on the applicant's behalf. Applicants should contact the Air Quality Permit Hotline (1-877-573-7648) to discuss NSPS/NESHAP regulatory analysis requirements or to schedule a meeting.
6. It also benefits facilities to document a non-applicability determination on federal air regulations which appear to apply to the facility but actually do not. A non-applicability determination will avoid future confusion and expedite the air permit application review. If you conduct an applicability determination and find that your activity is not NSPS or NESHAP affected facility an analysis should be submitted using the methods described above.
7. **It is not sufficient to simply provide a copy of the NSPS or NESHAP. The applicant must address each section of the regulation as described above and as shown in the example that is provided.**

APPENDIX C

Process Flow Diagram

APPENDIX D

Manufacturer Information



IDAHO STEEL

Food Processing Equipment

255 East Anderson . Idaho Falls . ID . 83401
Phone: 208.522.1275 . Fax: 208.522.6041
sales@idahosteel.com
www.idahosteel.com

Proposed PM_{2.5} Stack System

The following is information regarding the proposed stack redesign at the Gem State Processing Plant in Heyburn Idaho. We have reviewed the current design that was constructed in 2010 and 2011 and have put together a proposed design to consolidate the discharges into one single stack. The purpose is to match the new environmental model provided by JBR Environmental and to help satisfy the PMM_{2.5} regulations taking into consideration the existing facility.

General

The redesigned stack will be 9'-0" in diameter and will be 75'-0" from plant base nominal elevation of 0'-0". The designed stack velocity will be approximately 3500 ft³/min. (Maintaining the recommended ASHRAE stack velocity of 3500 ft³/min to 4500 ft³/min) The velocity is based on the ability to keep the particulates in suspension to be conveyed up and out of the stack. Keeping to the lower portion of this velocity range provides additional capacity for future volumes.

The following are the existing flows that will consolidate into the stack.

Description	Volume	
Drum Hood #1	30,000	ft ³ /min
Drum Hood #2	30,000	ft ³ /min
Drum Hood #3	30,000	ft ³ /min
Drum Hood #4	30,000	ft ³ /min
Drum Hood #5	30,000	ft ³ /min
Drum Hood #6	30,000	ft ³ /min
Sniffer Fan #1	2500	ft ³ /min
Sniffer Fan #2	2500	ft ³ /min
Sniffer Fan #3	2500	ft ³ /min
Sniffer Fan #4	5000	ft ³ /min
Sniffer Fan #5	5000	ft ³ /min
Sniffer Fan #6	5000	ft ³ /min
Agglomeration Line Fan	25,000	ft ³ /min
TOTAL	227,500	ft³/min

Calculation based off of equation Q=VA

Discharge Velocity = 3,576 ft³/min (6,075 m³/hr)



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System Description

The design will be the installation of a new stack on the roof of a building addition that Gem State will be working on in the near future. The stack will be designed so that it will not require an external guy wiring, structurally it will be able to support itself and it will be certified by a Professional Engineer validating the design. The new design will require the removal of the existing stacks and the relocation of the hood fans. A header will be built and all exhaust streams will be consolidated into the single header. Each duct prior to the entrance of the header will have an actuated damper so that it can be closed if a sub system is shut down preventing back flow into the plant. Each discharge into the header will incorporate an air flow sensor verifying airflow from that branch. The duct will be routed to the new stack and fan.

Next to the exhaust stack will be a new stack fan that will be designed to handle the cumulative flow with the ability to handle future capacities. This fan will be on a Variable Frequency Drive (VFD) . The VFD will be controlled by a pressure sensor that will be installed into the inlet duct prior to the new fan.

The stack will incorporate a caged ladder up to a platform provided for source testing . Intermediate platforms will be provided as per code.



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Proposed PM_{2.5} Stack System (Option 2)

The following is information regarding the stack redesign at Gem State Processing Plant in Heyburn Idaho. We have reviewed the current design that was constructed in 2010 and 2011 and have put together an optional concept to extend the existing discharge stacks to 100'-0". The purpose is to match the new optional environmental model provided by JBR Environmental and to help satisfy the PM_{2.5} regulations. (Build ability of this concept has yet to be proven and therefore at this point is not a viable solution.)

General

The existing exhaust stacks will be extended approximately 35'-0" to provide a total height of 100'-0" from plant 0'-0" to the top of the stack: The designed stack velocities will be approximately 3500 ft/min. (Maintaining the recommended ASHRAE stack velocity of 3500 ft/min to 4500 ft/min) The velocities are based on the ability to keep the particulates in suspension to be conveyed up and out of the stack. Keeping to the lower portion of this velocity range may provide additional capacity for future volumes.

The following are the existing flows that will be reviewed.

Description	Volume	
Drum Hood #1	30,000	ft ³ /min
Drum Hood #2	30,000	ft ³ /min
Drum Hood #3	30,000	ft ³ /min
Drum Hood #4	30,000	ft ³ /min
Drum Hood #5	30,000	ft ³ /min
Drum Hood #6	30,000	ft ³ /min
Sniffer Fan #1	2500	ft ³ /min
Sniffer Fan #2	2500	ft ³ /min
Sniffer Fan #3	2500	ft ³ /min
Sniffer Fan #4	5000	ft ³ /min
Sniffer Fan #5	5000	ft ³ /min
Sniffer Fan #6	5000	ft ³ /min
Agglomeration Line Fan	25,000	ft ³ /min

System Description



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The design will be the installation of new stacks and/or stack extensions on the roof and installed into a new structural framework. The stacks will be designed so that it will not require external guy wiring, structurally it will be independently supported by the new frame and will be certified by a Professional Engineer validating the design. The existing duct velocities will be reviewed and duct sizes may be changed to satisfy the recommended ASHRAE stack velocity of 3500 ft/min to 4500 ft/min. The new design will require the removal of the existing stacks and the installation of the extensions or new stacks. The existing stacks will be installed on the top of the new sections as applicable. Each stack fan will be individually evaluated and the fan horsepower will be increased as necessary so that the proper velocities are maintained per the modeling and permit.

Each stack will incorporate a caged ladder up to a platform provided for source testing. Intermediate platforms will be provided as per code.

APPENDIX E

Emissions Inventory

IDEQ PTC Forms
Facility Wide Potential to Emit Emission Inventory

Table 1. POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	EU ID #	NSR Pollutant ^a							
		PM T/yr ^b	PM-10 T/yr ^b	PM2.5 T/yr ^b	CO T/yr ^b	Pb T/yr ^b	NOx T/yr ^b	VOC T/yr ^b	SO2 T/yr ^b
Point Sources									
Boiler #1 (1200 hp)	EU-1	0.21	0.21	0.21	8.25	1.03E-04	7.42	0.82	0.11
Boiler #2 (1200 hp)	EU-2	0.21	0.21	0.21	8.25	1.03E-04	7.42	0.82	0.11
Boiler #3 (1600 hp)	EU-3	0.27	0.27	0.27	11.00	1.37E-04	9.90	1.10	0.15
Bubble Sheet Dryer #1	EU-4	3.24	3.24	3.24	2.456	1.46E-05	2.92	0.16	0.02
Bubble Sheet Dryer #2	EU-5	0.22	0.22	0.22	2.456	1.46E-05	2.92	0.16	0.02
Reyco AMU #1 850	EU-9	0.18	0.18	0.18	1.953	1.16E-05	2.33	0.13	0.01
Reyco AMU #2 1000	EU-10	0.18	0.18	0.18	1.953	1.16E-05	2.33	0.13	0.01
Reyco AMU #3 1000	EU-11	0.18	0.18	0.18	1.953	1.16E-05	2.33	0.13	0.01
Reyco AMU #4 1250	EU-12	0.20	0.20	0.20	2.170	1.29E-05	2.58	0.14	0.02
Silo Bin Vent Baghouse #1	EU-14	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Silo Bin Vent Baghouse #2	EU-15	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Silo Bin Vent Baghouse #3	EU-16	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Silo Bin Vent Baghouse #4	EU-17	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Plant Receiver Baghouse #1	EU-19	0.31	0.31	0.31	n/a	n/a	n/a	n/a	n/a
Plant Receiver Baghouse #2	EU-20	0.31	0.31	0.31	n/a	n/a	n/a	n/a	n/a
Plant Receiver Baghouse #3	EU-21	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Plant Receiver Baghouse #4	EU-22	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Truck Loadout Baghouse	EU-23	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Rail Load Baghouse	EU-24	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Pneumatic Conveying Line	EU-25	0.26	0.26	0.26	n/a	n/a	n/a	n/a	n/a
Nuisance Dust Collector	EU-26	0.001	0.001	0.001	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #1	EU-27	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #1	EU-28	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #2	EU-29	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #2	EU-30	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #3	EU-31	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #3	EU-32	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #4	EU-33	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #4	EU-34	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #5	EU-35	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #5	EU-36	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Drum Dryer Drum Fan Hood #6	EU-37	3.02	3.02	3.02	n/a	n/a	n/a	n/a	n/a
Drum Dryer Snifter Fan Drum #6	EU-38	0.0852	0.0852	0.0852	n/a	n/a	n/a	n/a	n/a
Totals^a		26.42	26.42	26.42	40.43	0.00	40.15	3.60	0.47

a) NSR Regulated air Pollutants are defined⁽¹⁾ as: Particulate Matter (PM, PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.) The Gem State facility is not a source of any pollutants regulated by NSPS other than NSR regulated air pollutants, nor is the facility a source of Class I or Class II Ozone Depleting Substances

b) Ton per year emissions based on 5270.4 hours of operation/yr for the AMUs and 8520 hrs/year for all other listed equipment.

* The total shown in the table includes emissions from all four silo bin vents as if each bin vent were operating 8520 hrs/year, when in actuality, only one bin vent will operate at a time.

** See spreadsheets prepared by JBR (included in Appendix I of the permit application for further information regarding emission factors and calculation assumptions.

IDEQ PTC Forms
Toxic Air Pollutant Emissions Inventory

Table 1. PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Antimony	0.00E+00	0.00E+00	0.00E+00	3.30E-02	N
Barium	9.21E-04	9.21E-04	0.00E+00	3.30E-02	N
Chromium	2.93E-04	2.93E-04	0.00E+00	3.30E-02	N
Cobalt	1.76E-05	1.76E-05	0.00E+00	3.30E-03	N
Copper	1.78E-04	1.78E-04	0.00E+00	6.70E-02	N
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	2.90E+01	N
Fluoride (as F)	0.00E+00	0.00E+00	0.00E+00	1.67E-01	N
Hexane	3.77E-01	3.77E-01	0.00E+00	1.20E+01	N
Manganese	7.96E-05	7.96E-05	0.00E+00	3.33E-01	N
Mercury	5.44E-05	5.44E-05	0.00E+00	3.00E-03	N
Molybdenum	2.30E-04	2.30E-04	0.00E+00	3.33E-01	N
Naphthalene	1.28E-04	1.28E-04	0.00E+00	3.33E+00	N
Pentane	5.44E-01	5.44E-01	0.00E+00	1.18E+02	N
Phosphorous	0.00E+00	0.00E+00	0.00E+00	7.00E-03	N
Selenium	5.02E-06	5.02E-06	0.00E+00	1.30E-02	N
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	1.27E+02	N
Toluene	7.12E-04	7.12E-04	0.00E+00	2.50E+01	N
o-Xylene	0.00E+00	0.00E+00	0.00E+00	2.90E+01	N
Zinc	6.07E-03	6.07E-03	0.00E+00	6.67E-01	N

** See spreadsheets prepared by JBR (included in Appendix I of the permit application for further information regarding emission factors and calculation assumptions.

Table 2. PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic	4.07E-05	4.07E-05	0.00E+00	1.50E-06	N
Benzene	4.28E-04	4.28E-04	0.00E+00	8.00E-04	N
Beryllium	2.44E-06	2.44E-06	0.00E+00	2.80E-05	N
Cadmium	2.24E-04	2.24E-04	0.00E+00	3.70E-06	N
Chromium VI	0.00E+00	0.00E+00	0.00E+00	5.60E-07	N
Formaldehyde	1.53E-02	1.53E-02	0.00E+00	5.10E-04	N
Nickel	4.28E-04	4.28E-04	0.00E+00	2.70E-05	N
Benzo(a)pyrene	2.44E-07	2.44E-07	0.00E+00	2.00E-06	N
Benzo(a)anthracene	3.67E-07	3.67E-07	0.00E+00	NA	N
Benzo(b)fluoranthene	3.67E-07	3.67E-07	0.00E+00	NA	N
Benzo(k)fluoranthene	3.67E-07	3.67E-07	0.00E+00	NA	N
Chrysene	3.67E-07	3.67E-07	0.00E+00	NA	N
Dibenzo(a,h)anthracene	2.44E-07	2.44E-07	0.00E+00	NA	N
Indeno(1,2,3-cd)pyrene	3.67E-07	3.67E-07	0.00E+00	NA	N
Total PAHs	2.32E-06	2.32E-06	0.00E+00	2.00E-06	N

a) PAH is considered as one TAP comprised of benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

** See spreadsheets prepared by JBR (included in Appendix I of the permit application for further information regarding emission factors and calculation assumptions.

