MSE **Millennium Science & Engineering, Inc.**

1605 N. 13th Street
Boise, Idaho 83702
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RECEIVED
JUN 18 2007
By R. Greenwood

June 18, 2007

Mr. William Rogers
Air Quality and Permits Manager
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

RE: Pre-Permit Construction Approval and Permit to Construct Application, High Desert Milk, Burley, Idaho

Dear Mr. Rogers:

Please find enclosed one copy of the Pre-Permit Construction Approval and Permit to Construct Application for the High Desert Milk Plant in Burley, Idaho. Electronic copies of application forms, report (without attachments), and modeling input and output files are included on a compact disc (see Appendix 4). A check to pay the Permit to Construction application fees is also enclosed.

Thank you for your assistance with this project. If you have any questions please call me at (208) 345-8292.

Regards,

Troy D. Riecke, P.E.
Environmental Engineer

Cc: Mr. Karl Nelson – High Desert Milk, Inc.
Mr. Michael Gibbons – Northwest Farm Credit Services

0100

Permit No.: P-2007.[redacted]
Facility ID No.: 031-00034
PID: SSBG. PTCS
Logged: ✓

208-878-6455(Milk)
Cell: 208-312-4510
Fax: 208-878-6458
knelson@pmt.org
1050 Hansen Avenue Burley, Id 83318

June 18, 2007

Mr. William Rogers
Air Quality and Permits Manager
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

Re: Application for Pre-Permit Construction, High Desert Milk, Inc., Milk Processing Plant, 1033 Idaho Avenue, Burley, Idaho

Dear Mr. Rogers:

High Desert Milk, Inc. proposes to construct a milk processing plant in Burley, Idaho. High Desert Milk intends to begin construction of the plant within 15 days of submittal of this application. Therefore, we request permission for Pre-Permit Construction in accordance with Part 213 of Idaho Rules for the Control of Air Pollution (IDAPA 58.01.01.213). The enclosed PTC application conforms to the January 2001 Idaho Department of Environmental Quality (DEQ) *Pre-Permit Construction Approval Guidance Document*.

The required pre-application meeting was held on May 30, 2007 and was attend by you, Mr. Karl Nelson *via conference call* (High Desert Milk), and Mr. Troy Riecke (Millennium Science & Engineering, Inc.). The required public information meeting will be held on June 26, 2007. A copy of the notice announcing this meeting is enclosed with this PTC application.

We have determined that construction of our facility is eligible for Pre-Permit Construction in that our Burley plant is not a major facility or a major modification, we are not proposing to use offsets or netting, and emissions from our facility are not going to impact air quality related values in a Class I area.

By this application, High Desert Milk, Inc. certifies that we will comply with all limitations, operating requirements, monitoring requirements, and reporting requirements described in the enclosed application. Also, pursuant to Idaho Rules (IDAPA 58.01.01.123), I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.

We appreciate your assistance in moving this project forward on such short notice. Please feel free to call either Mr. Karl Nelson at (208)-312-4510 or our consultant Mr. Troy Riecke of Millennium Science and Engineering at (208)-345-8292 if you have any questions.

Sincerely,

Karl Nelson

Karl Nelson
General Manager
High Desert Milk, Inc.

cc: Troy Riecke – Millennium Science & Engineering, Inc.

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3 2007
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

RECEIVED
JUN 18 2007
By R. Greenwood

Pre-Permit Construction Approval and Permit to Construct Application

High Desert Milk
Milk Processing Plant
Burley, Idaho

June 18, 2007

Prepared for:

HIGH DESERT MILK

1051 Hansen Ave
Burley, Idaho 83318

Prepared by:

Millennium Science & Engineering, Inc.
1605 North 13th Street
Boise, Idaho 83702
(208)345-8292

MSE Millennium Science & Engineering, Inc.
Environmental Science & Engineering Solutions for the 21st Century

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Appendices

Appendix 1	Emission Calculations and Vendor Supplied Equipment Information
Appendix 2	Copy of Public Meeting Notice
Appendix 3	Modeling Protocol and IDEQ Response
Appendix 4	Model Output and Electronic Copy of Model Input/Output
Appendix 5	Permit to Construct Application

R1878.doc

Section 1 – Process Description

Section 1. Process Description

High Desert Milk, Inc. (High Desert Milk) proposes to construct a milk processing plant at a site located at 1033 Idaho Ave in Burley, Idaho. The plant will receive up to 2.5 million pounds per day (lb/day) of raw milk by tanker truck. Milk will be processed in a natural gas fired dryer to prepare dry milk. Air blown through the dryer will flow through two cyclones and then through two baghouses to recover milk powder and reduce particulate emissions. Dried milk from the dryer will pass through a fluid bed, then through a sifter and then to storage in two powder silos. There will be two boilers at the facility that will combust natural gas to produce steam for the milk drying process. An emergency generator will supply backup bower in the case of an interruption in the main power supply. See the Figure 1 – Process Flow Diagram (Section 2) for a graphical depiction of the processes to be incorporated into the operation of the milk processing plant. The following discussion provides further details regarding the proposed milk processing operations.

Unloading

Up to 2.5 million pounds per day of raw dairy milk will be unloaded from tanker trucks at three drive through bays at the plant. There are no point source air emissions identified for this process operation.

Skimming/Separation/Pasteurization

Raw milk will be heated then separated into skim milk and sweet cream. The skim milk will be pasteurized and cooled then sent to storage. The sweet cream will be pasteurized and cooled then sent to storage to await loadout. There are no point source air emissions identified for this process operation.

Evaporator

Skim milk will pass from the storage silos to the evaporator to condense the milk for drying. The skim milk evaporator is a two body, multi-pass evaporator with a multi-pass finisher. Skim milk is delivered to a surge tank, from the surge tank the milk is pumped through a regenerative plate heat exchanger prior to being sent through two shell and tube vapor heaters. From the vapor heater the skim milk enters a balance tank. The skim milk is pumped from the balance tank through a final steam heater, pasteurized, and then forwarded to the first pass of the evaporator. After the final pass of the evaporator, the skim milk is pumped to the finisher. The finisher concentrates the skim milk to 48 percent total solids. Steam is provided for heating processes by two boilers (emission units: P104 and P105).

Dryer

Product flows to one of two balance tanks. Product is routed via the product feed pump through a final heater, one of two sanitary strainers, and delivered to a high-pressure pump where it is sprayed into the double-walled main vertical chamber. A fan will blow air through a Maxon Crossfire burner and then into the top of the main drying chamber. Exhaust air from the main drying chamber will discharge in four locations through ducts to two cyclone collectors. The cyclone exhaust air will

continue into two cylindrical cloth collectors (baghouses) and then discharge to the atmosphere (emission units P101A and P101B). Product collected in the cyclones and baghouses will be diverted to the fluid bed.

The dried solids will discharge from the conical bottom of the dryer main chamber into a fluid bed cooler

Fluid Bed and Powder Handling

The dried solids will be cooled in the fluid bed. Exhaust air from the fluid bed will pass through a baghouse and then discharge to the atmosphere (emission unit P102). Product collected in the baghouse will be diverted back to the fluid bed. The powder from the fluid bed cooler will then drop through an airlock through a rotary sifter and onto a conveyor for transport to two powder storage silos. Exhaust air from the silos will pass through one of two baghouses (P103A and P103B) and then discharge to the atmosphere. Dry skim milk powder stored in the silos is packaged and shipped off-site to customers.

Section 2 – Process Flow Diagram

Section 3 – Applicable Requirements

3.0 Applicable Requirements

Regulations applicable to the proposed facility are discussed in this section.

3.1 Federal Requirements

The following includes the rules and regulations reviewed in preparation of this PTC application.

3.1.1 40 CFR § 52 - Prevention of Significant Deterioration (PSD)

The facility is not a PSD major facility and does not belong to any designated source category, therefore PSD review is not applicable.

3.1.2 40 CFR § 60 - New Source Performance Standards (NSPS)

<u>40 CFR § 60-Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</u>

Affected Units:
1.) Boiler #1 (P104)
2.) Boiler #2 (P105)

60.40c – Applicability
The boilers are subject to requirements of Subpart Dc because the boilers are steam generating units with heat input capacity greater than 10 million BTU/hr and will be constructed or modified after June 9, 1989.

Note: The EPA's latest proposed revision to this rule entirely exempts this class of boiler that burns natural gas from the standards for SO_2 and particulate matter (see Federal Register, Volume 72, No. 27, February 9, 2007). Prior to commencing operation of the boiler at the site, the rules will be revisited to determine what, if any, NSPS rules apply to the source.

§ 60.43c – Standard for particulate matter (60.43c(e)(1))
The NSPS standard for particulate matter is 0.030 lb PM/MMBtu. The estimated particulate emission rate for the boilers, utilizing AP-42 emission factors for natural gas combustion is: 0.00746 lb PM/MMBtu (see attached emission estimate sheet for the boiler). Therefore, it appears that the proposed combustion of natural gas in the boilers will meet the NSPS standard for particulate matter.

§ 60.45c(c) – Compliance and performance test methods and procedures for particulate matter.

Since the boilers only combusts gaseous fuels that have potential SO_2 emission rates less than 0.54 lb/MMBtu (potential emissions when combusting natural gas is

0.00059 lb SO_2/MMBtu) compliance can be demonstrated by maintaining fuel certification for the sulfur content of the fuel burned (per 60.45c(c)).

§ 60.48c Reporting and recordkeeping requirements.
The following information is required to be submitted *(directly quoted from the applicable part of the standard)*:

(a) The owner or operator of each affected facility shall submit, as provided by §60.7 of this part. This notification shall include:
The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

Because potential SO_2 emissions will be less than 0.32 lb SO_2/MMBtu the operator is only required to record and maintain records of the fuels combusted during each calendar month (instead of the daily record keeping requirements that would apply if emissions were greater than 0.32 lb SO_2/MMBtu).

Records required under this section are to be maintained by the operator for two years.

The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

3.1.3 40 CFR § 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs) & Maximum Achievable Control Technology (MACT)

There are no applicable NESHAPs or MACT for this facility.

3.2 State Requirements

Applicable state requirements include the following. All citations refer to specific sections of IDAPA 58.01.01, Rules for the Control of Air Pollution in Idaho.

123. CERTIFICATION OF DOCUMENTS.

All documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official.

128. CONFIDENTIAL INFORMATION

Not applicable as no confidential information is being submitted.

201 - PERMIT TO CONSTRUCT REQUIRED

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

The proposed facility is a new synthetic minor source, a PTC is required.

203. PERMIT REQUIREMENTS FOR NEW AND MODIFIED STATIONARY SOURCES

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

With the exception of the baghouses that are required to control particulate matter emissions, no other limits or controls are required. The facility anticipates that the IDEQ will require permit conditions for the plant to protect the National Ambient Air Quality Standards (NAAQS), to comply with the toxic air pollutant (TAP) standards, to comply with the grain loading standard for fuel burning equipment, and the reasonable control of fugitives.

210. DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE WITH TOXIC STANDARDS

210.01. Identification of Toxic Air Pollutants.

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

All TAP emitted by these emission units shall be identified. These compounds are listed in Section 4.

210.02. Quantification of Emission Rates

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

Emission rates of all TAP shall be estimated. Toxic emissions were estimated using emission factors. This analysis is presented in Section 4.

210.03. Quantification of Ambient Concentrations

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

Ambient concentrations at appropriate receptor sites were estimated as described in Section 7.

210.04. Preconstruction Compliance Demonstration

Affected emission units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

Preconstruction compliance for each identified TAP is demonstrated by the modeling described in Section 7. Where appropriate, the limitations on potential to emit (PTE) described in Section 4 were included in this analysis.

213 - PRE-PERMIT CONSTRUCTION

213.01. Pre-Permit Construction Eligibility

Affected emission units:

1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

213.01(a): The owner or operator shall apply for a permit to construct.

This application is submitted to satisfy this requirement.

213.01(b): The owner or operator shall consult with Department representatives prior to submitting a pre-permit construction approval application.

This requirement was satisfied by meeting with Mr. William Rogers on May 30, 2007.

213.01(c): *The owner or operator shall submit a pre-permit construction approval application which must contain, but not be limited to: a letter requesting the ability to construct before obtaining the required permit to construct, a copy of the notice referenced in Subsection 213.02; proof of eligibility; process description(s); equipment list(s); proposed emission limits and modeled ambient concentrations for all regulated air pollutants, such that they demonstrate compliance with all applicable air quality rules and regulations. The models shall be conducted in accordance with Subsection 202.02 and with written Department approved protocol and submitted with sufficient detail so that modeling can be duplicated by the Department.*

These required elements are included in this application package.

213.01(d): *Owners or operators seeking limitations on a source's potential to emit such that permitted emissions will be either below major source levels or below a significant increase must describe in detail in the pre-permit construction application the proposed restrictions and certify in accordance with Section 123 that they will comply with the restrictions, including any applicable monitoring and reporting requirements. The required description of PTE limitations is included in Section 4.*

The required certification is included in the cover letter accompanying this application.

213.02. Permit To Construct Procedures For Pre-Permit Construction
Within ten (10) days after the submittal of the pre-permit construction approval application, the owner or operator shall hold an informational meeting in at least one (1) location in the region in which the stationary source or facility is to be located. The informational meeting shall be made known by notice published at least ten (10) days before the meeting in a newspaper of general circulation in the county(ies) in which the stationary source or facility is to be located. A copy of such notice shall be included in the application.

The required public meeting will be held on June 26, 2007. A copy of the required notice is included in Appendix 2.

214. DEMONSTATION OF PRECONSTRUCTION COMPLIANCE FOR NEW AND RECONSTRUCTED MAJOR SOURCES OF HAZARDOUS AIR POLLUTANTS

The proposed emission sources are not considered Major Facilities so this section does not apply.

220. GENERAL EXEMPTION CRITERIA FOR PERMIT TO CONSTRUCT EXEMPTIONS
222. CATEGORY II EXEMPTION

Affected emission units:
1.) Emergency generator

The emergency generator at the facility qualifies for a Category II Exemption (IDAPA 58.01.01.222.d) since it will only combust natural gas or diesel fuel and it will be operated for less than 500 hours per year.

223. EXEMPTION CRITERIA AND REPORTING REQUIREMENTS FOR TOXIC AIR POLLUTANT EMISSIONS.

Not applicable as no exemptions are being claimed.

577. AMBIENT AIR QUALITY STANDARDS FOR SPECIFIC AIR POLLUTANTS.

Compliance with all applicable ambient air quality standards is discussed in Section 7.

578. DESIGNATION OF ATTAINMENT, UNCLASSIFIABLE, AND NONATTAINMENT AREAS.

Not applicable to applicant - designation of attainment, unclassifiable, and nonattainment areas is the responsibility of IDEQ. Current attainment status of the facility location is discussed in Section 5.

585. TOXIC AIR POLLUTANTS NON-CARCINOGENIC INCREMENTS.

Compliance with AACs is addressed in Sections 4 and 7.

586. TOXIC AIR POLLUTANTS CARCINOGENIC INCREMENTS.

Compliance with AACCs is addressed in Sections 4 and 7.

590. NEW SOURCE PERFORMANCE STANDARDS.

Affected Units:
1.) Boiler #1 (P104)
2.) Boiler #2 (P105)

Compliance with NSPS is discussed in Section 3.1.

591. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS.

Compliance with NESHAPs is discussed in Section 3.1.

625. VISIBLE EMISSIONS.

Affected Units:
1.) Milk Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling and associated baghouses (P103A and P103B)
4.) Boiler #1 (P104)
5.) Boiler #2 (P105)

A person shall not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period which is greater than twenty percent (20%) opacity as determined by this section.

This requirement is applicable to all emission units listed above.

650. RULES FOR CONTROL OF FUGITIVE DUST.
All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following:
01. Use Of Water Or Chemicals. Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
02. Application Of Dust Suppressants. Application, where practical, of asphalt, oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust.
03. Use Of Control Equipment. Installation and use, where practical, of hoods, fans and fabric filters or equivalent systems to enclose and vent the handling of dusty materials.

04. Covering Of Trucks. Covering, when practical, open bodied trucks transporting materials likely to give rise to airborne dusts.
05. Paving. Paving of roadways and their maintenance in a clean condition, where practical. Note: all truck traffic areas will be paved.

675. FUEL BURNING EQUIPMENT -- PARTICULATE MATTER.
And
676. STANDARDS FOR NEW SOURCES.
And
677. STANDARDS FOR MINOR AND EXISTING SOURCES.

Affected units:
1.) Boiler #1 (P104)
2.) Boiler #2 (P105)

Compliance with particulate matter emission limits is discussed in Section 4 and/or Appendix 1.

700. PARTICULATE MATTER -- PROCESS WEIGHT LIMITATIONS.
And
710. PARTICULATE MATTER -- PROCESS EQUIPMENT EMISSION LIMITATIONS ON OR AFTER JULY 1, 2000.

Affected units:
1.) Dryer and associated baghouses (P101A and P101B)
2.) Fluid-bed and associated baghouse (P102)
3.) Powder Handling Silos and associated baghouses (P103A and P103B)

The maximum raw product input to these processes is 2.5 million pounds of raw milk per day. Based on the equation included in this section, the maximum allowable emission rate from each source is 19.76 lb/hr. Section 4 and Appendix 1 demonstrates compliance with this rule.

775. RULES FOR CONTROL OF ODORS.
And
776. GENERAL RULES.

No emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution will be allowed.

Section 4 – Emission Estimates

4.0 Potential to Emit/Emission Estimates/Limitation on Potential to Emit

4.1 Emission Estimates

Emission estimates are summarized in Table 4-1. Specific discussion regarding potential to emit for each source is presented in the following sections.

4.1.1 Milk Drying

Particulate matter emission rates for the milk dryer (P101) were calculated based on information provided by the supplier, C/E/Rogers. Particulate capture efficiencies were considered for both the cyclones and baghouses when calculating emission rates. Emission rates for Carbon Monoxide (CO) and Nitrogen Oxides (NO_x) were obtained from Maxon Corporation, the manufacturer of the burner used to provide heat for the dryer. Sulfur Dioxide (SO_2), Volatile Organic Compound (VOC), and Toxic Air Pollutant emission rates were based on EPA AP-42, Chapter 1.4 "Natural Gas Combustion". Calculated emission rates for the dryer are included in Appendix 1.

4.1.2 Fluid-bed

Particulate emissions from the fluid-bed (P102) were calculated based on information provided by the supplier, C/E/Rogers. The particulate capture efficiency of the baghouse was considered when calculating the emission rate from this process unit. Calculated emission rates for the fluid-bed are included in Appendix 1.

4.1.2 Powder Handling

Particulate emissions from the powder silo loading (P103A and P103B) were calculated based on information provided by the supplier, C/E/Rogers. The particulate capture efficiency of the baghouses was considered when calculating the emission rate from this process unit. Calculated emission rates for the powder handling operations are included in Appendix 1.

4.1.4 Boilers

Emissions from the Boilers (P104 and 105) were estimated using AP-42 emission factors (AP-42, Chapter 1.4 "Natural Gas Combustion"). The two boilers will only combust natural gas. The estimated emissions should be considered worst case (by a factor of two) since the second boiler is only needed for backup purposes. Emission calculations are included in Appendix 1.

Table 4-1
Summary of Potential Emission Rates

Pollutant	Milk Dryer P101		Fluid-bed P102		Powder Storage P103		Boiler #1 P104		Boiler #2 P105		Total
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(ton/yr)
PM_{10}	10.6	46.2	1.1	4.7	0.1	0.5	0.5	2.0	0.5	2.0	55.5
SO_2	0.019	0.1					0.0	0.2	0.0	0.2	0.4
NO_x	1.5	6.4					6.2	27.0	6.2	27.0	60.3
CO	11.9	52.2					5.2	22.6	5.2	22.6	97.5
VOC	0.18	0.8					0.3	1.5	0.3	1.5	3.7
Lead	1.6E-05	0.0					0.0	0.0	0.0	0.0	0.0
Arsenic	6.4E-06	0.0					1.2E-05	0.0	1.2E-05	0.0	0.0
Cadmium	3.5E-05	0.0					6.8E-05	0.0	6.8E-05	0.0	0.0
Formaldehyde	2.4E-03	0.0					4.6E-03	0.0	4.6E-03	0.0	0.0
Nickel	6.7E-05	0.0					1.3E-04	0.0	1.3E-04	0.0	0.0

4.2 Process Weight Rule

The Process Weight Rule (IDAPA 58.01.01.700) applies to the milk processing operations at this plant. This rule limits the amount of particulate matter (PM) that can be discharged from a source. Appendix 1 includes an estimate of PM emissions from process equipment (excluding emissions from fuel combustion equipment) and summarizes the calculation of the allowable PM discharge according to the Process Weight Rule.