IDEQ PTC Forms
Facility Wide Hazardous Air Pollutant Potential to Emit

Table 1 HAP POTENTIAL TO EMIT EMISSIONS SUMMARY

HAP Pollutants	PTE (T/yr)
Benzene	1.03E-04
Formaldehyde	3.69E-03
Hexane*	8.85E-02
Naphthalene	3.00E-05
Toluene	1.67E-04
Arsenic Compounds	9.83E-06
Beryllium Compounds	5.90E-07
Cadmium Compounds	5.26E-05
Chromium Compounds	6.88E-05
Cobalt Compounds	4.13E-06
Manganese Compounds	1.87E-05
Mercury Compounds	1.28E-05
Nickel Compounds	1.03E-04
Selenium Compounds	1.18E-06
Total	9.27E-02

* Maximum Individual HAP

** See spreadsheets prepared by JBR (included in Appendix I of the permit application for further information regarding emission factors and calculation assumptions.

CONTROLLED CRITERIA POLLUTANTS POTENTIAL TO EMIT

Description	Fuel Combustion of Natural Gas											
	NOx Emissions		CO Emissions		PM-2.5/10 Emissions		SOx Emissions		VOC Emissions		Lead Emissions	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Boiler #1 (1200 hp)	1.742	7.422	1.936	8.247	0.048	0.206	0.027	0.113	0.194	0.825	0.000	0.000
Boiler #2 (1200 hp)	1.742	7.422	1.936	8.247	0.048	0.206	0.027	0.113	0.194	0.825	0.000	0.000
Boiler #3 (1600 hp)	2.323	9.896	2.581	10.986	0.065	0.275	0.035	0.151	0.258	1.100	0.000	0.000
Reyco AMU #1 850	0.882	2.325	0.741	1.953	0.067	0.177	0.005	0.014	0.049	0.128	0.000	0.000
Reyco AMU #2 1000	0.882	2.325	0.741	1.953	0.067	0.177	0.005	0.014	0.049	0.128	0.000	0.000
Reyco AMU #3 1000	0.882	2.325	0.741	1.953	0.067	0.177	0.005	0.014	0.049	0.128	0.000	0.000
Reyco AMU #4 1250	0.980	2.584	0.824	2.170	0.075	0.196	0.008	0.016	0.054	0.142	0.000	0.000
Bubble Sheet Dryer #1	0.686	2.924	0.576	2.456	0.052	0.222	0.004	0.018	0.038	0.161	0.000	0.000
Bubble Sheet Dryer #2	0.686	2.924	0.576	2.456	0.052	0.222	0.004	0.018	0.038	0.161	0.000	0.000

Description	Particulate Equipment											
	NOx Emissions		CO Emissions		PM-2.5/10 Emissions		SOx Emissions		VOC Emissions		Lead Emissions	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Silo Bin Vent Baghouse #1					0.06	0.26						
Silo Bin Vent Baghouse #2					0.06	0.26						
Silo Bin Vent Baghouse #3					0.06	0.26						
Silo Bin Vent Baghouse #4					0.06	0.26						
Plant Receiver Baghouse #1					0.07	0.31						
Plant Receiver Baghouse #2					0.07	0.31						
Plant Receiver Baghouse #3					0.06	0.26						
Plant Receiver Baghouse #4					0.06	0.26						
Plant Receiver Baghouse #5					0.07	0.31						
Plant Receiver Baghouse #6					0.06	0.26						
Truck Loadout Baghouse					0.06	0.26						
Rail Load Baghouse					0.06	0.26						
Pneumatic Conveying Line Baghouse					0.06	0.26						
Nuisance Dust Collector					0.0003	0.0014						
Drum Dryer Drum Fan Hood #1					0.71	3.02						
Drum Dryer Snifter Fan Drum #1					0.02000	0.06520						
Drum Dryer Drum Fan Hood #2					0.71	3.02						
Drum Dryer Snifter Fan Drum #2					0.02000	0.06520						
Drum Dryer Drum Fan Hood #3					0.71	3.02						
Drum Dryer Snifter Fan Drum #3					0.02000	0.06520						
Drum Dryer Drum Fan Hood #4					0.71	3.02						
Drum Dryer Snifter Fan Drum #4					0.02000	0.06520						
Drum Dryer Drum Fan Hood #5					0.71	3.02						
Drum Dryer Snifter Fan Drum #5					0.02000	0.06520						
Drum Dryer Drum Fan Hood #6					0.71	3.02						
Drum Dryer Snifter Fan Drum #6					0.02000	0.06520						
Bubble Sheet Dryer #1					0.71	3.02						
Bubble Sheet Dryer #2					0.00	0.00						
Total of Drum Dryer, snifter, Bubble sheet					5.13	21.87						

NOx Emissions		CO Emissions		PM-2.5/10 Emissions		SOx Emissions		VOC Emissions		Lead Emissions	
lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
10.81	40.15	10.65	40.43	6.26	26.22	0.12	0.47	0.92	3.60	0.0001	0.0001
TOTAL											

CRITERIA EMISSIONS - CONTROLLED NATURAL GAS COMBUSTION (lb/hr)

Emission Factors

NOx	0.036 lb/MMBtu	Manufacturer specific emission factor for 30 ppm A-FGR low NOx burner on boiler
CO	0.04 lb/MMBtu	Manufacturer specific emission factor for boiler
PM-10	0.001 lb/MMBtu	Manufacturer specific emission factor for boilers
SOx	0.00055 lb/MMBtu	Manufacturer specific emission factor for boilers
VOC	0.004 lb/MMBtu	Manufacturer specific emission factor for boilers
NOx	100 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
PM-10	7.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
CO2	120,000 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
N2O	0.64 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
CH4	2.3 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998

Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Pounds per Hour					
			NOx Emissions (lb/hr)	CO Emissions (lb/hr)	PM2.5/PM-10 Emissions (lb/hr)	SOx Emissions (lb/hr)	VOC Emissions (lb/hr)	Lead Emissions (lb/hr)
Boiler #1 ^a (1200 hp)	48.40	48,398	1,7423	1,9359	0.0484	0.0266	0.1936	0.0000242
Boiler #2 ^a (1200 hp)	48.40	48,398	1,7423	1,9359	0.0484	0.0266	0.1936	0.0000242
Boiler #3 ^a (1600 hp)	64.53	64,530	2,3231	2,5812	0.0645	0.0355	0.2581	0.0000323
Reyco AMU #1 850	9.0	8,824	0.8824	0.7412	0.0671	0.0053	0.0485	0.0000044
Reyco AMU #2 1000	9.0	8,824	0.8824	0.7412	0.0671	0.0053	0.0485	0.0000044
Reyco AMU #3 1000	10.0	8,824	0.8824	0.7412	0.0671	0.0053	0.0485	0.0000044
Reyco AMU #4 1250	7.0	6,863	0.6863	0.5765	0.0522	0.0041	0.0377	0.0000034
Bubble Sheet Dryer #1	7.0	6,863	0.6863	0.5765	0.0522	0.0041	0.0377	0.0000034
Bubble Sheet Dryer #2	7.0	6,863	0.6863	0.5765	0.0522	0.0041	0.0377	0.0000034
TOTAL	212.33	211,326.00	10.81	10.65	0.54	0.12	0.92	1.06E-04

^aUtilize Low NOx Burners, capacity and throughput based on manufacturer specific information

CRITERIA EMISSIONS - CONTROLLED NATURAL GAS COMBUSTION (tpy)

Emission Factors

Emission Factor	Value	Notes
NOx	0.036 lb/MMBtu	Manufacturer specific emission factor for 30 ppm A-FGR low NOx burner on boiler
CO	0.04 lb/MMBtu	Manufacturer specific emission factor for boiler
PM-10	0.001 lb/MMBtu	Manufacturer specific emission factor for boilers
SOx	0.00055 lb/MMBtu	Manufacturer specific emission factor for boilers
VOC	0.004 lb/MMBtu	Manufacturer specific emission factor for boilers
NOx	100 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
PM-10	7.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
CO2	120,000 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
N2O	0.64 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
CH4	2.3 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998

Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Ton per Year						
			NOx Emissions (T/yr)	CO Emissions (T/yr)	PM2.5/PM-10 Emissions (T/yr)	SOx Emissions (T/yr)	VOC Emissions (T/yr)	Lead Emissions (T/yr)	
Boiler #1 ^a (1200 hp)	48.40	48,398	7.42	8.25	0.21	0.11	0.82	1.03E-04	
Boiler #2 ^a (1200 hp)	48.40	48,398	7.42	8.25	0.21	0.11	0.82	1.03E-04	
Boiler #3 ^a (1600 hp)	64.53	64,530	9.90	11.00	0.27	0.15	1.10	1.37E-04	
Reyco AMU #1 850	9.0	8,824	2.33	1.95	0.18	0.01	0.13	1.16E-05	
Reyco AMU #2 1000	9.0	8,824	2.33	1.95	0.18	0.01	0.13	1.16E-05	
Reyco AMU #3 1000	9.0	8,824	2.33	1.95	0.18	0.01	0.13	1.16E-05	
Reyco AMU #4 1250	10.0	9,804	2.58	2.17	0.20	0.02	0.14	1.29E-05	
Bubble Sheet Dryer #1	7.0	6,863	2.92	2.46	0.22	0.02	0.16	1.46E-05	
Bubble Sheet Dryer #2	7.0	6,863	2.92	2.46	0.22	0.02	0.16	1.46E-05	
TOTAL	212.3	211,326.0	40.1	40.4	1.9	0.5	3.6	4.2E-04	

^aUtilize Low NOx Burners, capacity and throughput based on manufacturer specific information
Ton per year emissions based on 5270.4 hours of operation/yr for the AMUs and 8520 hrs/year for all other listed equipment.

CONTROLLED PARTICULATE EMISSIONS - DRYERS, FLAKERS, AND BAGHOUSE EQUIPMENT

Description	Throughput (scfm)	Emission Factor (grain/scf)	EF Reference	PM Emissions (lb/hr)	PM Emissions (T/yr) ^a	PM-10/PM2.5 Emissions (lb/hr)	PM-10/PM2.5 Emissions (T/yr)
Silo Bin Vent Baghouse #1	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Silo Bin Vent Baghouse #2	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Silo Bin Vent Baghouse #3	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Silo Bin Vent Baghouse #4	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Plant Receiver Baghouse #1 (Multi-Purpose)	1,200	0.007	Manufacturer Guarantee	0.07	0.31	0.07	0.31
Plant Receiver Baghouse #2 (Off-Spec)	1,000	0.007	Manufacturer Guarantee	0.07	0.31	0.07	0.31
Plant Receiver Baghouse #3 (Sack/Tole Pacing)	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Plant Receiver Baghouse #4 (Bag Packing)	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Plant Receiver Baghouse #5 (Pet Food)	1,000	0.007	Manufacturer Guarantee	0.07	0.31	0.07	0.31
Plant Receiver Baghouse #6 (Off-Spec#2)	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Truck Loadout Baghouse	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Rail Load Baghouse	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Pneumatic Conveying Line ^b	1,000	0.007	Manufacturer Guarantee	0.06	0.26	0.06	0.26
Nuisance Dust Collector	See note f	See note f	Manufacturer Guarantee	0.0003	0.001	0.0003	0.001
TOTAL^a	30,407			6	24	6	24

Description	Throughput (lb/hr dry)	Emission Factor (lb/ton)	EF Reference	PM Emissions (lb/hr)	PM Emissions (T/yr)	PM-10/PM2.5 Emissions (lb/hr)	PM-10/PM2.5 Emissions (T/yr)
Drum Dryer Drum Fan Hood #1 ^c	2250	0.83	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #1 ^d	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Drum Dryer Drum Fan Hood #2 ^e	2250	0.63	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #2 ^e	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Drum Dryer Drum Fan Hood #3 ^e	2250	0.63	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #3 ^e	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Drum Dryer Drum Fan Hood #4 ^e	2250	0.63	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #4 ^e	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Drum Dryer Drum Fan Hood #5 ^e	2250	0.63	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #5 ^e	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Drum Dryer Drum Fan Hood #6 ^e	2250	0.63	Performance Test Results ^d	0.71	3.02	0.71	3.02
Drum Dryer Snifter Fan Drum #6 ^e	1,125	0.02	Performance Test Results ^d	0.020	0.08520	0.02000	0.08520
Bubble Sheet Dryer #1	3300	0.43	Performance Test Results ^d	0.71	3.02	0.71	3.02
Bubble Sheet Dryer #2	0	0.43	Performance Test Results ^d	0.00	0.00	0.00	0.00
TOTAL^a	30,407			6	24	6	24

^a Ton per year emissions based on 8,520 hours of operation/yr

^b The Pneumatic Conveying Line includes the baghouse on each drum dryer used to convey product to the packaging receivers.

^c Based on engineering judgement from review of various references, drum fan hood emissions comprise approximately 90.6% of drum dryer emissions. Snifter fan drum emissions comprise approximately 8.4% of drum dryer emissions; the emission factor (lb/ton) was calculated to reflect this ratio.

^d The total lb/hr emission rate from the Drum Dryer Snifter Fans was determined based on model sensitivity analysis. This is the maximum emission rate the snifter fans can emit in order for the facility to be in compliance with the PM10 NAAQS standards.

^e Only one of the four Silo Bin Vents will operate at one time.

^f The nuisance dust collector will collect fugitive dust from other emissions sources that discharge inside the building including the reject silo baghouse, plant receiver baghouses, and truck loadout baghouse.