According to the Process Weight Rule analysis summarized in Appendix 1, the facility at its maximum capacity of 2.5 million pounds per day of raw milk is allowed to discharge 19.76 pounds PM per hour from process equipment (excludes fuel burning equipment). The facility is only anticipated to generate 11.5 pounds PM per hour; therefore, the anticipated PM loading from the facility will meet requirements of the process weight rule.

4.3 Limitations on Potential to Emit

No limits on potential to emit are required for this source. The only controls that must be maintained at the proposed facility are the baghouses that collect particulate from the drying, fluid-bed, and powder handling operations. The facility can operate at the maximum design capacity without exceeding NAAQS or triggering the major classification. The facility is considered a synthetic minor source since it relies on physical controls to prevent exceedance of the major source classification.

Section 5 – Facility Classification

5.0 Facility Classification

The High Desert Milk Plant is to be located in Burley, Idaho, Cassia County. This area is considered attainment or unclassified for all criteria pollutants.

The facility is not a designated facility as defined in IDAPA 58.01.01.006.26. The facility is not a major facility as defined IDAPA 58.01.01.008.10. The proposed modification is not a major modification defined in IDAPA 58.01.01.006.55. The primary SIC Code for the facility is 2023 and the NAICS code is 311514.

There are no Class I areas within 10 km of the facility. PSD is not applicable as discussed in Section 3. Emission inventories are presented in Section 4.

Section 6 - Plot Plan

Section 7 – Ambient Impact Assessment

7.0 Ambient Impact Assessment

Air dispersion modeling was performed to demonstrate compliance with NAAQS for criteria pollutants and Idaho Department of Environmental Quality (IDEQ) screening levels for TAPs in support of this Pre-Permit Construction and PTC Application for the High Desert Milk facility. Modeling was performed according to the Modeling Protocol submitted to the IDEQ on June 5, 2007 (see Appendix 3 for a copy of the modeling protocol and the IDEQ approval letter).

7.1 Model Description / Justification

Air dispersion modeling was performed using the Environmental Protection Agency (EPA) AERMOD model. Building downwash was accounted for in the model. Building and tank dimensions were entered into the Building Parameter Input Program (version 04274) to calculate appropriate building profiles to import into AERMOD. Model output files are included in Appendix 4 and input/output files are included as electronic files on an enclosed compact disc.

7.2 Emission and Source Data

Seven point sources were modeled. The seven point sources included discharges from five baghouses and two boilers. Three criteria pollutants (PM-10, NOx, and CO) were modeled from these sources (emission rates for SOx and lead were below the modeling thresholds listed in Table 1 of the State of Idaho Air Quality Modeling Guidelines). The estimated emission rates for the toxic air pollutants (TAPs): arsenic, cadmium, formaldehyde, and nickel that result from the combustion of natural gas in the dryer and boilers exceeded the Emission Screening Limits (EL) and were therefore modeled. Table 7-1 summarizes the emission source characteristics used in the ambient impact analysis. All modeling was performed using the maximum potential to emit.

Modeling was performed in two passes, in the first pass we assumed 100% of the dryer emissions discharged through each baghouse stack. We found for this scenario passed for all pollutants except PM10. We reran the model for PM10 with dryer emissions equally split between the two baghouse stacks. This scenario passed. For conservatism, and to save time, we did not rerun the model for the other pollutants with the emission rates split between the two stacks since the modeling worked at the higher rates.

Table 7-1
Emission Source Characteristics

Emission Source	Stack ID	Stack Height (ft)	Stack Diam. (ft)	Exhaust Temp. (°F)	Stack Gas Vel. (m/s)	Emission Rates (g/s)						
						PM_{10}	NOx	CO	As	Cd	Formald-ehyde	Ni
Dryer Baghouse #1	P101A	114	4.08	190	17.08	0.665(2)	0.185	1.502	8.03E-7	4.42E-6	3.01E-4	8.43E-6
Dryer Baghouse #2	P101B	114	4.08	190	17.08	0.665(2)	0.185	1.502	8.03E-7	4.42E-6	3.01E-4	8.43E-6
Fluid-Bed Baghouse	P102	114	1.75	130	16.78	0.14	--	--	--	--	--	--
Powder Handling Baghouse #1	P103A	90	0.25 / 0.001m (1)	80	67.24 / 0.001 (1)	0.01	--	--	--	--	--	--
Powder Handling Baghouse #2	P103B	90	0.25 / 0.001m (1)	80	67.24 / 0.001 (1)	0.01	--	--	--	--	--	--
Boiler#1	P104	38	4	350	7.99	0.059	0.775	0.651	1.55E-6	8.53E-6	5.82E-4	1.63E-5
Boiler #2	P105	38	4	350	7.99	0.059	0.775	0.651	1.55E-6	8.53E-6	5.82E-4	1.63E-5

Notes:

(1) Stack gas velocity set to 0.001 m/s and diameter set to 0.001 m for modeling purposes due to the stacks horizontal discharge orientation and vent cover.

(2) Modeling was performed in two passes, the first pass assumed 100% of the dryer emissions passed through each baghouse stack. We found this scenario passed for all pollutants except PM10. In the second pass we reran the model for PM10, with the dryer emissions equally split between the two baghouse stacks. This scenario passed. We did not rerun the pollutants at the lower rates since those pollutants passed at the higher rates (more conservative).

7.3 Receptor Network

A receptor network was established so that ambient concentrations could be evaluated. The first step in this process was to determine the location of the ambient air boundary and the second step was to assign receptor locations within the ambient air zone.

7.3.1 Ambient Air Boundary

The ambient air boundary was established as the facility's fenceline. See Figure 2 – Site Plan – Section 6, for location of the fenceline).

7.3.2 Receptors

Receptors were established to determine maximum ambient air concentrations. A receptor grid with approximately 100 meter spacing was established across the entire evaluated area. Within 300 meters of the ambient air boundary, receptors were established every 25 meters. No receptors were established within the facility's controlled property boundary (ambient air boundary).

7.4 Elevation Data

Topography data for the site was obtained from the USGS as a 7.5 minute digital elevation model (DEM). AERMAP was used to pre-process this data for use in AERMOD.

7.5 Meteorological Data

Preprocessed meteorological data (surface and upper air) from the Boise airport was provided by the IDEQ. This data was processed by IDEQ using AERMET; the output files provided by the IDEQ were used as inputs to the AERMOD model for this site. Because this input data may not be representative of actual surface characteristics or meteorological conditions at the proposed plant location, an adjustment factor of twenty percent (20%) was applied to model results prior to adding in background concentrations.

7.6 Land Use Classification

The facility is industrial while the surrounding land is a mix of open space/agricultural and industrial land uses. The Air dispersion modeling was performed using a "rural" classification.

7.7 Surface Characteristics

Surface characteristics of the meteorological monitoring station were evaluated and incorporated into the AERMET processing performed by the IDEQ. These surface characteristics may not be representative for the High Desert Milk site but a safety factor of 20 percent was applied to model results to accommodate for the difference in surface and meteorological characteristics (as discussed in Section 7.5).

7.8 Background Concentrations

Table 7-2 summarizes the criteria pollutant background concentrations. Criteria pollutant background concentrations for small town/suburban areas were provided by Kevin Schilling of the IDEQ.

7.9 Evaluation of Compliance With Standards

As discussed in Section 7.5, a model output adjustment factor of 20% was applied to the modeling results to account for variations in surface characteristics between the meteorological monitoring station and the High Desert Milk site. To determine compliance with NAAQS, the applicable background concentrations were added to the adjusted maximum predicted ambient concentrations determined from air dispersion modeling to result in total ambient concentrations. These total ambient air concentrations were compared to the NAAQS. Table 7-2 summarizes the air dispersion modeling results and compares the total predicted ambient air concentration to the applicable NAAQS. See Appendix 4 for graphical output from air dispersion modeling. Based on this evaluation, no NAAQS are predicted to be exceeded by emissions from the sources, if operated and configured as proposed in this application.

Table 7-2
Results of Ambient Impact Assessment for Criteria Pollutants
(All Concentrations in Units of $\mu g/m^3$)

Pollutant	Averaging Period	Maximum Air Dispersion Model Output	Output Adjustment Factor	Adjusted Output	Compliance Demonstration		
					Background	Total	NAAQS
PM10	24 hr, 2nd high	53.49	1.2	64	76	140	150
	Annual	16.34	1.2	20	27	47	50
NOx	Annual	32.16	1.2	39	32	71	100
CO	1hr, 2nd high	468.58	1.2	562	10,200	10,762	40,000
	8hr, 2nd high	188.65	1.2	226	3,400	3,626	10,000

7.10 Evaluation of Ambient Impact Assessment for TAPs

The maximum model output values were adjusted using a factor of 1.2 and then compared to Acceptable Ambient Concentration for Carcinogens (AACC) values for each TAP. Table 7-3 summarizes the results of air dispersion modeling performed to evaluate the ambient impact for TAPs. None of the AACC were exceeded by any of the adjusted maximum predicted ambient air concentrations; therefore, the predicted ambient impact from TAP emissions is acceptable.

Appendix 1

Emission Calculations and Vendor Supplied Equipment Information

Criteria Air Pollutant Emissions
Skim Milk Dryer (P101)

Combustion Source Characteristics

Dryer Manufacturer	Maxon
Burner Model	Crossfire Low NOx Line Burner
Input Heat Capacity (BTU/hr)	32,500,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	31,863
Annual Fuel Consumption (scf/yr)	279,117,647

Site Information

Burley Barometric Pressure (mm Hg)	654.30

Stack Data [c]

Stack ID	P101A	P101B
Stack Height (ft)	114	114
Stack Diameter (ft)	4.08	4.08
Exit Gas Temperature (°F)	190	190
Wet Actual Flow Rate (acfm)	44,042	44,042
Dry Standard Flow Rate (dscfm)	29,552	29,552
Stack Velocity (m/s)	17.08	17.08
Fd (dscf stack gas/BTU)	0.00871	
Grain Loading Flow Rate (dscfm)	6,398	
Baghouse Efficiency	92.00%	

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM_{10}	NG Combustion + Process	See PM Calculation Sheet		10.553	46.2	1.33
SO_2	NG Combustion	0.6	lb/10^6 scf	0.019	0.1	0.0024
NO_x	NG Combustion + Process	0.0452	lb/10^6 BTU	1.468	6.4	0.185
CO	NG Combustion + Process	0.37	lb/10^6 BTU	11.918	52.2	1.502
VOC	NG Combustion	5.5	lb/10^6 scf	0.175	0.8	0.022
Lead	NG Combustion	0.0005	lb/10^6 scf	1.59E-05	0.0	2.01E-06

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM	NG Combustion + Process	See PM_{10}		10.553	46.2	1.33
Beryllium	NG Combustion	<1.2E-5	lb/10^6 scf	3.82E-07	0.0	4.82E-08
Mercury	NG Combustion	2.60E-04	lb/10^6 scf	8.28E-06	0.0	1.04E-06

PM Grain Loading Standard[b]

Pollutant	Pollutant Source	Potential Emissions (lb/hr)	Grain Load @ 3% Oxygen (gr/dscf)	PM Grain Standard[b] (gr/dscf)	Meets Standard?
PM	NG Combustion	0.242	0.004	0.015	yes

Notes:
(a) Emission factor for PM/PM10 estimated from baghouse particulate capture efficiency (see attached PM calculation sheet) and from natural gas fuel combustion emission factors AP-42 Chapter 1.4, "Natural Gas Combustion". NOx and CO emissions were estimated based on information provided by the vendor. The remaining pollutant emisssions were estimated using AP-42 emission factors for natural gas combustion (Chapter 1.4).
(b) IDAPA 58.01.01.677, computed for fuel combusting equipment only, excludes particulate emissions associated with the milk drying process.
(c) Emissions are routed through two cyclones and then two baghouses (in parallel) before final discharge. Listed emissions rates are combined emissions that are emitted through both stacks. For modeling purposes emissions were split in half between the two stacks for PM10 but all other pollutants were modeled at the full rate through each stack.

Toxic Air Pollutant Emissions
Skim Milk Dryer (P101)

Combustion Source Characteristics

Boiler Manufacturer	Maxon
Burner Model	Crossfire Low NOx Line Burner
Input Heat Capacity (BTU/hr)	32,500,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	31,863
Annual Fuel Consumption (scf/yr)	279,117,647

Toxic Air Pollutants

Pollutant	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (g/s)	Emission Limit[b] (lb/hr)
Arsenic	2.00E-04	lb/10^6 scf	6.37E-06	8.03E-07	1.50E-06
Barium	4.40E-03	lb/10^6 scf	1.40E-04	1.77E-05	3.30E-02
Benzene	2.10E-03	lb/10^6 scf	6.69E-05	8.43E-06	8.00E-04
Beryllium	<1.2E-5	lb/10^6 scf	3.82E-07	4.82E-08	2.80E-05
Benzo(a)pyrene	<1.2E-6	lb/10^6 scf	3.82E-08	4.82E-09	2.00E-06
Bis (2-ethylhexyl)phthalate	FNA	lb/10^6 scf	FNA	FNA	2.80E-02
Cadmium	1.10E-03	lb/10^6 scf	3.50E-05	4.42E-06	3.70E-06
Chromium	1.40E-03	lb/10^6 scf	4.46E-05	5.62E-06	3.30E-02
Cobalt	8.40E-05	lb/10^6 scf	2.68E-06	3.37E-07	3.30E-03
Copper	8.50E-04	lb/10^6 scf	2.71E-05	3.41E-06	3.33E-01
Dibutylphthalate	FNA	lb/10^6 scf	FNA	FNA	6.70E-02
Dichlorobenzene	1.20E-03	lb/10^6 scf	3.82E-05	4.82E-06	2.00E+01
Ethylbenzene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Fluorene	2.80E-06	lb/10^6 scf	8.92E-08	1.12E-08	1.33E-01
Formaldehyde	7.50E-02	lb/10^6 scf	2.39E-03	3.01E-04	5.10E-04
Hexane	1.80E+00	lb/10^6 scf	5.74E-02	7.23E-03	1.20E+01
Manganese	3.80E-04	lb/10^6 scf	1.21E-05	1.53E-06	3.33E-01
Mercury	2.60E-04	lb/10^6 scf	8.28E-06	1.04E-06	3.00E-03
Molybdenum	1.10E-03	lb/10^6 scf	3.50E-05	4.42E-06	3.33E-01
Napthalene	6.10E-04	lb/10^6 scf	1.94E-05	2.45E-06	3.33E+00
Nickel	2.10E-03	lb/10^6 scf	6.69E-05	8.43E-06	2.70E-05
Pentane	2.60E+00	lb/10^6 scf	8.28E-02	1.04E-02	1.18E+02
Phenol	FNA	lb/10^6 scf	FNA	FNA	1.27E+00
Selenium	<2.4E-5	lb/10^6 scf	7.65E-07	9.64E-08	1.30E-02
Toluene	3.40E-03	lb/10^6 scf	1.08E-04	1.37E-05	2.50E+01
Vanadium	2.30E-03	lb/10^6 scf	7.33E-05	9.23E-06	3.00E-03
o-Xylene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Zinc	2.90E-02	lb/10^6 scf	9.24E-04	1.16E-04	6.67E-01

Notes:
(a) Emission Factors from AP-42 Chapter 1.4, "Natural Gas Combustion".
(b) IDAPA 58.01.01.585 and 586
* FNA - Factor Not Available

Capacities and Operating Data

Performance Data

Lineal heat release at high fire	Btu/hr/ft	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000
Minimum lineal heat release	Btu/hr/ft	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Turndown ratio		10:1	12.5:1	15:1	17.5:1	20:1	22.5:1	25:1
Flame length	feet [1]	2.7	3.2	3.6	4.0	4.3	4.7	5.0
Pilot pressure/heat release	"w.c.* [2] / Btu/hr	5-8" w.c. / 40,000 Btu/hr						
Combustion air flow	SCFM	250	313	375	438	500	563	625
Air pressure at burner inlet	("w.c.) [3]	2.3	3.6	5.1	7.0	9.1	11.5	14.2
Air pressure at burner test connection	("w.c.)*	2.1	3.3	4.7	6.4	8.3	10.5	13.0
Fuel pressure at burner inlet (natural gas)	("w.c.) [3]	8.5	13.3	19.2	26.1	34.1	43.2	53.3
Fuel pressure at burner test connection (natural gas)	("w.c.)*	7.4	11.5	16.6	22.5	29.4	37.3	46.0
NOx emissions [4]	ppm @ 3% O_2	<25 ppm corrected to 3% O_2 dry						
CO emissions [4]	ppm @ 3% O_2	<250 ppm corrected to 3% O_2 dry						

[1] Flame length is based on 50% excess combustion air. Flame length will vary depending on various application parameters (e.g. passing air stream velocity, oxygen content, and combustion air preheat temperature)
[2] At inlet of adjustable pilot orifice.
[3] Air and gas DP is differential over system static pressure.
[4] Emissions stated are not guaranteed. Actual emission performance may vary. Contact Maxon for specific application details.
*Differential pressures measured at burner test connections. Air and gas DP is differential over system static pressure.

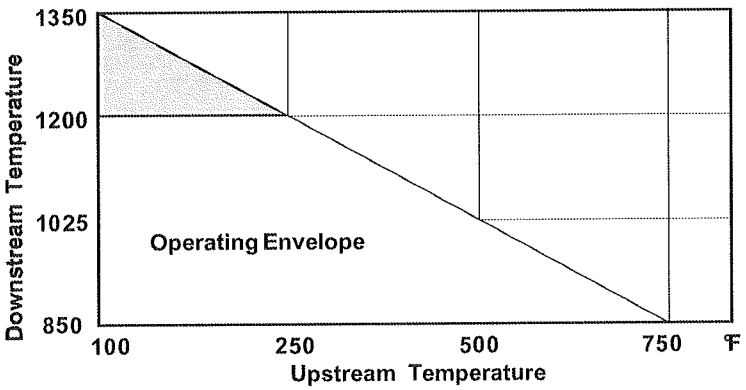
Operating Environment

Variable		Minimum	Maximum
Inlet Combustion Air Temp.	°F	Ambient	400
Inlet Combustion Air O_2 Level	% O_2	20.8	20.8
Air Stream Cross Velocity	ft/min	0	3000
Air Stream Axial Velocity	ft/min	0	4000
Upstream Air Temperature	°F	See Chart Below	
Downstream Air Temperature	°F		
Process Air Stream O_2 Level	% O_2	4	21

The burner can operate in a variety of environments. Typical operating environments, limits on their variables, and notes concerning operation of the burner are presented at left.

It is important to note that inlet combustion variables such as O_2 level and combustion air temperature will change air pressure requirements and/or maximum firing capacity.

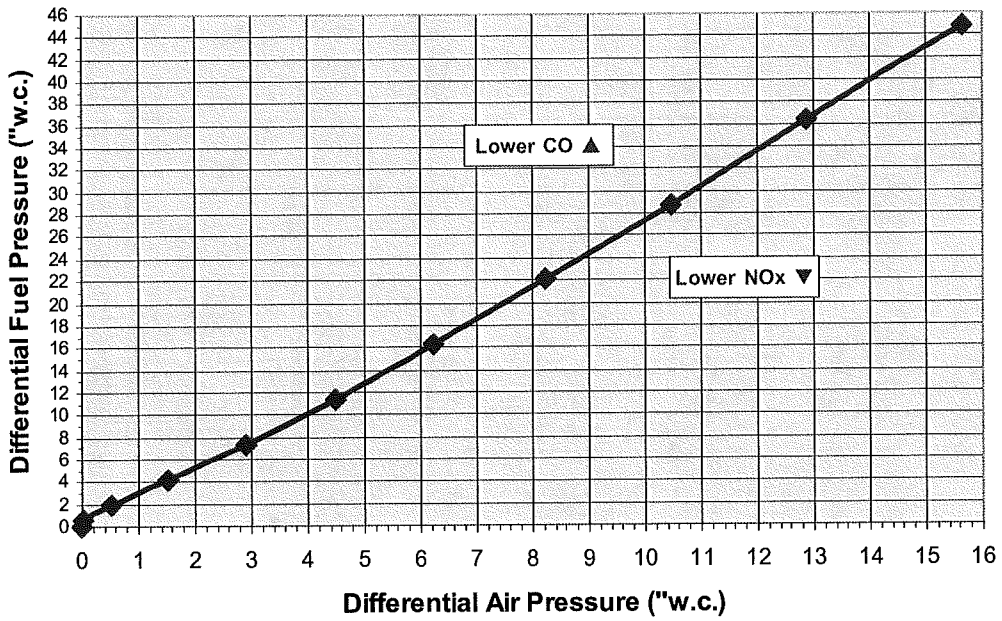
Temperature Operating Envelope



Consult Maxon for operation in shaded region. Ability to operate in shaded region is dependent upon operating conditions.