^g Emission Factor was established by June 20-21, 2011 Performance Test

^h Emission Factor was established by September 21, 2011 Performance Test

ⁱ A total of 18% of the flakes will flow through the fluidized bed dryers (9% each)

Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Pounds per Hour		
			CO ₂ Emissions (lb/hr)	N ₂ O Emissions (lb/hr)	CH ₄ Emissions (lb/hr)
Boiler #1 ^a (1200 hp)	49.37	48,398	5807.7120	0.1065	0.1113
Boiler #2 ^a (1200 hp)	49.37	48,398	5807.7120	0.1065	0.1113
Boiler #3 ^a (1600 hp)	64.53	64,530	7743.6000	0.1420	0.1484
Reyco AMU #1 850	9.0	8,824	1058.8235	0.0194	0.0203
Reyco AMU #2 1000	9.0	8,824	1058.8235	0.0194	0.0203
Reyco AMU #3 1000	9.0	8,824	1058.8235	0.0194	0.0203
Reyco AMU #4 1250	10.0	9,804	1176.4706	0.0216	0.0225
Bubble Sheet Dryer #1	6.0	5,882	705.8824	0.0129	0.0135
Bubble Sheet Dryer #2	6.0	5,882	705.8824	0.0129	0.0135
TOTAL	212.3	209,364.4	25,123.73	0.46	0.48

^aThe boilers will be equipped with Low NOx Burners; however the calculations shown in this spreadsheet are the uncontrolled emissions using emissions factors from AP-42 for N2O emissions from the boilers. Boiler capacity and throughput based on manufacturer specific information

Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Tons per Year			
			CO ₂ Emissions (T/yr) ^b	N ₂ O Emissions (T/yr) ^b	CH ₄ Emissions (T/yr) ^b	CO ₂ e Emission (metric T/yr) ^{c,d}
Boiler #1 ^a (1200 hp)	49.37	48,398	24740.8531	0.4536	0.4742	22581.12
Boiler #2 ^a (1200 hp)	49.37	48,398	24740.8531	0.4536	0.4742	22581.12
Boiler #3 ^a (1600 hp)	64.53	64,530	32987.7360	0.6048	0.6323	30108.10
Reyco AMU #1 850	9.0	8,824	4510.5882	0.0827	0.0865	4116.84
Reyco AMU #2 1000	9.0	8,824	4510.5882	0.0827	0.0865	4116.84
Reyco AMU #3 1000	9.0	8,824	4510.5882	0.0827	0.0865	4116.84
Reyco AMU #4 1250	10.0	9,804	5011.7647	0.0919	0.0961	4574.27
Bubble Sheet Dryer #1	6.0	5,882	3007.0588	0.0551	0.0576	2744.56
Bubble Sheet Dryer #2	6.0	5,882	3007.0588	0.0551	0.0576	2744.56
TOTAL	212.3	209,364.4	107,027.09	1.96	2.05	97,684.24

^aThe boilers will be equipped with Low NOx Burners; however the calculations shown in this spreadsheet are the uncontrolled emissions using emissions factors from AP-42 for N2O emissions from the boilers. Boiler capacity and throughput based on manufacturer specific information

^bAll natural gas combustion units are assumed to operate 8,520 hours per year as was previously assumed in the last permitting action.

^cThe greenhouse gas emissions calculations uses carbon dioxide equivalent in metric tons rather than short tons. Therefore the conversion of 1 short ton equal to 0.90718474 metric tons was applied. This is consistent with EPA guidance and calculation methods.

^dNote that the global warming potential values used in the CO₂e calculation were derived from Table A-1 of the Appendix within Part 98 of the Mandatory GHG Reporting Rule.

APPENDIX F

November 27, 1995 David Solomon, USEPA, Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

NOV 27 1995

Mr. Timothy J. Mohin
Government Affairs Manager
Environment, Health and Safety
Intel Government Affairs
888 17th Street Northwest, #860
Washington, DC 20006-3939

Dear Mr. Mohin:

Thank you for the additional information you provided regarding the exhaust conditioners used in tool operations in the semiconductor industry. We agree with your assessment that, for potential to emit calculations, the exhaust conditioners should be considered as an inherent part of the process.

Criteria for Determining Whether Equipment is Air Pollution Control Equipment or Process Equipment

For purposes of determining a source's potential to emit, it is necessary to calculate the effect of air pollution control equipment. Current Environmental Protection Agency (EPA) regulations and policy allow air pollution control equipment to be taken into account if federally enforceable requirements are in place requiring the use of such air pollution control equipment. There are, however, situations for which case-by-case judgements are needed regarding whether a given device or strategy should be considered as air pollution control equipment, or as an inherent part of the process. The EPA believes that the following list of questions should be considered in making such case-by-case judgements as to whether certain devices or practices should be treated as pollution controls or an inherent to the process:.

1. Is the primary purpose of the equipment to control air pollution?
2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?
3. Would the equipment be installed if no air quality regulations are in place?

If the answers to these questions suggest that equipment should be considered as an inherent part of the process, then the effect of the equipment or practices can be taken into account in calculating potential emissions regardless of whether enforceable limitations are in effect.

Analysis of the criteria for the semiconductor tools listed

No information supplied to date by Intel suggests that product recovery by the exhaust conditioners is significant. That EPA believes that the first and third criteria are satisfied.

Criteria 1. The exhaust conditioners described in your letter are small treatment systems that are local to the point-of-use of process tools such as etching and deposition processes. The primary purposes are to: (1) increase the uptime of the process tools, (2) to minimize safety hazards, and (3) to prevent impurities from entering other processes.

Criteria 3. The information you have provided suggests strongly that air quality regulations are not the driving factor for installation of the equipment. Moreover, the fact that they are "interlocked" with the process chambers suggests that the process cannot operate unless the exhaust conditioner is in use.

Therefore, based upon a review of the information presented the exhaust conditioners are considered by the EPA to be inherent to the process and can be considered in potential emission calculations without federally enforceable requirements.

Cautions

The above determination regarding the use of the localized exhaust conditioners in the semiconductor industry is case-specific. This determination is not intended to set a precedent for localized pollution control equipment for other source types without a similar case-specific review.

While many types of point-of-use and interlocked treatment device may be considered as "inherent," there does exist, of course, air pollution control equipment at semiconductor facilities that may not meet the above criteria. For example, a remote water scrubber located at the roof of a building would generally be considered an air pollution control device.

If you have any further questions regarding this matter, please call Timothy Smith at (919) 541-4718, or Tony Wayne at (919) 541-5439.

sincerely,

David Solomon
Acting Group Leader
Integrated Implementation Group

cc: Chief, Air Branch, Regions I-X
Regional PTE Contacts

APPENDIX G

Modeling Report

Gem State Processing, LLC

Air Quality Modeling Report – Gem State - Heyburn Facility

Prepared for:

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1.0 PURPOSE

This air quality modeling report documents the methodology used to prepare an air quality analysis in support of an Idaho Department of Environmental Quality (IDEQ) Permit to Construct (PTC) application for potato processing operations at the Gem State Processing, LLC (Gem State) facility located in Heyburn, ID. All pertinent updated modeling-related files are provided in electronic format. This includes Aermap terrain information, bpip downwash files, NED data and meteorological data. As this permitting action is being done to fulfill requirements of Consent Order E-2010.0040, only PM_{2.5} analyses were performed. This includes both annual and 24-hr averaging periods.

1.1 PROCESS DESCRIPTION

Gem State Processing, LLC is a potato processing company that processes, dehydrates and packs various potato products. The Heyburn facility will produce dehydrated potato flakes, seasoned agglomerated flakes, and other dehydrated potato products. Potatoes may be steam peeled, dry scrubbed, sorted, sliced, blanched, cooled, steam cooked and dried. Products are dried to 8% moisture and are broken up and ground to customer specifications, packaged or stored, and then sold. The process includes natural gas fired boilers, steam drum dryers (flakers), fluidized bed dryers and utilizes pneumatic equipment to transport their products from production to storage or packaging. A process flow diagram is contained in Appendix C of the application.

Raw potatoes are delivered to the facility and loaded inside the potato receiving area of the facility building. The potatoes then go through a rock trap where they are rinsed with water to remove any large debris. Conveyors transfer the wet potatoes to storage bins until they are ready to be processed. The potatoes are transferred from the potato storage bin through an additional washing process and then are transferred via vertical conveyor belt to the steam peelers. After the peels are separated from the potato in the steam peeler, the potatoes are transferred to the brush scrubber and washer where the peel and any remaining dirt and debris are removed. Following inspection of the peeled and washed potatoes, they are transferred via vertical auger to the slicer and then into a blancher where they are cooked. The potatoes are then cooled in water and transferred to the steam cooker. Following the steam cooker, the cooked potatoes are placed in the ricer. The riced pieces are then transferred via auger into steam powered drum dryers (flakers). The drum dryers reduce the moisture in the potatoes from approximately 80% to 8%. Dried flakes are then either transferred to the packaging lines and silos or through the agglomeration line where oil and flavorings are added. The seasoned flakes from the agglomeration line are then transferred to the bubble sheet dryer (agglomeration line) and subsequently to the packaging lines. Steam for the steam peelers and drum dryers will be supplied by boilers operating on natural gas.

2.0 MODEL DESCRIPTION / JUSTIFICATION

AERMOD is one of the most frequently used regulatory dispersion models in the United States since it replaced ISCST3. Based on EPA guidance AERMOD is the most appropriate of the EPA-approved models given the site's physical characteristics and the facility emission sources. AERMOD will be applied as recommended in EPA's Guideline on Air Quality Models and consistent with guidance in IDEQ's Dispersion Modeling Guidelines. The BPIP Prime building downwash algorithm was applied for the facility, and all adjacent buildings and co-contributing source buildings.

Terrain data were processed consistent with the approved model protocol and EPA guidance for AERMAP. The United States Geological Survey (USGS) National Viewer was used to obtain appropriate National Elevation Dataset (NED) data to establish proper elevations. Meteorological data recommended for this analysis has been provided by IDEQ from the Burley airport from 2006-2010. IDEQ requires modeling of criteria pollutants if emissions from the proposed source exceed the modeling thresholds set forth the IDEQ Dispersion Modeling Guidelines. All criteria pollutants have previously demonstrated compliance with the exception of PM_{2.5}.

In general, the AERMOD model application uses model source data consistent with the permit emission inventory. The model receptor network and model domain meet all EPA and IDEQ recommendations, and ensure a complete dispersion analysis that captures maximum potential impacts. Only direct chemical emissions and transport were considered in this analysis; chemical transformation of emissions was not considered in this analysis.

3.0 EMISSION AND SOURCE DATA

Modeled emissions include all sources of PM_{2.5} listed below. Emission rates represent the maximum anticipated operating rates for the averaging period modeled, taking into account the maximum daily hours of operation and throughputs requested in the application for all averaging periods.

As part of the consent order, Gem State is required to demonstrate compliance with both the annual and 24-hr PM_{2.5} NAAQS. This permitting action does not include any changes in emission rate. As a result, no other pollutants were modeled. Table 1 describes the facility-wide PM_{2.5} emission rates as compared to the state modeling thresholds. Emission summaries are documented in more detail in the facility's emission inventory.

Table 1 Gem State Potential PM_{2.5} Emission Rate vs IDEQ Modeling Thresholds

Criteria Modeling Check	PM _{2.5} 24-hr (lb/hr)	PM _{2.5} Annual (T/yr)
Emission Rate	6.26	26.42
Level 1 Modeling Threshold	0.054	0.35

3.1 EMISSION SOURCES

Emissions sources included in the model are listed below:

- Boiler Emissions
- Air Makeup Units Emissions
- Bubble Sheet Dryer Emissions
- Bubble Sheet Dryer Emissions
- Drum Dryer Emissions
- Baghouse Emissions

GEM STATE FACILITY

Boilers

The Gem State facility utilizes one 1600 hp and two 1200 hp natural gas fired boilers to produce steam for the various potato processing equipment installed at the facility. The boilers have low NO_x burners for control of NO_x and CO. The boilers are a source of natural gas combustion emissions. Emission factors from AP-42, Section 1.4 were used to calculate natural gas combustion emissions. Emission factors for NO_x and CO were provided by the manufacturer. Manufacturer information on the boilers is included in Appendix D of the application (this information was also provided in the previous permitting application). There are no emission changes to these units from the current permit.

Air Makeup Units

Three 9.0 MMBtu/hr and one 10.0 MMBtu/hr Reyco Air Makeup Unit are used to provide fresh air into the facility, provide heating for employee comfort, and maintain positive pressure inside the processing areas. The air makeup unit burners are natural gas fired and exhaust into the facility building. During the warmer spring, summer and fall months, the facility does not need to be heated and the air makeup burners only run a limited number of hours. Gem State estimates that the air makeup burners will run 20% of the time in May, June, and September, 5% of the time in July and August, 50% of the time in October, and 100% of the time when the facility is operating in the remaining months of the year, for a total of 5270.4 operating hours per year. This is a conservative estimate because the burners may actually be shut off in mid-June through the end of August, when heat is not required for employee comfort. The air makeup unit fans run on electric power, and run whenever the facility is operating. The facility exhaust system, consisting of several rooftop exhaust stacks, is used to exhaust pollutants from the air makeup unit burners. The air makeup unit burners are a source of natural gas combustion emissions. Emission factors from AP-42, Section 1.4 were used to calculate natural gas combustion emissions. There are no emission changes to these units from the current permit.

Bubble Sheet Dryers

The Gem State facility utilizes two natural gas fired bubble sheet dryers (fluidized bed dryers) for operation of the processing agglomeration line. Oils and other flavorings are added to the flakes coming out of the drum dryers. The flakes then pass through the bubble sheet dryers. The dryers are a source of both natural gas combustion emissions and process particulates.

A process emission rate of 0.71 lb/hr was established during the previous permitting action and remains unchanged here. Along with a combustion emission rate of 0.05 lb/hr, the total modeled rate is 0.76 lb/hr. This rate was determined using previous performance test results and mathematical calculations as derived by Idaho DEQ. Emission rates remain unchanged; only stack height has been updated.

Drum Dryers (Flakers)

Gem State operates six steam powered drum dryers. Emissions from the drum dryers include process particulate and exhaust through the drum fan hood or snifter fan drum exhausts. The primary purpose of the snifter fan drum is to pull moisture off of the drum dryers. Only a very small portion, approximately 0.05% of flakes passing through the drum dryer, will enter the snifter fan drum. Emissions from the snifter fan drums will be controlled by a Snifter Fan Collection System, designed and manufactured by Idaho Steel. Idaho Steel guarantees a collection efficiency of 80% of 10 micron or larger particles. The manufacturer guarantee is included in Appendix D of the application. Any particulate not captured by the Snifter Fan Collection System will exhaust through the snifter fan hood rooftop exhausts.

Equipment and process at the Gem State facility were originally thought to be similar to those at the Idahoan Foods, Lewisville facility. Emissions factors for the Gem State drum dryers were based on source tests from Flaker Line 1 and Flaker Line 2 at the Idahoan Lewisville facility. The Idahoan facility tested Flaker Line 1 twice and calculated emission factors of 0.69 lb PM₁₀/ton and 0.75 lb PM₁₀/ton based on the test data (Method 5/202, 12/1/2005). To conservatively estimate the emissions, the Gem State facility was using an emissions factor of 0.82 lb PM₁₀/hr for the drum dryers.

However, a performance test conducted on July 19, 2011 indicated that the drum dryer emission rate is 0.63 lb PM₁₀/ton (0.71 lb/hr). Also, the snifter stacks assumed a rate of 0.013 lb PM₁₀/hr, but test results indicate a rate of 0.02 lb PM₁₀/hr. All rates are consistent with the previous permitting analysis.

Baghouses

Baghouses are used to convey the dried flakes to the different packaging areas, and include a pneumatic conveying line (conveys flakes from the drum dryers), six plant receiver baghouses, truck loadout baghouse, rail load baghouse, and silo bin vent baghouses (only one of the four silo bin vent baghouses will operate at a time). There are also three negative air baghouses that are associated with the plant receiver baghouses. These baghouses are used as

process equipment but also control PM₁₀ emissions. With the exception of the rail load baghouse and silo bin vent baghouses, all the above listed baghouses initially discharged into the facility building. A nuisance dust collector baghouse used to control fugitive emissions from process equipment and the above mentioned indoor discharging baghouses will now be exhausted outside the building. An emission factor of 0.007 grain/dscf (manufacturer's guarantee) was assumed for the indoor discharge baghouses, silo bin vent baghouses and rail load baghouse. Emissions from the nuisance dust collector were calculated by assuming 99.9% control of emissions from the indoor discharging baghouses. The manufacturer control guarantee for the nuisance dust collector baghouse is included in Appendix D of the application.

3.2 SOURCE PARAMETERS

The air makeup unit and drum dryer exhaust stacks and were represented in the model as point sources. The model facility layout including all sources, facility buildings and property boundary is shown in Appendix E.

Configuration A

A single stack at a height of 75 feet will be added adjacent to the current building. An addition to the building may be added that will surround the stack. The stack diameter will be 9 feet, with an estimated flow rate of 227,500 cubic feet per min (cfm). These parameters equate to an exit velocity of 3,576 ft/min or 19.08 m/s. The expected exit temperature will be 120.7 °F. This information is substantiated by the manufacturer in Appendix D of the application.

Configuration B

The previously analysis assumed a 65 foot stack height for each of the six drum dryers and associated snifter stack. The bubble sheet dryer was also at a height of 65 feet. All thirteen (13) stacks will be increased to 100 feet. Temperature change due to the stack height increase will be negligible because the previously assumed exit temperatures are low. All three emission unit types are near ambient temperatures. The drum dryers assume a temperature of 119°F; the snifters 111°F and the bubble sheet dryer is 131°F. Similarly, due to variable speed fans, the manufacturer, Idaho Steel, indicated that the assumed flow rates can be maintained with the higher stacks. It is likely the horsepower to the fans would need to increase somewhat to keep the flows consistent, but it can and will be done. The anticipated exit velocities are 19.56 m/s, 16.17 m/s and 12.91 m/s, respectively. This information is substantiated by the manufacturer in Appendix D of the application.

4.0 RECEPTOR NETWORK

The facility is located in a light industrial area in Heyburn, ID. The property covers approximately 10.82 acres. Consistent with IDEQ guidance the ambient air boundary used in

this analysis is the leased property boundary, which also serves as the public access boundary.

Receptor density was set to a spacing of 10 meters along the ambient air boundary, 10 meters for the first 100 meters past the boundary, then receptors were set at a density of one per 25 meters out to 200 meters away from the property boundary, 50 meters out to 300 meters from the ambient air boundary, 100 meters out to another 400 meters, 250 meter spacing for another 2 kilometers and 500 meters out to 6.5 kilometers past the ambient air boundary. The receptor network ensures that the analysis meets or exceeds EPA receptor network requirements and captures the maximum impact from the facility. The grid spacing around the maximum was refined to 2.5 meter spacing along the northwestern portion of the boundary.

The receptor network ensures that the analysis meets or exceeds EPA receptor network requirements and captures the maximum impact from the facility. Therefore, no supplemental receptor network or expansion of the model domain is included.

5.0 ELEVATION DATA

All source base and receptor elevations were calculated from USGS NED data obtained via the National Map Viewer website using the Bee-Line BEEST preprocessing system. Input and output files from AerMap have been included on the associated DVD.

6.0 METEOROLOGICAL DATA

Preprocessed AERMOD ready meteorological files were provided by Darrin Mehr of IDEQ. The data files cover the years 2006 through 2010 from the Burley Municipal Airport. The data is hourly from the National Weather Service Automated Surface Observing System (ASOS). The data presented by IDEQ is model-ready, and was used without alteration or processing. Because these data originated from IDEQ, it has not been included as part of this submittal.

7.0 LAND USE CLASSIFICATION

AERMOD includes rural and urban algorithm options. These options affect the wind speed profile, dispersion rates, and mixing-height formula used in calculating ground-level pollutant concentrations. A protocol was developed by USEPA to classify an area as either rural or urban for dispersion modeling purposes. The classification is based on average heat flux, land use, or population density within a three-km radius from the plant site. Of these techniques, the USEPA has specified that land use is the most definitive criterion (USEPA, 1987). The urban/rural classification scheme based on land use is as follows:

The land use within the total area, A_0 , circumscribed by a 3-km circle about the source, is classified using the meteorological land use typing scheme proposed by Auer (1978). The classification scheme requires that more than 50% of the area, A_0 , be from the following land use types in order to be considered urban for dispersion modeling purposes: heavy industrial (I1); light-moderate industrial (I2); commercial (C1); single-family compact residential (R2); and multi-family compact residential (R3). Otherwise, the use of rural dispersion coefficients is appropriate.

The Gem State facility is located in a light industrial area, in Heyburn, ID. Although the immediate vicinity of the site is industrial and commercial, site and map reconnaissance showed that the area A_0 within a 3-km circle of the source is below the 50% urban land use criteria necessary for use of urban dispersion coefficients. Rural dispersion coefficients were therefore used in the air quality dispersion modeling.

8.0 BACKGROUND CONCENTRATIONS

PM_{2.5}

Idaho DEQ Modeling Coordinator, Kevin Schilling, supplied both annual and 24-hr background concentrations from the city of Twin Falls. The concentrations that were provided were $21.3\mu\text{g}/\text{m}^3$ and $7.19\mu\text{g}/\text{m}^3$ for 24-hr and annual averaging periods, respectively. The recommended annual background concentration was used during this compliance demonstration. However, as outlined in Appendix C, the 24-hr background concentration used here was reduced to $14.9\mu\text{g}/\text{m}^3$.

9.0 RESULTS

The following sections outline the methods used when analyzing the impact of Gem State on the surrounding ambient air.

9.1 APPLICABLE LIMITS

The air quality impact limits applicable to this analysis are both the National Ambient Air Quality Standards and the Idaho ambient impact limits for Toxic Air Pollutants. Model predicted maximum impacts were the 8th high averaged over the 5 years modeled for 24-hr PM_{2.5} and the highest 1st high for annual PM_{2.5}. Use of the 8th high is acceptable in accordance the EPA draft guidance memorandum dated March 4, 2013. IDEQ modeling staff has also confirmed that secondary aerosol analysis is not required when the impacts occur within a short distance of the ambient air boundary.

9.2 PM_{2.5} IMPACT

Initial analysis suggested that there would be an exceedance of the 24-hr PM_{2.5} standard as shown in Table 1. However, the memorandum in Appendix D of the Permit to Construct application outlines why a slight reduction of the assumed input PM_{2.5} emission rate is

acceptable. Rather than assuming PM_{2.5} is equivalent to PM, a lower percentage of 91 is assumed in this analysis. The modified, yet more realistic impact, is still extremely conservative, but reduces the maximum total concentration to 32.12 and 33.82 µg/m³ for Configuration A and B, respectively.

Table 1 Predicted Model Impacts

Pollutant	Averaging Period	Background Concentration (µg/m ³)	Modeled Impact (µg/m ³)	Total Concentration (µg/m ³)	NAAQS (µg/m ³)	% of Standard
PM _{2.5} Single stack	24-hour – A	14.9 ¹	18.93	33.83	35	96.7%
	24-hour modified - A ²	14.9 ¹	17.22	32.12	35	91.8%
	Annual - A	7.19	4.98 ⁴	12.17	15	81.1%
PM _{2.5} Multiple	24-hour - B	14.9 ¹	20.79	35.69	35	102.0%
	24-hour modified – B ³	14.9 ¹	18.92	33.82	35	96.6%
	Annual - B	7.19	4.80 ⁴	11.99	15	79.9%

1. Please refer to Appendix C for details.
2. Please refer to Appendix D for details. However, there are no exceedances under Scenario A as described in the appendix.
3. Please refer to Appendix D for details.
4. Assuming 91% PM_{2.5} to PM ratio as is consistent with the 24-hr modified values for both scenarios. However, it should be noted that either annual scenario demonstrates compliance without the ratio reduction, 12.85 µg/m³ and 12.46µg/m³, respectively.

10.0 ELECTRONIC COPIES OF MODELING FILES

Electronic copies of all input, output, and support modeling files necessary to duplicate the model results accompany this submittal to IDEQ. Note that there are two separate BEEST files which include a separate file for 24-hr and annual PM_{2.5}.

APPENDIX A

DEQ Modeling Information Forms

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton, Boise, ID 83706 For assistance, call the Air Permit Hotline - 1-877-5PERMIT	PERMIT TO CONSTRUCT APPLICATION Revision 3 4/5/2007
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Please see instructions on page 2 before filling out the form.

Company Name:	Gem State Processing, LLC
Facility Name:	Gem State - Heyburn Facility
Facility ID No.:	067-00038
Brief Project Description:	Construction and operation of a new potato processing facility in Heyburn, ID

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS						
Criteria Pollutants	Averaging Period	1. Significant Impact Analysis Results (µg/m3)	2. Full Impact Analysis Results (µg/m3)	3. Background Concentration (µg/m3)	4. Total Ambient Impact (µg/m3)	5. Percent of NAAQS
PM ₁₀	24-hour	n/a	n/a			150
	Annual	n/a	n/a			50
PM _{2.5}	24-hour	1.14	n/a	14.90	32.12	35
	Annual	0.01	n/a	7.19	12.17	15
SO ₂	3-hr	n/a	n/a			1300
	24-hr	n/a	n/a			365
NO ₂	Annual	n/a	n/a			80
	Annual	n/a	n/a			100
CO	1-hr	n/a	n/a			10000
	8-hr	n/a	n/a			40000

Modeling Information - Point Source Stack Parameters Form M12



DEQ AIR QUALITY PROGRAM
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Air Permit Hotline - 1-877-SPERMIT

PERMIT TO CONSTRUCT APPLICATION
Revision 3
3/27/2007

Please see instructions on page 2 before filling out the form.