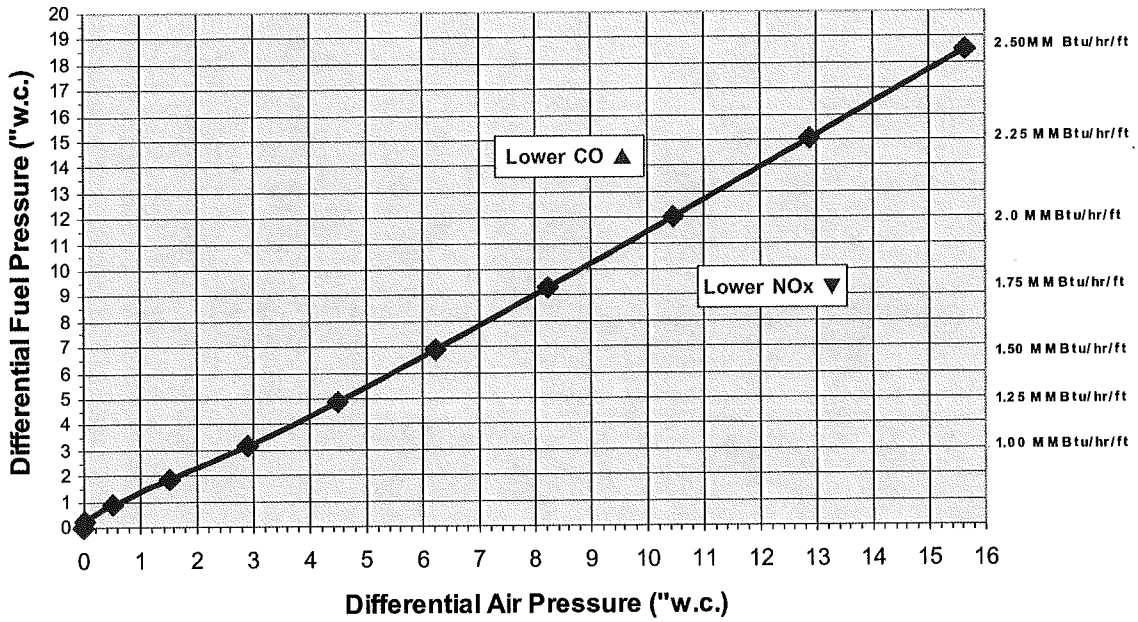
Capacities and Operating Data

Natural Gas Fuel/Air Settings



NOTE: Pressure measured at burner test connections; refer to inlet pressure requirements for fan sizing

Propane Fuel/Air Settings



NOTE: Pressure measured at burner test connections; refer to inlet pressure requirements for fan sizing

Particulate Matter Emissions Analysis
Powder Handling Operations
High Desert Milk

	Output		Removal
	Average (lb/hr)	Maximum (lb/hr)	Efficiency
Dryer (to Cylones)	3,437	4,296	NA
Cyclone 1 (to Baghouse 1)	51.56	64.44	97.00%
Cyclone 2 (to Baghouse 2)	51.56	64.44	97.00%
P101A Dryer Baghouse 1 (to ambient)	4.12	5.16	92.00%
P101B Dryer Baghouse 2 (to ambient)	4.12	5.16	92.00%
Fluid-Bed (to Fluid-Bed Baghouse)	1,290	1,613	NA
P102 Fluid Bed Baghouse (to ambient)	0.8643	1.08	99.933%
Powder Handling (to Silo Baghouse)	5.6	7.0	NA
P103A and **P103B** Powder Silo Baghouse 1 and 2 (to ambient)	0.090	0.112	98.40%
Total (to ambient):	9.20	11.50	

Process Weight Rule (IDAPA 58.01.01.700)

$E=1.10 \times PW^{0.25}$

	Average	Maximum
PW (raw milk/day) =	2,000,000	2,500,000
PW (raw milk/hr) =	83,333	104,167
E (lb PM/hr) =	18.69	**19.76**

Criteria Air Pollutant Emissions
Fluid-Bed Baghouse (P102)

Combustion Source Characteristics	
Manufacturer	C/E/Rogers
Model	Fluid-Bed Baghouse
Baghouse Efficiency	99.93%

Stack Data	
Stack ID	P102
Stack Height (ft)	114.0
Stack Diameter (ft)	1.75
Exit Gas Temperature (°F)	130
Wet Actual Flow Rate (acfm)	7,950
Stack Velocity (m/s)	16.78

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM_{10}	Process	See PM Calculation Sheet		1.080	4.7	0.14

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM	Process	See PM_{10}		1.080	4.7	0.14

Notes:
(a) Emission factor for PM/PM10 estimated from baghouse particulate capture efficiency (see attached PM calculation sheet).

Criteria Air Pollutant Emissions
Powder Handling Baghouse (P103)

Combustion Source Characteristics

Manufacturer	C/E/Rogers
Model	Powder Handling Baghouse
Baghouse Efficiency	98.40%

Stack Data[(b)]

Stack ID	P103A	P103B
Stack Height (ft)	90.0	90.0
Stack Diameter (ft)	0.25	0.25
Exit Gas Temperature (°F)	80	80
Wet Actual Flow Rate (acfm)	650	650
Stack Velocity (m/s)	67.24	67.24
Discharge Orientation	horizontal w/ cap	

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM_{10}	Process	See PM Calculation Sheet		0.112	0.5	0.01

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM	Process	See PM_{10}		0.112	0.5	0.01

Notes:
(a) Emission factor for PM/PM10 estimated from baghouse particulate capture efficiency (see attached PM calculation sheet).

Criteria Air Pollutant Emissions
Boiler #1 (B104)

Combustion Source Characteristics

Boiler Manufacturer	Superior Boiler Works, Inc.
Burner Model	Super Seminole 7500 (or Equivalent)
Input Heat Capacity (BTU/hr)	62,766,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	61,535
Annual Fuel Consumption (scf/yr)	539,049,176

Site Information

Burley Barometric Pressure (mm Hg)	654.30

Stack Data

Stack Height (ft)	38.0
Stack Diameter (ft)	4.00
Exit Gas Temperature (ºF)	350
Wet Actual Flow Rate (acfm)	19,778
Wet Standard Flow Rate (wscfm)	11,099
Dry Standard Flow Rate (dscfm)	9,112
Grain Loading Flow Rate (dscfm)	12,357
Stack Velocity (m/s)	7.99
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM_{10}	NG Combustion	7.6	lb/10^6 scf	0.468	2.0	0.059
SO_2	NG Combustion	0.6	lb/10^6 scf	0.037	0.2	0.005
NO_x	NG Combustion	100	lb/10^6 scf	6.154	27.0	0.775
CO	NG Combustion	84	lb/10^6 scf	5.169	22.6	0.651
VOC	NG Combustion	5.5	lb/10^6 scf	0.338	1.5	0.043
Lead	NG Combustion	0.0005	lb/10^6 scf	3.08E-05	0.0	3.88E-06

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM	NG Combustion	See PM_{10}	See PM_{10}	0.468	2.048	5.89E-02
Beryllium	NG Combustion	<1.2E-5	lb/10^6 scf	7.38E-07	0.000	9.30E-08
Mercury	NG Combustion	2.60E-04	lb/10^6 scf	1.60E-05	0.000	2.02E-06

PM Grain Loading Standard[b]

Pollutant	Pollutant Source	Potential Emissions (lb/hr)	Grain Load @ 3% Oxygen (gr/dscf)	PM Grain Standard[b] (gr/dscf)	Meets Standard?
PM	NG Combustion	0.468	0.004	0.015	yes

Notes:
(a) Emission factors from AP-42 Chapter 1.4, "Natural Gas Combustion", unless otherwise noted.
(b) IDAPA 58.01.01.677

Toxic Air Pollutant Emissions
Boiler #1 (P104)

Combustion Source Characteristics

Boiler Manufacturer	Superior Boiler Works, Inc.
Burner Model	Super Seminole 7500 (or Equivalent)
Input Heat Capacity (BTU/hr)	62,766,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	61,535
Annual Fuel Consumption (scf/yr)	539,049,176

Site Information

Burley Barometric Pressure (mm Hg)	654.18

Stack Data

Stack Height (ft)	38.0
Stack Diameter (ft)	4.00
Exit Gas Temperature (°F)	350
Wet Actual Flow Rate (acfm)	19,778
Wet Standard Flow Rate (wscfm)	11,099
Dry Standard Flow Rate (dscfm)	9,112
Grain Loading Flow Rate (dscfm)	12,357
Stack Velocity (m/s)	7.99
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061

Toxic Air Pollutants

Pollutant	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (g/s)	Emission Limit[b] (lb/hr)
Arsenic	2.00E-04	lb/10^6 scf	1.23E-05	1.55E-06	1.50E-06
Barium	4.40E-03	lb/10^6 scf	2.71E-04	3.41E-05	3.30E-02
Benzene	2.10E-03	lb/10^6 scf	1.29E-04	1.63E-05	8.00E-04
Beryllium	<1.2E-5	lb/10^6 scf	7.38E-07	9.30E-08	2.80E-05
Benzo(a)pyrene	<1.2E-6	lb/10^6 scf	7.38E-08	9.30E-09	2.00E-06
Bis (2-ethylhexyl)phthalate	FNA	lb/10^6 scf	FNA	FNA	2.80E-02
Cadmium	1.10E-03	lb/10^6 scf	6.77E-05	8.53E-06	3.70E-06
Chromium	1.40E-03	lb/10^6 scf	8.61E-05	1.09E-05	3.30E-02
Cobalt	8.40E-05	lb/10^6 scf	5.17E-06	6.51E-07	3.30E-03
Copper	8.50E-04	lb/10^6 scf	5.23E-05	6.59E-06	3.33E-01
Dibutylphthalate	FNA	lb/10^6 scf	FNA	FNA	6.70E-02
Dichlorobenzene	1.20E-03	lb/10^6 scf	7.38E-05	9.30E-06	2.00E+01
Ethylbenzene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Fluorene	2.80E-06	lb/10^6 scf	1.72E-07	2.17E-08	1.33E-01
Formaldehyde	7.50E-02	lb/10^6 scf	4.62E-03	5.82E-04	5.10E-04
Hexane	1.80E+00	lb/10^6 scf	1.11E-01	1.40E-02	1.20E+01
Manganese	3.80E-04	lb/10^6 scf	2.34E-05	2.95E-06	3.33E-01
Mercury	2.60E-04	lb/10^6 scf	1.60E-05	2.02E-06	3.00E-03
Molybdenum	1.10E-03	lb/10^6 scf	6.77E-05	8.53E-06	3.33E-01
Napthalene	6.10E-04	lb/10^6 scf	3.75E-05	4.73E-06	3.33E+00
Nickel	2.10E-03	lb/10^6 scf	1.29E-04	1.63E-05	2.70E-05
Pentane	2.60E+00	lb/10^6 scf	1.60E-01	2.02E-02	1.18E+02
Phenol	FNA	lb/10^6 scf	FNA	FNA	1.27E+00
Selenium	<2.4E-5	lb/10^6 scf	1.48E-06	1.86E-07	1.30E-02
Toluene	3.40E-03	lb/10^6 scf	2.09E-04	2.64E-05	2.50E+01
Vanadium	2.30E-03	lb/10^6 scf	1.42E-04	1.78E-05	3.00E-03
o-Xylene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Zinc	2.90E-02	lb/10^6 scf	1.78E-03	2.25E-04	6.67E-01

Notes:
(a) Emission Factors from AP-42 Chapter 1.4, "Natural Gas Combustion".
(b) IDAPA 58.01.01.585 and 586
* FNA - Factor Not Available

Criteria Air Pollutant Emissions
Boiler #2 (B105)

Combustion Source Characteristics

Boiler Manufacturer	Superior Boiler Works, Inc.
Burner Model	Super Seminole 7500 (or Equivalent)
Input Heat Capacity (BTU/hr)	62,766,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	61,535
Annual Fuel Consumption (scf/yr)	539,049,176

Site Information

Burley Barometric Pressure (mm Hg)	654.30

Stack Data

Stack Height (ft)	38.0
Stack Diameter (ft)	4.00
Exit Gas Temperature (ºF)	350
Wet Actual Flow Rate (acfm)	19,778
Wet Standard Flow Rate (wscfm)	11,099
Dry Standard Flow Rate (dscfm)	9,112
Grain Loading Flow Rate (dscfm)	12,357
Stack Velocity (m/s)	7.99
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM_{10}	NG Combustion	7.6	lb/10^6 scf	0.468	2.0	0.059
SO_2	NG Combustion	0.6	lb/10^6 scf	0.037	0.2	0.005
NO_x	NG Combustion	100	lb/10^6 scf	6.154	27.0	0.775
CO	NG Combustion	84	lb/10^6 scf	5.169	22.6	0.651
VOC	NG Combustion	5.5	lb/10^6 scf	0.338	1.5	0.043
Lead	NG Combustion	0.0005	lb/10^6 scf	3.08E-05	0.0	3.88E-06

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Potential Emissions (g/s)
PM	NG Combustion	See PM_{10}	See PM_{10}	0.468	2.048	5.89E-02
Beryllium	NG Combustion	<1.2E-5	lb/10^6 scf	7.38E-07	0.000	9.30E-08
Mercury	NG Combustion	2.60E-04	lb/10^6 scf	1.60E-05	0.000	2.02E-06

PM Grain Loading Standard[b]

Pollutant	Pollutant Source	Potential Emissions (lb/hr)	Grain Load @ 3% Oxygen (gr/dscf)	PM Grain Standard[b] (gr/dscf)	Meets Standard?
PM	NG Combustion	0.468	0.004	0.015	yes

Notes:
(a) Emission factors from AP-42 Chapter 1.4, "Natural Gas Combustion", unless otherwise noted.
(b) IDAPA 58.01.01.677

Toxic Air Pollutant Emissions
Boiler #2 (P105)

Combustion Source Characteristics

Boiler Manufacturer	Superior Boiler Works, Inc.
Burner Model	Super Seminole 7500 (or Equivalent)
Input Heat Capacity (BTU/hr)	62,766,000
Fuel	Natural Gas
Heating Value (BTU/scf)	1,020
Max Hourly Fuel Consumption (scf/hr)	61,535
Annual Fuel Consumption (scf/yr)	539,049,176

Site Information

Burley Barometric Pressure (mm Hg)	654.18

Stack Data

Stack Height (ft)	38.0
Stack Diameter (ft)	4.00
Exit Gas Temperature (°F)	350
Wet Actual Flow Rate (acfm)	19,778
Wet Standard Flow Rate (wscfm)	11,099
Dry Standard Flow Rate (dscfm)	9,112
Grain Loading Flow Rate (dscfm)	12,357
Stack Velocity (m/s)	7.99
Fd (dscf stack gas/BTU)	0.00871
Fw (wscf stack gas/BTU)	0.01061

Toxic Air Pollutants

Pollutant	Emission Factor[a]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (g/s)	Emission Limit[b] (lb/hr)
Arsenic	2.00E-04	lb/10^6 scf	1.23E-05	1.55E-06	1.50E-06
Barium	4.40E-03	lb/10^6 scf	2.71E-04	3.41E-05	3.30E-02
Benzene	2.10E-03	lb/10^6 scf	1.29E-04	1.63E-05	8.00E-04
Beryllium	<1.2E-5	lb/10^6 scf	7.38E-07	9.30E-08	2.80E-05
Benzo(a)pyrene	<1.2E-6	lb/10^6 scf	7.38E-08	9.30E-09	2.00E-06
Bis (2-ethylhexyl)phthalate	FNA	lb/10^6 scf	FNA	FNA	2.80E-02
Cadmium	1.10E-03	lb/10^6 scf	6.77E-05	8.53E-06	3.70E-06
Chromium	1.40E-03	lb/10^6 scf	8.61E-05	1.09E-05	3.30E-02
Cobalt	8.40E-05	lb/10^6 scf	5.17E-06	6.51E-07	3.30E-03
Copper	8.50E-04	lb/10^6 scf	5.23E-05	6.59E-06	3.33E-01
Dibutylphthalate	FNA	lb/10^6 scf	FNA	FNA	6.70E-02
Dichlorobenzene	1.20E-03	lb/10^6 scf	7.38E-05	9.30E-06	2.00E+01
Ethylbenzene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Fluorene	2.80E-06	lb/10^6 scf	1.72E-07	2.17E-08	1.33E-01
Formaldehyde	7.50E-02	lb/10^6 scf	4.62E-03	5.82E-04	5.10E-04
Hexane	1.80E+00	lb/10^6 scf	1.11E-01	1.40E-02	1.20E+01
Manganese	3.80E-04	lb/10^6 scf	2.34E-05	2.95E-06	3.33E-01
Mercury	2.60E-04	lb/10^6 scf	1.60E-05	2.02E-06	3.00E-03
Molybdenum	1.10E-03	lb/10^6 scf	6.77E-05	8.53E-06	3.33E-01
Napthalene	6.10E-04	lb/10^6 scf	3.75E-05	4.73E-06	3.33E+00
Nickel	2.10E-03	lb/10^6 scf	1.29E-04	1.63E-05	2.70E-05
Pentane	2.60E+00	lb/10^6 scf	1.60E-01	2.02E-02	1.18E+02
Phenol	FNA	lb/10^6 scf	FNA	FNA	1.27E+00
Selenium	<2.4E-5	lb/10^6 scf	1.48E-06	1.86E-07	1.30E-02
Toluene	3.40E-03	lb/10^6 scf	2.09E-04	2.64E-05	2.50E+01
Vanadium	2.30E-03	lb/10^6 scf	1.42E-04	1.78E-05	3.00E-03
o-Xylene	FNA	lb/10^6 scf	FNA	FNA	2.90E+01
Zinc	2.90E-02	lb/10^6 scf	1.78E-03	2.25E-04	6.67E-01

Notes:
(a) Emission Factors from AP-42 Chapter 1.4, "Natural Gas Combustion".
(b) IDAPA 58.01.01.585 and 586
* FNA - Factor Not Available

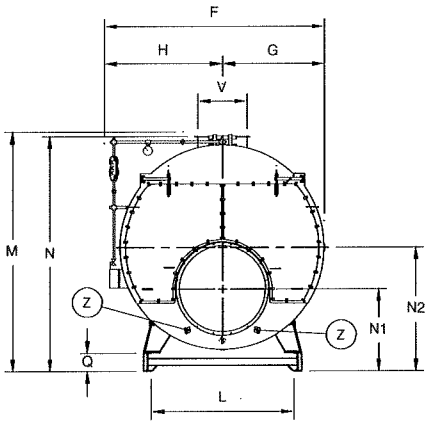
SUPER SEMINOLE

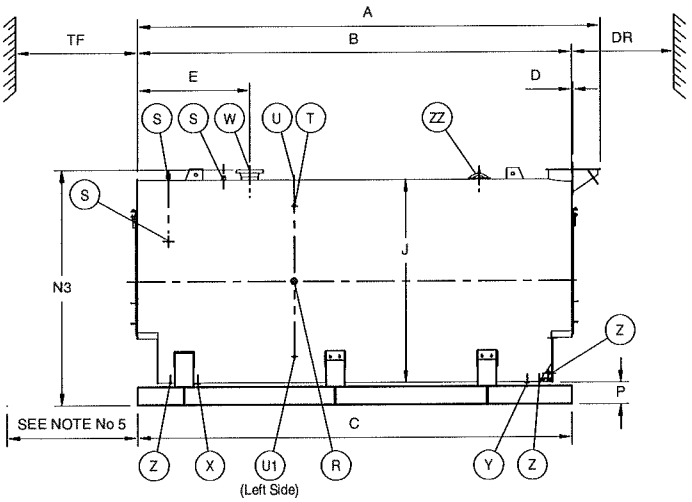
DIMENSIONAL DATA
STEAM BOILERS
15 AND 150 PSIG