Company Name: Gem State Processing, LLC
 Facility Name: Gem State - Heyburn Facility
 Facility ID No.: 067-00038
 Brief Project Description: Revision to permit for new potato processing facility in Heyburn, ID

POINT SOURCE STACK PARAMETERS										
1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
	Stack ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Stack Height (ft)	Modeled Diameter (ft)	Stack Exit Temperature (F)	Stack Exit Flowrate (acfm)	Stack Exit Velocity (ft/s)	Stack orientation (e.g., horizontal, rain cap)
Emissions units										
Point Source(s)										
Aggregated stack Config A	SINGLE	273,437.26	4,714,698.79	1,266.00	75.00	9.00	120.70	227,500.00	59.60	vertical
Bubble Sheet Dryer #2	PRE#2	273,441.58	4,714,709.33	1,266.26	100.00	3.17	150.00	30,001.90	63.75	vertical
Nuisance Dust Collector Baghouse	BH1	273,407.91	4,714,699.81	1,266.26	40.10	1.33	100.00	886.53	10.39	vertical
Exhaust #1	EX1	273,476.90	4,714,588.63	1,266.28	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #2	EX2	273,470.83	4,714,603.84	1,266.16	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #3	EX3	273,456.51	4,714,572.32	1,266.16	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #4	EX4	273,397.28	4,714,611.26	1,266.47	38.80	2.50	80.01	7,139.27	24.24	vertical
Exhaust #5	EX5	273,401.72	4,714,615.25	1,266.45	38.00	2.50	80.01	7,139.27	24.24	vertical
Exhaust #6	EX6	273,412.56	4,714,628.19	1,266.37	38.00	3.67	80.01	24,225.44	38.17	vertical
Exhaust #7	EX7	237,390.00	4,714,688.00	1,266.35	37.70	2.00	80.01	4,000.00	21.22	vertical
Exhaust #8	EX8	273,410.27	4,714,681.28	1,266.26	37.90	2.50	80.01	7,000.00	23.77	vertical
Exhaust #9	EX9	273,420.46	4,714,692.51	1,266.30	37.90	2.50	80.01	7,000.00	23.77	vertical
Exhaust #10	EX10	273,406.12	4,714,726.58	1,266.28	35.80	4.00	80.01	17,281.27	22.92	vertical
Exhaust #11	EX11	273,442.24	4,714,765.36	1,266.17	35.80	4.00	80.01	17,281.27	22.92	vertical
Exhaust #12	EX12	273,466.10	4,714,755.26	1,266.15	35.70	4.00	80.01	17,281.27	22.92	vertical
Exhaust #13	EX13	273,454.53	4,714,749.07	1,266.16	33.10	4.00	80.01	18,553.04	24.62	vertical
Exhaust #14	EX14	273,465.36	4,714,737.34	1,266.08	36.10	4.00	80.01	18,553.04	24.62	vertical
Boiler #1	BO1	273,355.43	4,714,691.04	1,266.21	60.79	3.00	315.00	14,911.88	35.19	vertical
Boiler #2	BO2	273,361.14	4,714,696.74	1,266.19	60.79	3.00	315.00	14,911.88	35.16	vertical
Boiler #3	BO3	273,346.56	4,714,682.29	1,266.17	60.79	3.00	315.00	14,911.88	35.16	vertical
Pneumatic Conveying	PRE3	273,399.06	4,714,685.54	1,266.32	60.00	1.67	100.00	6,000.00	45.87	vertical

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton, Boise, ID 83706 For assistance, call the Air Permit Hotline - 1-877-5PERMIT	PERMIT TO CONSTRUCT APPLICATION Revision 3 4/5/2007
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Please see instructions on page 2 before filling out the form.

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Facility Name:	Gem State - Heyburn Facility
Facility ID No.:	067-00038

Brief Project Description: Construction and operation of a new potato processing facility in Heyburn, ID

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS						
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PM ₁₀	24-hour	n/a	n/a			150
	Annual	n/a	n/a			50
PM _{2.5}	24-hour	1.14	n/a	14.90	33.82	35
	Annual	0.01	n/a	7.19	11.99	15
SO ₂	3-hr	n/a	n/a			1300
	24-hr	n/a	n/a			365
NO ₂	Annual	n/a	n/a			80
	Annual	n/a	n/a			100
CO	1-hr	n/a	n/a			10000
	8-hr	n/a	n/a			40000

Modeling Information - Point Source Stack Parameters Form M12



DEQ AIR QUALITY PROGRAM
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Air Permit Hotline - 1-877-8PERMIT

PERMIT TO CONSTRUCT APPLICATION
Revision 3
3/27/2007

Please see instructions on page 2 before filling out the form.

Company Name: Gem State Processing, LLC
 Facility Name: Gem State - Heyburn Facility
 Facility ID No.: 067-00038
 Brief Project Description: Revision to permit for new potato processing facility in Heyburn, ID

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
	Stack ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Stack Height (ft)	Modeled Diameter (ft)	Stack Exit Temperature (F)	Stack Exit Flowrate (acfm)	Stack Exit Velocity (ft/s)	Stack orientation (e.g., horizontal, rain cap)
Emissions units										
Point Source(s)										
Drum Fan Hood #1	DFH#1	273,376.35	4,714,552.35	1,266.35	100.00	3.17	118.99	30,000.00	63.47	vertical
Drum Fan Hood #2	DFH#2	273,380.21	4,714,655.43	1,266.36	100.00	3.17	118.99	30,000.00	63.47	vertical
Drum Fan Hood #3	DFH#3	273,384.17	4,714,659.20	1,266.33	100.00	3.17	118.99	30,000.00	63.47	vertical
Drum Fan Hood #4	DFH#4	273,386.62	4,714,662.06	1,266.30	100.00	3.17	118.99	30,000.00	63.47	vertical
Drum Fan Hood #5	DFH#5	273,390.23	4,714,666.66	1,266.28	100.00	3.17	118.99	30,000.00	63.47	vertical
Drum Fan Hood #6	DFH#6	273,394.16	4,714,669.25	1,266.29	100.00	3.17	118.99	30,000.00	63.47	vertical
Snifter Fan Drum #1	SFD#1	273,380.44	4,714,645.65	1,266.36	100.00	1.48	111.00	2,500.00	23.58	vertical
Snifter Fan Drum #2	SFD#2	273,386.98	4,714,652.44	1,266.36	100.00	1.48	111.00	2,500.00	23.58	vertical
Snifter Fan Drum #3	SFD#3	273,387.72	4,714,653.74	1,266.36	100.00	1.48	111.00	2,500.00	23.58	vertical
Snifter Fan Drum #4	SFD#4	273,392.75	4,714,656.29	1,266.33	100.00	1.48	111.00	5,000.00	47.16	vertical
Snifter Fan Drum #5	SFD#5	273,390.23	4,714,660.29	1,266.31	100.00	1.48	111.00	5,000.00	47.16	vertical
Snifter Fan Drum #6	SFD#6	273,400.75	4,714,665.52	1,266.32	100.00	1.48	111.00	5,000.00	47.16	vertical
Bubble Sheet Dryer #1	PRE#1	273,428.86	4,714,699.39	1,266.33	100.00	2.67	131.00	25,000.00	74.42	vertical
Bubble Sheet Dryer #2	PRE#2	273,441.58	4,714,709.33	1,266.26	100.00	3.17	150.00	30,001.90	63.75	vertical
Nuisance Dust Collector Baghouse	BH1	273,407.81	4,714,699.81	1,266.26	40.10	1.33	100.00	666.53	10.39	vertical
Exhaust #1	EX1	273,476.80	4,714,588.63	1,266.28	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #2	EX2	273,470.83	4,714,603.84	1,266.16	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #3	EX3	273,459.51	4,714,572.32	1,266.38	38.80	3.67	80.01	24,225.44	38.17	vertical
Exhaust #4	EX4	273,397.28	4,714,611.26	1,266.47	38.80	2.50	80.01	7,139.27	24.24	vertical
Exhaust #5	EX5	273,401.72	4,714,615.25	1,266.45	38.00	2.50	80.01	7,139.27	24.24	vertical
Exhaust #6	EX6	273,412.56	4,714,628.19	1,266.37	38.00	3.67	80.01	24,225.44	38.17	vertical
Exhaust #7	EX7	237,380.00	4,714,688.00	1,266.35	37.70	2.00	80.01	4,000.00	21.22	vertical
Exhaust #8	EX8	273,410.27	4,714,681.28	1,266.28	37.90	2.50	80.01	7,000.00	23.77	vertical
Exhaust #9	EX9	273,420.46	4,714,692.51	1,266.30	37.90	2.50	80.01	7,000.00	23.77	vertical
Exhaust #10	EX10	273,406.12	4,714,725.58	1,266.26	35.90	4.00	80.01	17,281.27	22.92	vertical
Exhaust #11	EX11	273,442.24	4,714,765.36	1,266.17	35.80	4.00	80.01	17,281.27	22.92	vertical
Exhaust #12	EX12	273,466.10	4,714,755.28	1,266.15	35.70	4.00	80.01	17,281.27	22.92	vertical
Exhaust #13	EX13	273,454.83	4,714,749.07	1,266.16	35.10	4.00	80.01	18,563.04	24.62	vertical
Exhaust #14	EX14	273,465.98	4,714,737.34	1,266.08	38.10	4.00	80.01	18,563.04	24.62	vertical
Boiler #1	BO1	273,355.43	4,714,681.04	1,266.21	60.79	3.00	315.00	14,911.88	35.16	vertical
Boiler #2	BO2	273,351.14	4,714,686.74	1,266.16	60.79	3.00	315.00	14,911.88	35.16	vertical
Boiler #3	BO3	273,346.86	4,714,682.29	1,266.17	60.79	3.00	315.00	14,911.88	35.16	vertical
Pneumatic Conveying	PRES	273,399.06	4,714,685.54	1,266.32	60.00	1.67	100.00	6,000.00	45.87	vertical

APPENDIX B

Ambient Air Boundary Expansion Memorandum

MEMORANDUM

To: IDEQ Air Quality Modeling/Permit Staff
From: David Strohm, Daniel Heiser, Eric Clark, JBR
cc: Bill Schow, Gem State Processing, LLC
Date: August 2, 2013
Subject: Rationale for Expansion of Ambient Air Boundary

Purpose

Gem State Processing, LLC (Gem State) is a potato dehydration facility located in Heyburn, Idaho. Gem State is required to demonstrate facility-wide compliance with all National Ambient Air Quality Standards (NAAQS). The facility is in the process of becoming compliant with the 24-hr PM_{2.5} standard. As part of the compliance demonstration, the status of the ambient air boundary has been evaluated. It has been determined that an expansion of the existing boundary is necessary to demonstrate compliance with the 24-hr PM_{2.5} NAAQS. As a result, Gem State has drafted lease agreements with two neighboring business entities, Eastern Idaho Railroad, LLC (EIRR) and the Boyer Company (Boyer). These lease agreements are consistent with EPA guidance as outlined in the June 22, 2007, Stephen Page memorandum. The following discussion outlines the portions of the Page memo applicable to Gem State and how the two agreements meet those criteria to expand the ambient air boundary. JBR respectfully requests that IDEQ review the findings in this memorandum and provide concurrence that the proposed boundary fulfills the EPA guidance and is acceptable for use in the facility's NAAQS analysis.

EPA Stephen Page Memo – June 22, 2007

The EPA mandates that two requirements be met to exempt an area from ambient air. First, a source must own or control the land or property. Second, public access must be precluded by a fence or other physical barrier. Four scenarios may apply to determine the air boundary and its effect on a lessor and/or lessee (Page Memo, 2).

1. Under an existing business relationship two (or more) operating companies constitute one single source (Page Memo, 2) (Not applicable to Gem State).
2. Two (or more) companies operate separate sources on property owned by one company and leased in part to the other, and the lessor retains control over public access to the entire property and actually maintains a physical barrier around it to preclude public access (Page Memo, 2) (Not applicable to Gem State).
3. Two (or more) companies operate separate sources on property owned by one company and leased in part to the other, and the lessor grants the lessee sole control over who may access the leased property (Page Memo, 2&3) (Applicable to Gem State).
4. The property owner agrees to allow a lessee to operate a business on the leased land that is open to the general public (such as a restaurant, retail store or office building) the outdoors areas that are accessible to the public, such as parking areas and entrances would be ambient air to the lessor and lessee (Page Memo, 3) (Not applicable to Gem State).

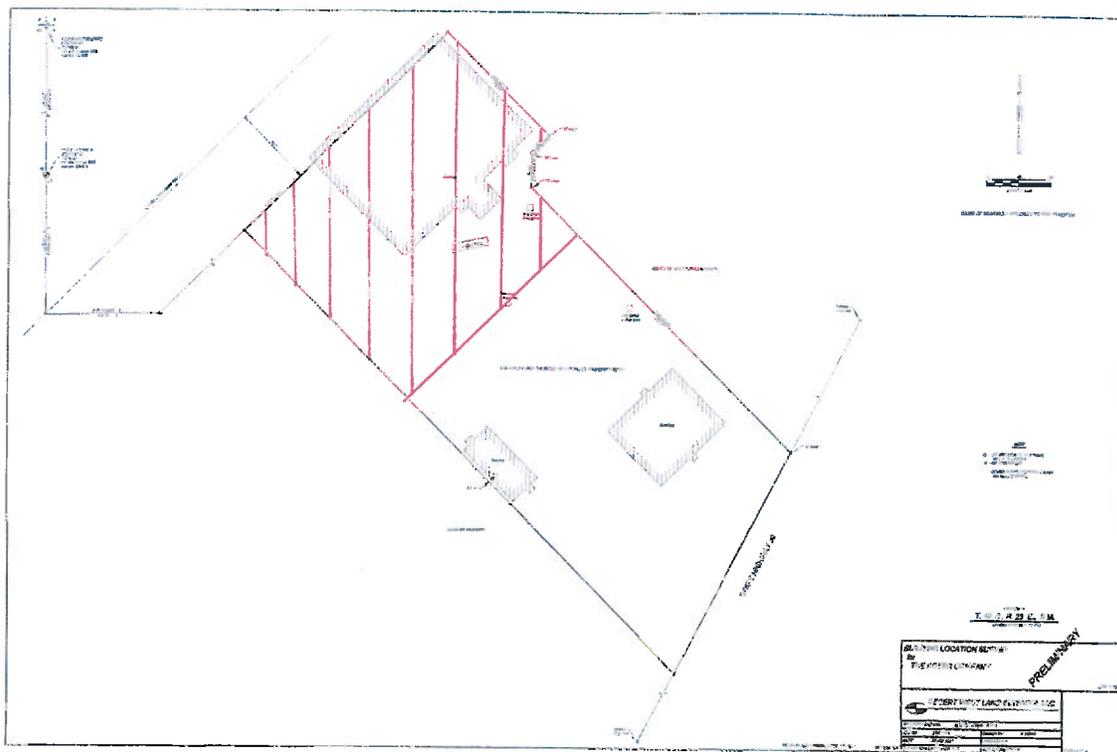
As currently drafted, each lease agreement states that the lessor (EIRR or Boyer) grants Gem State sole access control of the leased property. Section 4.2 of the lease agreement between EIRR states: Neither Party shall allow the Leased Premises to be used by any other person or firm without the prior written consent of the other Party. All public access to the leased premises shall be precluded". In addition, proper physical barriers such as fencing prohibits access for all of the Boyer leased area and the majority of the EIRR property along multiple spurs of the main railway line. On all fencing and particularity where gates and access points exist, appropriate signage has been added to notify the public that no access is legally allowed. It should be noted that a member of the public could access the property via the trail spur tracks. However, to do so, one would have to trespass a few hundred yards along the main railway in order to gain access.