SUPERIOR BOILER WORKS, Inc

3 PASS WET BACK

1100 THRU 1500 BoHP
5 SQ. FT. / BoHP





DIMENSIONS

NOMINAL BOILER HORSEPOWER		1100	1200	1300	1400	1500	1600	1700	1800
UNIT MODEL NUMBER		5500	6000	6500	7000	7500	8000	8500	9000
LENGTHS: Overall	A	303	313	323	319	325	341	355	371
Shell	B	284	292	302	296	302	318	332	348
Base	C	284	292	302	296	302	318	332	348
Rear Plate To Center Line Of Stack	D	1	2	2	3	3	3	3	3
Front Plate To Nozzle	E	73	73	73	73	73	73	73	73
WIDTHS: Overall	F	139	139	139	153	153	153	153	153
Centerline To Lagging	G	66	66	66	73	73	73	73	73
Water Column	H	73	73	73	80	80	80	80	80
Over Jacket	J	132	132	132	146	146	146	146	146
Base Width Outside	K	102	102	102	102	102	102	102	102
Base Width Inside	L	92	92	92	92	92	92	92	92
HEIGHTS: Overall	M	153	153	153	165	165	165	165	165
Base to Stack Outlet	N	150	150	150	162	162	162	162	162
Centerline of Burner	N1	54	54	54	56	56	56	56	56
Centerline of Boiler	N2	80	80	80	85	85	85	85	85
Top of Steam Nozzle	N3	151	151	151	163	163	163	163	163
Base To Lagging	P	14	14	14	12	12	12	12	12
Height Of Runner	Q	12	12	12	12	12	12	12	12
CONNECTIONS:									
Feedwater-Right/Left	R	3	3	3	3	3	3	3	3
Auxillary Conn-Rt./Top	S	1	1	1	1	1	1	1	1
Surface Blowoff-Right	T	1	1	1	1	1	1	1	1
Auxillary Conn-Top	U	2	2	2	2	2	2	2	2
Low Fire Hold(Left Side)	U1	½	½	½	½	½	½	½	½
Stack Conn O.D.	V	32	34	34	36	36	36	36	36
HIGH PRESSURE									
Steam Nozzle	W	10+	10+	10+	10+	10+	10+	10+	10+
Blowdown Front	X	2	2	2	2	2	2	2	2
Rear	Y	2	2	2	2	2	2	2	2
LOW PRESSURE									
Steam Nozzle	W	16*	18*	18*	20*	20*	20*	20*	20*
Blowdown Front	X	2	2	2	2	2	2	2	2
Rear	Y	2	2	2	2	2	2	2	2
ACCESS OPENINGS:									
Handholes 3" x 4"	Z	5	5	5	5	5	5	5	5
Manway 12" x 16"	ZZ	1	1	1	1	1	1	1	1
MINIMUM CLEARANCES**									
Tube Clearance Front	TF	239	247	257	251	257	273	287	303
Rear Door Swing Rear	DR	36	36	36	42	42	42	42	42

All Dimensions Are Approximate And May Be Used For Layout Only. SUPERIOR BOILER WORKS, Inc Reserves The Right To Change Dimensions Due To Product Revisions Or Job Requirements.

* 150 psig RF Flange
\+ 300 psig RF Flange
** Check Local, State And Federal Code.

RATINGS & CAPACITIES

NOMINAL BOILER HORSEPOWER		1100	1200	1300	1400	1500	1600	1700	1800
UNIT MODEL NUMBER		5500	6000	6500	7000	7500	8000	8500	9000
OUTPUT	MBH	36823	40170	43518	46865	50213	53560	56908	60255
STEAM	LBS/HR (#2)	37950	41400	44850	48299	51749	55199	58649	62099
INPUT GAS	(1,000 BTU) FT³	46028	50213	54397	58581	62766	66950	71134	75319
OIL	(140,000 BTU) GAL.	328.77	358.66	388.55	418.43	448.33	478.21	508.09	537.97
OIL	(150,000 BTU) GAL.	306.85	334.74	362.63	390.53	418.43	446.32	474.21	502.10

DATA:

HEATING SURFACE	FT²	5559	6042	6554	7038	7553	8048	8569	9041
FURNACE VOLUME	FT³(#3)	323.78	335.70	350.60	411.81	422.59	451.33	482.77	511.51
STEAM STORAGE VOL.	FT³	160.80	165.93	172.35	344.70	352.58	373.59	391.97	412.98
DISENGAGING AREA	FT²	154.06	158.98	165.13	206.02	210.73	223.29	234.28	246.83
WATER CAPACITY	NWL GAL.	7001	7125	7300	8235	8284	8787	9267	9780
WATER WEIGHT	NWL LBS.	58235	59262	60715	68499	68900	73085	77079	81348
WATER CAPACITY	FULL GAL.	8204	8366	8589	10814	10921	11581	12199	12870
WATER WEIGHT	FULL LBS.	68240	69586	71439	89946	90837	96330	101467	107044
SHIPPING WEIGHT	15 PSIG (#4)	61500	66100	69700	75600	78900	83000	87000	90900
SHIPPING WEIGHT	150 PSIG (#4)	72600	75800	79500	86500	91900	96400	100700	105100

STANDARD FEATURES:

1. Units Designed And Fabricated To ASME Boiler And Pressure Vessel Code Requirements. Section IV-15 psig. Section I-150 psig.
2. Insulated With 2"-8 Lbs. Density Mineral Fiber Insulation.
3. Jacket Material 22 Gauge Galvanized-Phosphate Coated Steel.
4. All Access Doors Are Davited.
5. Rear Access Plug 17" Dia.
6. Section I Boilers: Corrugated Furnace

STANDARD TRIM (BOILER):

1. ASME Safety Valve(s).
2. Water Column w/Water Gauge Glass, Try Cocks (As Req'd), Low Water Cutoff / Pump Control, Blowdown Valves.
3. Operating Pressure Control, Firing Rate Control & High Limit Pressure Control (Manual Reset).
4. Pressure Gauge w/Shutoff And Inspectors Gauge Cocks.
5. Control Circuit Terminal Strips.
6. Auxiliary Low Water Cutoff, Probe In Shell.

NOTES:

1. All Units Manufactured To UL Listing Procedures.
2. Steam Output-Based On Steam From And At 212ßF.
3. Furnace Volume Is Furnace Only (Wet Backed Turnaround Not Included).
4. Shipping Weights Are Based On Units Without Burner Or Burner Mount.
5. Burner Overhang Will Be Determined By Burner Manufacturer/Model.

FORM CATX6SFX
ISSUED: 3-31-03

Example Calculations – Boiler Emission Estimates

1. Wet Standard Stack Flow Rate = (Q_{ws}) = (Fw) (Input Heat Capacity of Boiler)

$$F_{w(Natural\,Gas)} = 0.01061\,wscf\ stack\ gas\,/\,BTU\ \ (40\,CFR\,60, App\ A, Meth.19, Table\,19-1)$$

For Boiler:

$$Q_{ws} = (0.01061\,wscf\ stack\ gas\,/\,BTU)\left(62{,}766{,}000\frac{BTU}{hr}\right)\left(\frac{1hr}{60\,\min}\right) = 11{,}099 \text{ wscf/min}$$

2. Dry Standard Stack Flow Rate = (Q_{ds}) = (F_d) (Input Heat Capacity of Boiler)

$$F_d = (0.00871\,dscf\,/\,BTU)\quad (40\,CFR, App\ A, Meth19, Table\,19-1)$$

For Boiler:

$$Q_{ds} = (0.00871\ dscf\,/\,BTU)\left(62{,}766{,}000\frac{BTU}{hr}\right)\left(\frac{1hr}{60\,\min}\right) = 9{,}112 \text{ dscf/min}$$

3. Dry Standard Stack Flow Rate Corrected

for 3% O_2 and Altitude = $(Q_{ds,O_2,AL}) = (Q_{ds})\left(\frac{20.9}{20.9-3}\right)\left(\frac{P_S}{P_A}\right)$

P_S = Standard Barometric Pressure = 760 mm Hg
P_A = Actual Barometric Pressure = 654.30 mm Hg (approximate barometric pressure for site)

For Boiler:

$$Q_{ds,O_2,AL} = (9{,}112\,dscf\,/\min)\left(\frac{20.9}{20.9-3}\right)\left(\frac{760\,mm\,Hg}{654.30\,mm\,Hg}\right) = 12{,}357 \text{ dscf/min}$$

4. Wet Actual Stack Flow Rate = (Q_{wa}) = $\left(Q_{ws}\right)\left(\frac{P_S}{P_A}\right)\left(\frac{T_A}{T_S}\right)$

T_S=Standard Temperature= 273.15 K
T_A=Actual Temperature= 449.82 K (Boiler stack gas)

For Boiler:

$$Q_{wa} = (11{,}099 wscf/\min)\left(\frac{760\,mm\,Hg}{654.30\,mm\,Hg}\right)\left(\frac{449.82K}{293.15K}\right) = 19{,}778 \text{ wscf/min}$$

5. Volume Fuel Combusted = (V_c) = (Product Consumption Rate)(Hours of Operation)

For Boiler:

$$V_C = \left(61{,}535\,\frac{scf}{hr}\right)(8{,}760\ hour) = 539\ x10^6\ scf$$

6. Potential Emissions

Potential Emission Rate of Contaminant = (M_x) = (EF)(fuel consumption rate)
EF = Emission Factor, provided by equipment vendor or from AP-42.