Boyer Leased Area and Agreement

The leased property boundary of Gem State is to be extended to the southwest and encompasses the entirety of the dry storage building (see Figure 1). The hashed area of the figure is included in the lease agreement. The intention of the agreement is to prohibit access to the storage building and surrounding area via existing fencing along the railroad adjacent to the backside of the storage building. No trespassing signage will be included to the south side of the building and other locations where fencing does not exist.

The lease agreement, explicitly states that "Gem State will maintain sole control over the leased premises. All persons not employed by Gem State are allowed on the leased premises by escort or prior permission only. All public access to the leased premises shall be precluded. For those locations void of existing fencing, appropriate "No Trespassing" or "Private Property" signage will be included to limit access."

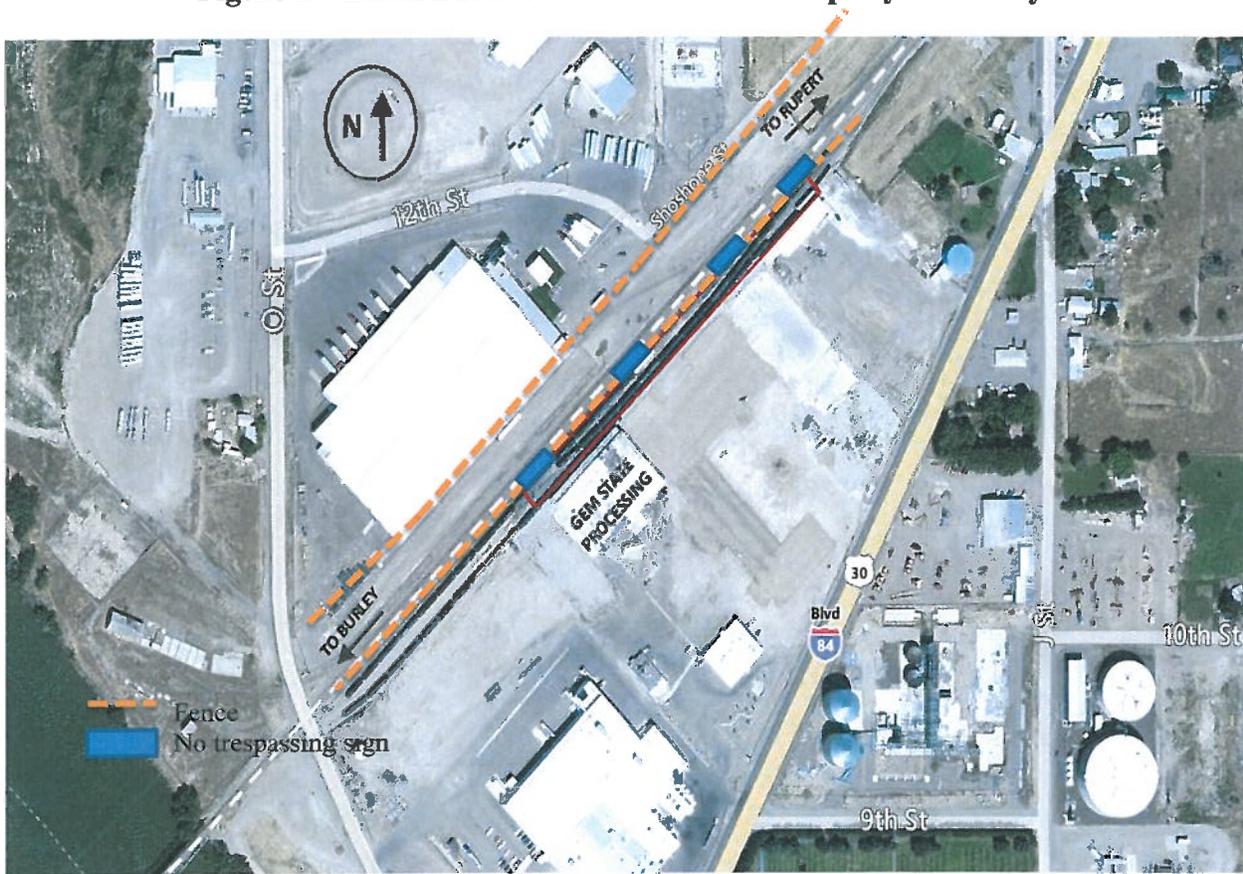
Figure 1 – Boyer Leased Property Boundary



Eastern Idaho Railroad, LLC Leased Area and Agreement

Section 4 of the lease agreement between EIRR and Gem State explicitly states that “the Leased Premises will satisfy EPA requirements of control”. Therefore, like Boyer, EIRR is granting Gem State sole control over the rail spur adjacent to the northwest border of current ambient air boundary. As indicated in Figure 2, the newly leased area extends over the entire spur utilized by Gem State. It is 1000 feet in length and extends 75 feet toward the main track from the current property line. It parallels the main line track and is 25 feet from the center of the main track to the outer edge of the added parcel. The boundary extension runs from Mile Post (MP) 19.72 to MP 19.91.

Figure 2 – Eastern Idaho Railroad Leased Property Boundary



Existing fencing parallels the spur to the south and runs the length of the entire Gem State property. Fencing also exists on the opposite side of the main track surrounding the old Simplot building. Fencing exists from the point where the spur meets the main track to the terminus of the spur. However, the surrounding area is fully controlled by either EIRR or Gem State. “No Trespassing” signage will be placed throughout. The following pictures illustrates where fencing and signage exist relative to the rail spurs and main track.

Figure 3 – Fencing Northwest Property Boundary

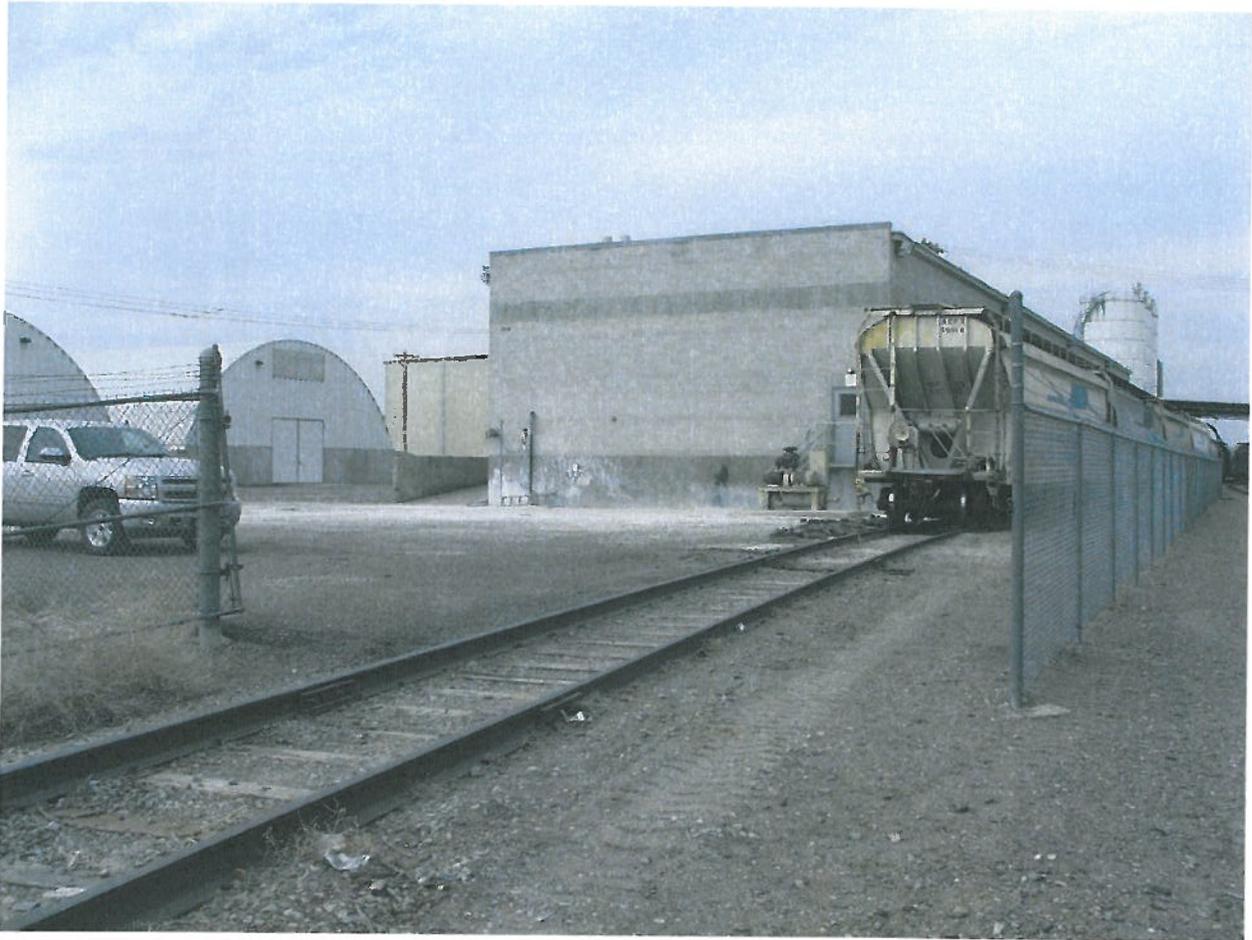


Figure 3 shows the northwestern boundary looking south back toward the facility. As shown, there is fencing running parallel to the rail spur closet to the Gem State property.

Figure 4 – Fencing Southwest Property Boundary



Figure 4 illustrates fencing fully surrounding the main track line. There is also a lockable gate and appropriate signage prohibiting access (see Figure 5). All rail spurs are enclosed by fencing beginning to the south of the leased premises. At a certain point, heading northeast paralleling the main track, the fencing on the Gem State side only encompasses the innermost spur (see Figure 3). However, fencing on the far side of the main track remains throughout the length of the main track. Therefore, the entire area is privately owned and controlled by the EIRR.

Figure 5 – No Trespassing Signage North Gate



According to the Federal Railroad Administration, it is illegal for anyone to trespass on railroads or right of ways without proper permission. Therefore, a member of the general public will have to trespass along the main railroad track and right a way to gain access to the spur.

Conclusion

Gem State will be granted sole control of the two new leased properties. Proper barriers such as existing fencing or appropriate signage has been constructed in order to preclude public access. On the extreme off chance that a member of the public would be walking along the main track line for several hundred feet, proper signage will be posted prohibiting access to the rail spur.

Please do not hesitate to contact me at eclark@jbrenv.com or 208-853-0883.



JBR ENVIRONMENTAL CONSULTANTS, INC.

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Environmental Analyst II

APPENDIX C

Background Concentration Reduction Memorandum



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MEMORANDUM

To: IDEQ Air Quality Modeling Staff
From: David Strohm, Daniel Heiser, Eric Clark, JBR
cc: Bill Schow, Gem State Processing, LLC
Date: June 4, 2013
Subject: PM_{2.5} Background Concentration Research

Purpose

Gem State Processing, LLC (Gem State) is a potato dehydration facility located in Heyburn, Idaho. Gem State is required to demonstrate facility-wide compliance with all National Ambient Air Quality Standards (NAAQS). The facility is in the process of becoming compliant with the 24-hr PM_{2.5} standard. The full impact from Gem State is the summation of the modeled concentration from the facility and the acceptable background. The currently used background for the Twin Falls area appears to be overly conservative and the data may no longer be the most representative as all datasets are at least ten years old. The purpose of this document is to demonstrate that more recent data from 2010-2012 is more representative and lower than the currently used Twin Falls background concentration of 21.3 µg/m³.

Ambient Monitors in Twin Falls

The Idaho Department of Environmental Quality (IDEQ) currently uses Federal Reference Method (FRM) data for PM_{2.5} background concentrations. The sample collection analyzer used was Rupprecht & Patashnick Partisol Model 2000 PM_{2.5} Sampler w/WINS with ID number RFPS-0498-117. Those data used in the Twin Falls area is from monitor 16-083-0010. It was operational from December 1999 through December 2003. The monitor was located on the roof of Smith's Food Store at 1913 Addison Ave East (lat/long coordinates 42.564097, -114.4462). In 2003, PM_{2.5} concentrations at local conditions ceased to be collected in September. Therefore, only 2000-2002 contained a full year's worth of data. As a result only those three years were used to establish the current background concentration suggested by IDEQ. However, the 24-hr PM_{2.5} standard requires the 98th percentile value be averaged over three years. The 98th percentile indicates that only 2% of all the PM_{2.5} concentrations for a given year exceed that value, which is

consistent with the 8th highest value for that year. This approach is consistent with EPA methods for comparison to the NAAQS. Those data suggested the background concentration should be 21.3 $\mu\text{g}/\text{m}^3$, which is the value provided by IDEQ.

The FRM monitor was also collocated with a Tampered Element Oscillating Microbalance (TEOM) for continuous monitoring. This unit remains operational. It is used to determine the Air Quality Index (AQI). The AQI is used to assess daily air quality and the potential human health impacts poor air may cause. This index value is used to determine whether a burn ban needs to go into affect or any other air-related impact for a given area. Thus, the results from this TEOM are used to evaluate how healthy the air is in Twin Falls and the surrounding area. Also, the relationship between AQI and the NAAQS typically suggest a rating of 100 on the AQI correlates to the NAAQS of 35 $\mu\text{g}/\text{m}^3$ for 24-hr $\text{PM}_{2.5}$.

Correlation of Data from Twin Falls Monitors

The 2000-2002 data was analyzed for both the FRM and the TEOM. The purpose was to establish if there was a correlation between the two data sets. As illustrated in Figures 1-3, there is a strong correlation between the two. In fact, 2001 and 2002 showed the data to be perfectly correlated. 2000 had very limited variability, which is demonstrated by a correlation coefficient of 0.9995. Note that the TEOM data mirrors the FRM results so well that the yellow dots representing the TEOM data appear inside the FRM data (blue lines) for all analyzed years.

Figure 1 – 2000 Comparison

FRM/TEOM 2000 Comparison

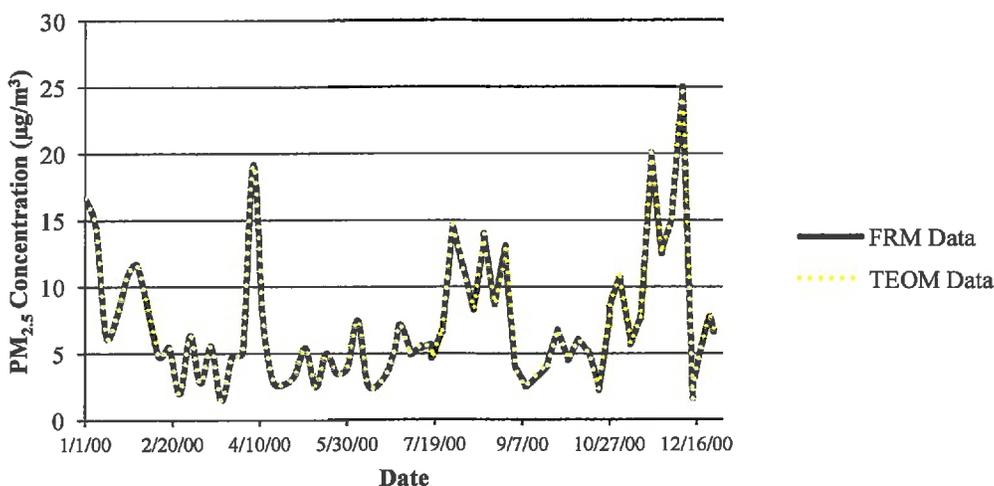


Figure 2 – 2001 Comparison
FRM/TEOM 2001 Comparison

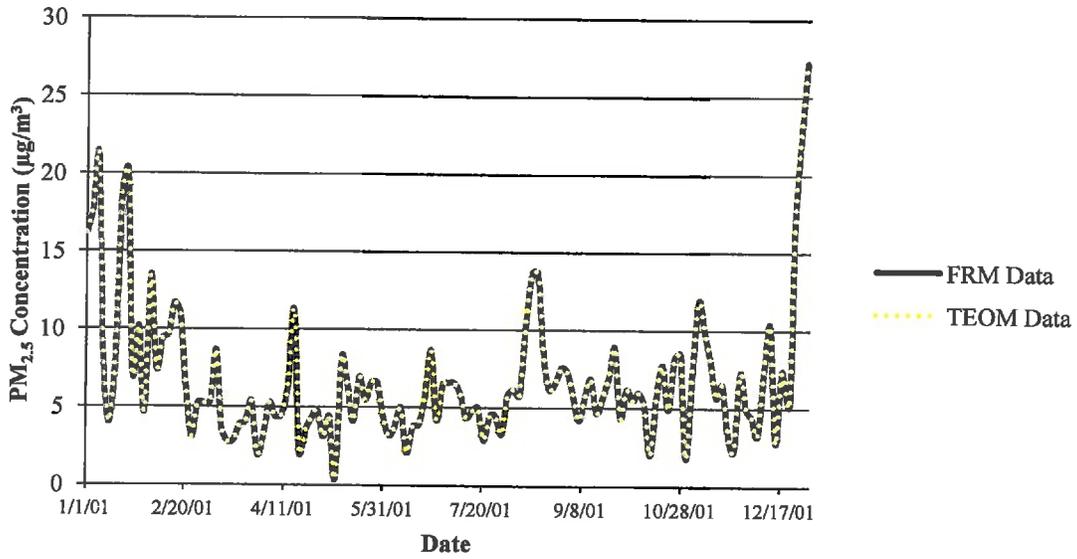
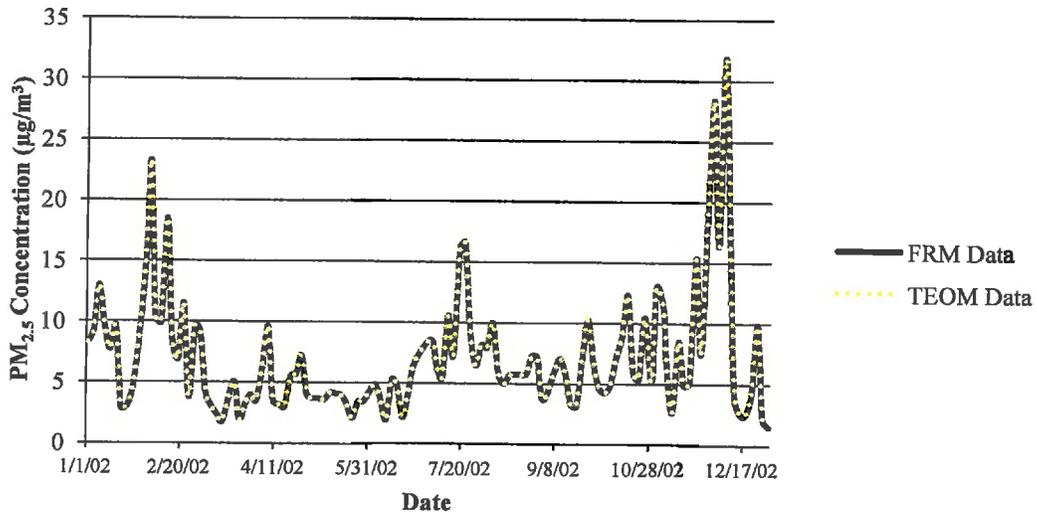


Figure 3 – 2002 Comparison
FRM/TEOM 2002 Comparison



As stated above, the TEOM is still operational and to obtain a more recent background concentration, the previous three years worth of data (2010-2012) was obtained for the monitor via the EPA website. To be consistent with the methodology used to establish the currently used background value of $21.3 \mu\text{g}/\text{m}^3$, each year the 98% value was calculated and equated to the 8th highest value. The list below illustrates each of the corresponding concentration for each year.

- 2012 – 8th high (98%) – $21.4 \mu\text{g}/\text{m}^3$
- 2011 – 8th high (98%) – $14.3 \mu\text{g}/\text{m}^3$
- 2010 – 8th high (98%) – $13.2 \mu\text{g}/\text{m}^3$

- Three year Average = $16.3 \mu\text{g}/\text{m}^3$

This correlation between the FRM and TEOM between 2000-2002 would suggest that the more recent TEOM data is quite reliable. If the FRM was still in place, it is very likely it would be returning similar concentrations to that of the TEOM. Also, both the AQI and NAAQS are health-based assessments. If the results of the TEOM are determined to be satisfactory for evaluating AQI and are highly correlated to FRM values then it can be reasonably concluded that the TEOM data is representative of actual background concentrations.

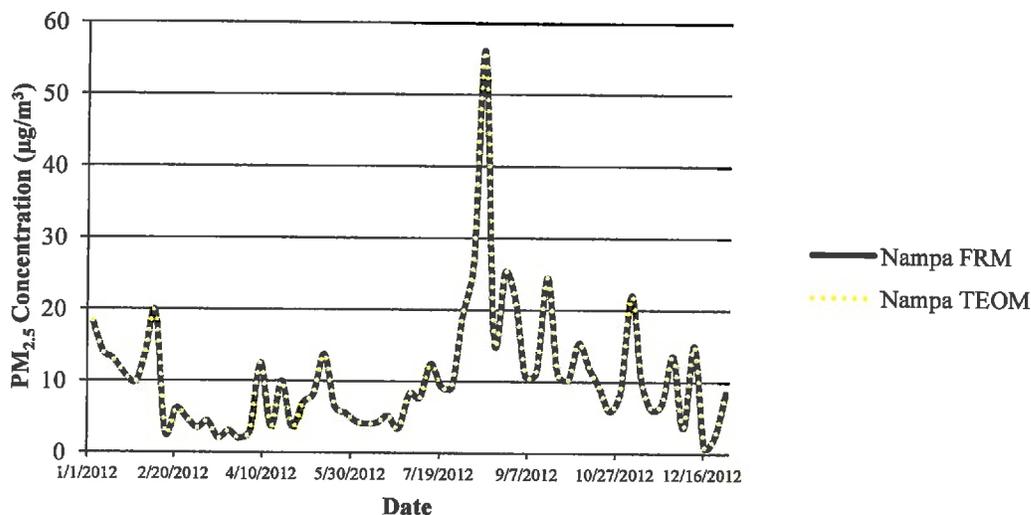
Correlation of Data from Recent Nampa Monitors

It has been demonstrated that the TEOM data is very well correlated with the FRM data when both were onsite. Furthermore, this FRM/TEOM correlation has held consistent for recent data in Canyon County (monitor 16-027-0002). Similarly, the concentrations are identical between the two data sets (see Figure 4). The reference method is newer, RFPS-0498-118, and uses the Rupprecht & Patashnick Partisol Model 2025 $\text{PM}_{2.5}$ Sequential Air Sampler (allows for continual monitoring), and the TEOM has been operational since 2008. However, like the earlier configuration in Twin Falls, all data captured is consistent ($\text{PM}_{2.5}$ at Local Conditions) and occurs when the monitors are collocated.

According to the IDEQ 2012 Ambient Air Monitoring Network Plan (IDEQ, 2012), the FRM in Nampa uses the EPA Air Quality System (AQS) method of 145. The TEOM uses AQS method 715-716 (Table 3.5 of plan). These methods do not include a correction factor as indicated in Table 3.4 of the plan. The Twin Falls TEOM employs AQS method 702 or 704 which does include a correction factor. However, according to a May 2011 EPA report (Hall, 2011) that evaluated semi-continuous monitor measurements (TEOM) against FRM measurements, there were no significant differences between a non-corrected and corrected method for acceptable data. These data is considered “acceptable” as it is used for AQI.

Figure 4 – 2012 Nampa Comparison

2012 FRM/TEOM Nampa Comparison



While both locations implement slightly different approaches, (SCC TEOM Gravimetric @ 30 deg C and VSCC TEOM Gravimetric @ 30 deg C) the impact on the results is negligible. Regardless of methodology, this suggests that the technology used in both TOEMs is likely be representative and high correlated or equivalent to the FRM.

Effect of Fires

2012 showed a series of anomalously high values during the months of August and September. The Trinity Ridge fire began in Boise National Forest on August 8th, 2012 burning 146,832 acres (90 miles northwest of monitor). While much of its impact was east and north of Twin Falls (see trajectory map, Figure 5) the smoke is within 25 miles of the monitoring on August 9th. However, the Bull Run Complex fire in northern Nevada also began August 9th; the wind trajectory of which passes right by the monitor (Figure 6). The air flow trajectory maps illustrate the expected path taken by particulate matter during a given time period beginning at a provided location (origin of the fires). Each path (red lines) was developed every six hours during the time of interest. The maps were developed using a National Oceanic and Atmospheric Administration predictive model called HYSPLIT or Hybrid Single Particle Lagrangian Integrated Trajectory Model. The trajectories can be predictive into the future or achieved past timeframes may be analyzed.

It is our contention that the combination of these two fires contributed greatly to the higher concentration readings in early to mid-August. Those reading beginning August 7th and running through August 13th may be considered exceptional events and removed from analysis.

Figure 5 – Trinity Ridge Fire Trajectory

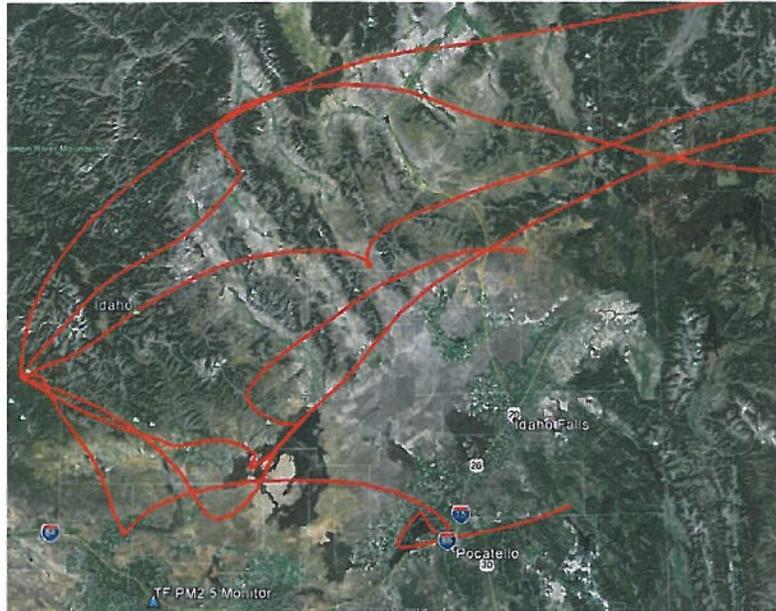


Figure 6 – Bullrun Complex Fire Trajectory



While those two fires contributed greatly to the higher August impacts, the Minidoka Complex fire that began on August 5th began just 28 miles southeast of Twin Falls. It burned a total of 100,000 acres with the Sawtooth National Forest and the BLM Twin Falls District. It was not fully contained until August 18th. That two week timeframe experienced the majority of the high PM_{2.5} days during that month. As illustrated in Figure 7, a portion of the wind trajectory during the second week of August travels directly over the monitor.

Figure 7 – Minidoka Complex Fire Trajectory



Additionally, late September produced extremely high readings at both the Twin Falls and Boise (160010010) monitors. September 21, 2012 registered daily values of greater than $60 \mu\text{g}/\text{m}^3$. In comparison, 2011 and 2010 high for the entire year was 19.1 and 47.7, respectively. It should be noted that the $47.7 \mu\text{g}/\text{m}^3$ is also an outlier as all other values for the year are $16.3 \mu\text{g}/\text{m}^3$ or less. The September 21st readings can be attributed to the Wenatchee Complex in Washington as well as other fires in Oregon (Long Draw and Holloway fires) and Montana. In fact, Idaho DEQ issued a statewide burn ban for the 21st and continued into that weekend. The regional impact is not representative of typical background $\text{PM}_{2.5}$ impacts. The higher readings in Boise can also contribute to those in Twin Falls as the typical trajectory of air flow follows the Snake River plain (See Figure 8). Thus, any higher impact in Boise, most likely will impact Twin Falls in a similar fashion. It is recommended that 7 days of 2012 be removed from the analysis as they are attributed to exceptional events. Therefore, the 15th high for 2012 is $17.3 \mu\text{g}/\text{m}^3$. The three-year average is now $14.9 \mu\text{g}/\text{m}^3$.

Figure 8 – September 2012 Boise to Twin Falls Trajectory



Conclusion

It is recommended that Gem State use $14.9 \mu\text{g}/\text{m}^3$ as the 24-hr $\text{PM}_{2.5}$ background concentration for the following reasons:

- Ultimately, 2012 was a historic fire year for the state of Idaho and the surrounding region. There were numerous events that contributed to higher than normal $\text{PM}_{2.5}$ concentrations. These findings are not duplicated in any other year. There was consistently increased particulate in the air throughout the state. The request to remove only one week or seven days worth of data from 2012 is reasonable in order to obtain a more representative sample for 2012. In doing so, the concentrations are much more aligned with 2010 and 2011, both of which are more representative of typical background concentrations.
- The TEOM data is used for determining the AQI, a health-based assessment. Therefore, if it is deemed sufficient for those purposes, it should be considered appropriate for determining background concentrations for NAAQS analysis.
- It has been proven regardless of time and space that the TEOM produces equivalent and in most cases identical results to the FRM.
- A 2006 EPA Technical Note on Continuous Monitoring and Speciation Data indicated that a correlation factor of at least $(0.9)^2$ (0.81) with a FRM for acceptable $\text{PM}_{2.5}$ AQI and Speciation Mass shall be reported (EPA, 2006). The lowest squared correlation factor amongst the data evaluated was 0.9995^2 or 0.999. The report also indicates these data to be useful results for public reporting and monitoring objectives. Therefore, these data are statistically equivalent to the FRM.

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References

EPA -Technical Note on Reporting PM2.5 Continual Monitoring and Speciation Data to the Air Quality System (AQS), June 1, 2006. <http://www.epa.gov/ttn/airs/airsaqs/memos/PM-cont-Reporting-Tech-Note-053106.pdf>

IDEQ – Idaho Department of Environmental Quality Annual Ambient Air Quality Monitoring Network Plan, July 1, 2012. <http://www.deq.idaho.gov/media/918686-annual-ambient-aq-monitoring-network-plan-0712.pdf>

Hall, Eric S., Equating Semi-Continuous (SC) PM2.5 Mass Monitor Measurements Values with Federal Reference Method (FRM) PM2.5 Monitor Measurement Values – Final Report, May, 2011. http://www.epa.gov/heads/documents/cdc/AnnualReports/29640ner11ISC_PM_MonitorValues.pdf

APPENDIX D

No Realistic NAAQS Violation Memorandum



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MEMORANDUM

To: IDEQ Air Quality Modeling/Permit Staff
From: David Strohm, Daniel Heiser, Eric Clark, JBR
cc: Bill Schow, Gem State Processing, LLC
Date: July 8, 2013
Subject: Rationale for no NAAQS Violations

Purpose

Gem State Processing, LLC (Gem State) is a potato dehydration facility located in Heyburn, Idaho. Gem State is required to demonstrate facility-wide compliance with all National Ambient Air Quality Standards (NAAQS). The facility is in the process of becoming compliant with the 24-hr PM_{2.5} standard. During the NAAQS compliance analysis it was determined that there are some isolated modeled receptors to the north of the property that exceed 35 µg/m³. However, the following discussion will outline the rationale why these receptors should not be considered an exceedance of the 24-hr PM_{2.5} standard. Our rationale is divided into separate sections below. The overall issue is meant to be reviewed in a combined "weight of evidence" manner with each portion decreasing the likelihood that a real-world NAAQS exceedance would ever occur. Figure 1 illustrates those few and isolated receptors.

Figure 1 – Northwest Exceedances Greater Than 35 $\mu\text{g}/\text{m}^3$



Particle Size Distribution

The emission rates used in the ambient air analysis pertaining to $\text{PM}_{2.5}$ are quite conservative. Due to the high moisture content of the potato dehydration process, only EPA performance test method 202/5 can be used to determine proper particulate emissions. However, that test method does not employ any particle size distribution. Thus, the results of each test returns only particulate matter (PM). To remain as conservative as possible, this analysis assumed all PM, PM_{10} and $\text{PM}_{2.5}$ are equivalent.

Although there is no way accurately quantify the proper distribution of $\text{PM}_{2.5}$ it is safe to assume that it is not equivalent to total PM and therefore, less than 100%. All $\text{PM}_{2.5}$ emissions within the Gem State facility are calculated in the same manner. The relationship between concentration and the emission rates is essentially linear provide all emission points are reduced by an identical percentage.

JBR Environmental Consultants, Inc. (JBR) and Gem State propose that a scaling factor of 91 % be applied to the $\text{PM}_{2.5}$ modeled concentration. As discussed previously with the Idaho Department of Environmental Quality (IDEQ) similar factors were applied to Idaho Fresh-Pak in Burley, Idaho. It is understood that that the 40% applied in that situation somewhat differs from this as it was a co-contributing source analysis rather than the permitted facility. However, the requested factor of 91% remains quite conservative.

Limited Exposure Time

The averaging period of the short term PM_{2.5} standard is 24 hours. Due to the contractual agreement between Gem State and the Eastern Idaho Railroad (EIRR) employees of each company are not considered members of the general public within the leased premises. Section 4.1 of the agreement states that the “lessee (Gem State) shall use the Leased Premises solely for increasing the boundary of property under control to satisfy EPA requirements”. This indicates Gem State to have sole control over the rail spur. Therefore, EIRR employees on the rail spur are considered business invitees of Gem State.

Although the rail spurs will be controlled by Gem State, the mainline would still remain ambient air with respect to the analysis. This is the location where the model suggests impacts would exceed the 24-hr PM_{2.5} standard. Railroad employees rarely stop along the mainline. If a stop were to occur, current operations would suggest the maximum duration of time would not exceed 30 minutes; which is much less than the averaging period of 24 hours. It is extremely unlikely that an exceedance of the NAAQS and adverse health effects would result from periodic 30 minute exposures.

Trespassing

Those receptors that exceed 35 µg/m³ all occur on private property owned by the railroad. This includes portions of the unfenced portion of the outer spur to the north of the property boundary and the main track. In order for a member of the general public to reach those locations they would have to trespass along the railroad and right of way. There is signage posted throughout the area that would also need to be disregarded. Therefore, an illegal action would need to take place by a member of the general public to be potentially exposed.

Conclusion

The conservatism built into the emission rates, the lack of limited exposure time and the requirement of trespassing in concert suggest that there is a very limited chance of the facility, as proposed, to produce public health concerns or a real-world violation of the 24-hr PM_{2.5} NAAQS.

Please do not hesitate to contact me at eclark@jbrenv.com or 208-853-0883.

A handwritten signature in black ink that reads "Eric Clark". The signature is written in a cursive style with a large, stylized "E" and "C".

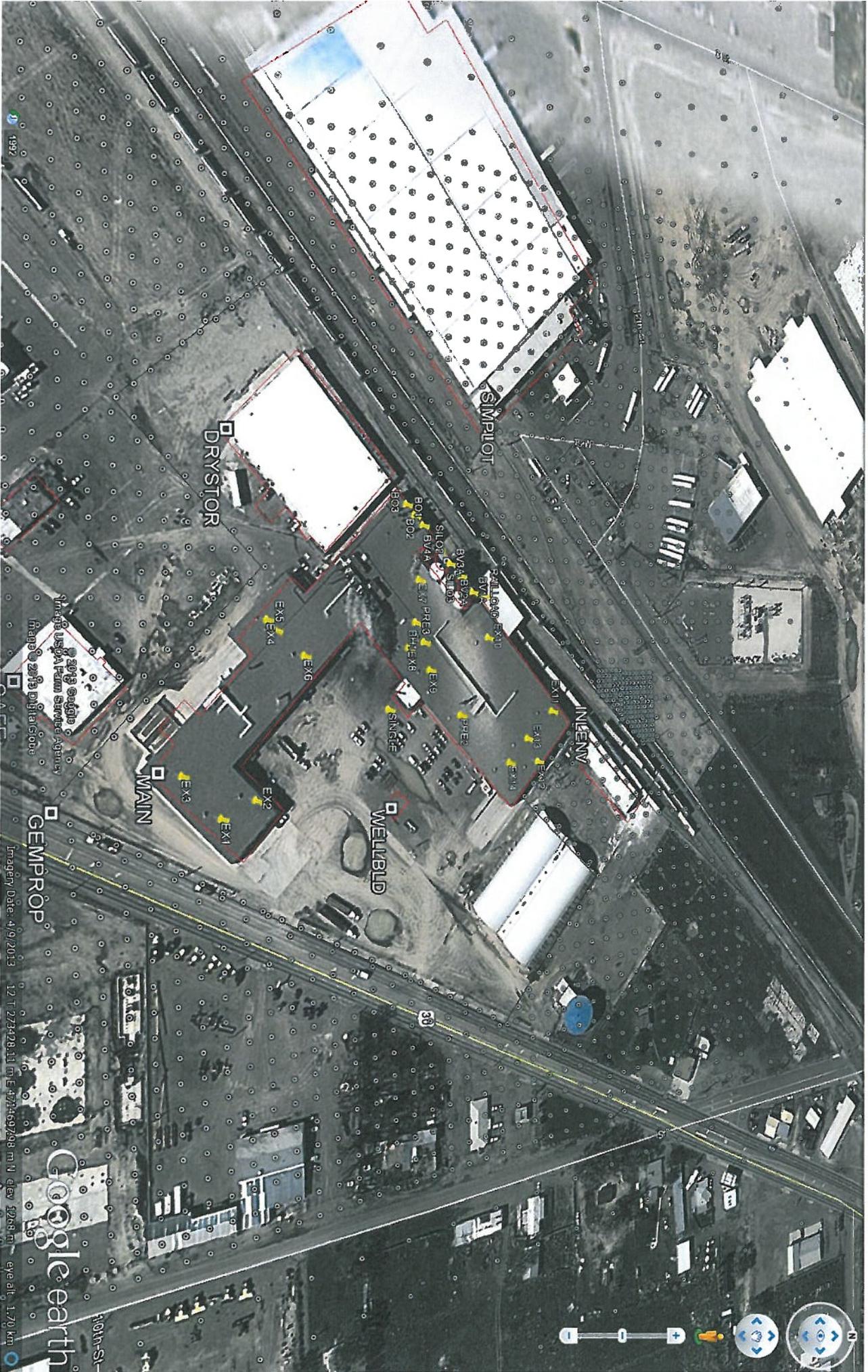
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APPENDIX E

Source Layout



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GEMPROP

Imagery Date: 4/9/2013

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