For Boiler:

$$M_{PM_{10}} = \left(7.6\,\frac{lb}{10^6 scf}\right)\left(62{,}766{,}000\,\frac{BTU}{hr}\right) = 0.468\frac{lb}{hr} = 0.059\frac{g}{s}$$

$$= \frac{\left(0.468\frac{lb}{hr}\right)\left(24\frac{hr}{day}\right)\left(365\frac{day}{yr}\right)}{2000\frac{lb}{ton}} = 2.0\frac{ton}{yr}$$

7. Particulate Matter Grain Emission Rate =

$$(PM_g) = \left(M_{pm}\left[\frac{g}{s}\right]\right)\left(\frac{15.43grain}{1g}\right)\left(\frac{60S}{1\min}\right)$$

For Boiler:

$$PM_g\left(0.059\,\frac{g}{s}\right)\left(\frac{15.43grain}{1g}\right)\left(\frac{60s}{1\min}\right) = 54.62\frac{grain}{\min}$$

8. Grain Loading Concentration Corrected to 3% O_2 and Altitude (C_{pm}) = $\frac{PM_g}{Q_{ds,O_2,AL}}$

For Boiler:

$$C_{PM} = \frac{54.62 \frac{grain}{\min}}{12{,}357 \frac{dscf}{\min}} = 4 \ x \ 10^{-3} \ \frac{grain}{dscf}$$

Appendix 2

Copy of Public Meeting Notice

208-878-6455 (Milk)
Cell: 208-312-4510
Fax: 208-878-6458
knelson@pmt.org
1051 Hansen Ave. • Burley, ID 83318

NOTICE OF HEARING

The public is invited to attend an informational meeting concerning High Desert Milk, Inc. proposed milk processing plant to be located at 1033 Idaho Avenue in Burley.

The meeting will be held on June 26, 2007 at 3:00 p.m. at the City of Burley Council Chambers at 1401 Overland Ave., Burley, Idaho.

Dated this 13th day of June, 2007.

Karl E. Nelson
General Manager
High Desert Milk, Inc.

LEE PUBLICATIONS
Payment Receipt

06/15/07 09:38

Account number:	33262
Account name:	HIGH DESERT MILK
Phone number:	208-312-4510
Payment number:	220835
Payment date:	06/15/07
Payment description:	CLASS CREDIT CARD
Credit Card Number:	**********6176
Expiration Date:	02/28/2011
Credit Holder Name:	HIGH DESERT MILK
Approval Code:	015249Y CVVS
Amount:	24.76
Ad Number:	385142

Appendix 3

Modeling Protocol and IDEQ Response

MSE **Millennium Science & Engineering, Inc.**

1605 N. 13th Street
Boise, Idaho 83702
Phone: (208) 345-8292
Fax: (208) 344-8007

June 5, 2007

Mr. Kevin Schilling
Air Quality and Permits Manager
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

Re: Protocol for Air Dispersion Modeling to Support Pre-Permit Construction Approval and PTC Application, High Desert Milk, 1033 Idaho Ave, Burley, Idaho

Dear Kevin:

Please find attached our proposed Air Modeling Protocol for air dispersion modeling that will be completed to support a Pre-Permit Construction Approval and PTC application for a proposed milk processing plant in Burley, Idaho. The plant will be located to the northeast of the intersection of Highway 30 and Bedke Boulevard at 1033 Idaho Ave. The format of this document follows the format suggested in the December 31, 2002 "State of Idaho Air Quality Modeling Guideline."

We request that you review and approve this protocol. We will then proceed with modeling following the approved protocol. Please contact me at (208) 345-8292 if you have any questions regarding this modeling protocol.

Sincerely,

Troy Riecke

Troy Riecke, P.E.
Project Engineer

cc: William Rogers – Idaho DEQ
Karl Nelson – High Desert Milk

C5233.doc

Modeling Protocol – High Desert Milk
Burley, Idaho Facility

1.0 Purpose

Air dispersion modeling is proposed to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) for criteria pollutants and Idaho Department of Environmental Quality (IDEQ) standards for TAPs in support of a Pre-Permit Construction Approval and PTC application for a proposed milk processing plant to be constructed and operated by High Desert Milk (see attached site plan).

2.0 Model Description / Justification

Air dispersion modeling will be performed using the Environmental Protection Agency (EPA) AERMOD model.

3.0 Emission and Source Data

A milk processing plant is proposed to be constructed at the site. Milk will be processed in a natural gas fired dryer to prepare dry milk. Air blown through the dryer will flow through two cyclones and then through two baghouses to recover milk powder and reduce particulate emissions. Dried milk from the dryer will pass through a fluid bed, then through a sifter and then to storage in two powder silos. There is one baghouse discharge from the fluid bed and two baghouse discharges from the powder bin silos. There will be two boilers at the facility that will combust natural gas to produce steam for the milk drying process. Table 1 provides a list of the emission sources and the pollutants that will be modeled at the site.

Table 1
Emission Sources and Pollutants to be Modeled

	Criteria Pollutants				Toxic Air Pollutants (TAPs)			
Emission Source	**PM_{10}**	**NO_x**	**CO**	**SO_x**	**As**	**Cd**	**CH_2O**	**Ni**
Fuel Combustion Equipment								
Boiler #1	X	X	X	X	Y	Y	Y	Y
Boiler #2	X	X	X	X	Y	Y	Y	Y
Dryer Burner	X	X	X	X	Y	Y	Y	Y
Particulate Matter Emission Sources								
Dryer Baghouse 1	X							
Dryer Baghouse 2	X							
Fluid Bed Baghouse	X							
Powder Silo #1	X							
Powder Silo #2	X							

Note: an "X" represents that the pollutant will be modeled for that source and a "Y" represents toxic air pollutants that will be modeled if estimated emission rates exceed the applicable emission limit (EL).

4.0 Receptor Network

A receptor network will be established so that ambient concentrations can be evaluated. The first step in this process is to determine the location of the ambient air boundary and the second step is to assign receptor locations within the ambient air zone.

4.1 Ambient Air Boundary

The ambient air boundary will be the facility's property boundary (fence line).

4.2 Receptors

Receptors will be established to determine maximum ambient air concentrations. A receptor grid with approximately 300 feet spacing will be established across the entire evaluated area. Receptors along the ambient air boundary will be spaced approximately 100 feet apart. No receptors will be established within the facility's controlled property boundary.

5.0 Elevation Data

Topography data for the site was obtained from the USGS as a 7.5 minute digital elevation model (DEM). AERMAP will be used to pre-process this data for use in AERMOD.

6.0 Meteorological Data

Preprocessed meteorological data (surface and upper air) from the Boise airport was provided by the IDEQ. This data was processed by IDEQ using AERMET; the output files provided by the IDEQ will be used as inputs to the AERMOD model for this site. Because this input data may not be representative of actual surface characteristics or meteorological conditions at the proposed plant location, a safety factor of twenty percent (20%) will be applied to model results prior to adding in background concentrations. If modeling cannot demonstrate compliance with NAAQS using the safety factor then additional analysis will be performed using other meteorological datasets from the region to determine the upper and lower bounds of the likely representative values. The IDEQ will be contacted prior to performing modeling with additional meteorological data.

7.0 Surface Characteristics

Surface characteristics of the meteorological monitoring station were evaluated and incorporated into the AERMET processing performed by the IDEQ. These surface characteristics may not be representative for the High Desert Milk site but a safety factor of 20 percent is proposed to be applied to model results to accommodate for the difference in surface and meteorological characteristics (as discussed in Section 6).

8.0 Background Concentrations

Mr. Schilling provided the following background concentrations for use in the modeling in an e-mail dated April 12, 2007.

Table 2
Regional Background Concentrations

Pollutant	Averaging Period	Background Value ($\mu g/m^3$)
PM_{10}	24-hr	76
	Annual	27
CO	1-hr	10,200
	8-hr	3,400
NO_2	Annual	32
SO_2	3-hr	42
	24-hr	24
	Annual	8
Lead	Quarterly	0.03

9.0 Evaluation of Compliance With Standards

For the criteria pollutants, the applicable background concentrations will be added to the predicted ambient concentrations determined from air dispersion modeling to result in total ambient concentrations. These total ambient concentrations will be compared to the NAAQS. If total ambient concentrations exceed the NAAQS, the emission source will be modified (*e.g.,* operational controls, emission controls, modification of stack configuration) and the emission sources will be remodeled until no exceedance of the NAAQS occurs.

For the toxic air pollutants, predicted ambient air concentrations will be compared to applicable AAC and AACC listed in IDAPA 58.01.01.585 and 586, respectively. If an applicable AAC or AACC is exceeded by a predicted ambient air concentration, the risk associated with that exceedance will be considered and discussed with the Idaho DEQ.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
TONI HARDESTY, DIRECTOR

June 15, 2007

Troy Riecke, PE
Millennium Science & Engineering, Inc
Boise, Idaho

RE: Modeling Protocol for the High Desert Milk Facility Proposed to be Located in Burley, Idaho

Troy:

DEQ received your dispersion modeling protocol on June 5, 2007. The modeling protocol was submitted on behalf of High Desert Milk. The modeling protocol proposes methods and data for use in the ambient impact analyses of a Permit to Construct application for a new milk processing facility in Burley, Idaho.

The modeling protocol has been reviewed and DEQ has the following comments:

- Comment 1: The application should provide documentation and justification for stack parameters used in the modeling analyses, clearly showing how stack gas temperatures and flow rates were estimated. In most instances, applicants should use typical parameters, not maximum temperatures and flow rates.

- Comment 2: The proposed receptor grid appears reasonable. However, it is the applicant's responsibility to use a sufficiently tight receptor network such that the maximum modeled concentration is reasonably resolved. If DEQ conducts verification modeling analyses with a tighter receptor grid and compliance with standards is no longer demonstrated, the permit will be denied.

- Comment 3: The proposed application site should be evaluated for the existence of other co-contributing point sources that could impact air quality but would not be adequately accounted for by the background concentration values used. If such sources are identified, DEQ should be contacted to discuss how the potential impact from such sources should be considered in the analyses.

DEQ's modeling staff considers the submitted dispersion modeling protocol, with resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the

Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance.

To ensure a complete and timely review of the final analysis, our modeling staff requests that electronic copies of all modeling input and output files (including BPIP and AERMAP input and output files) are submitted with an analysis report. If DEQ provided model-ready meteorological data files, then these do not need to be resubmitted to DEQ with the application. If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

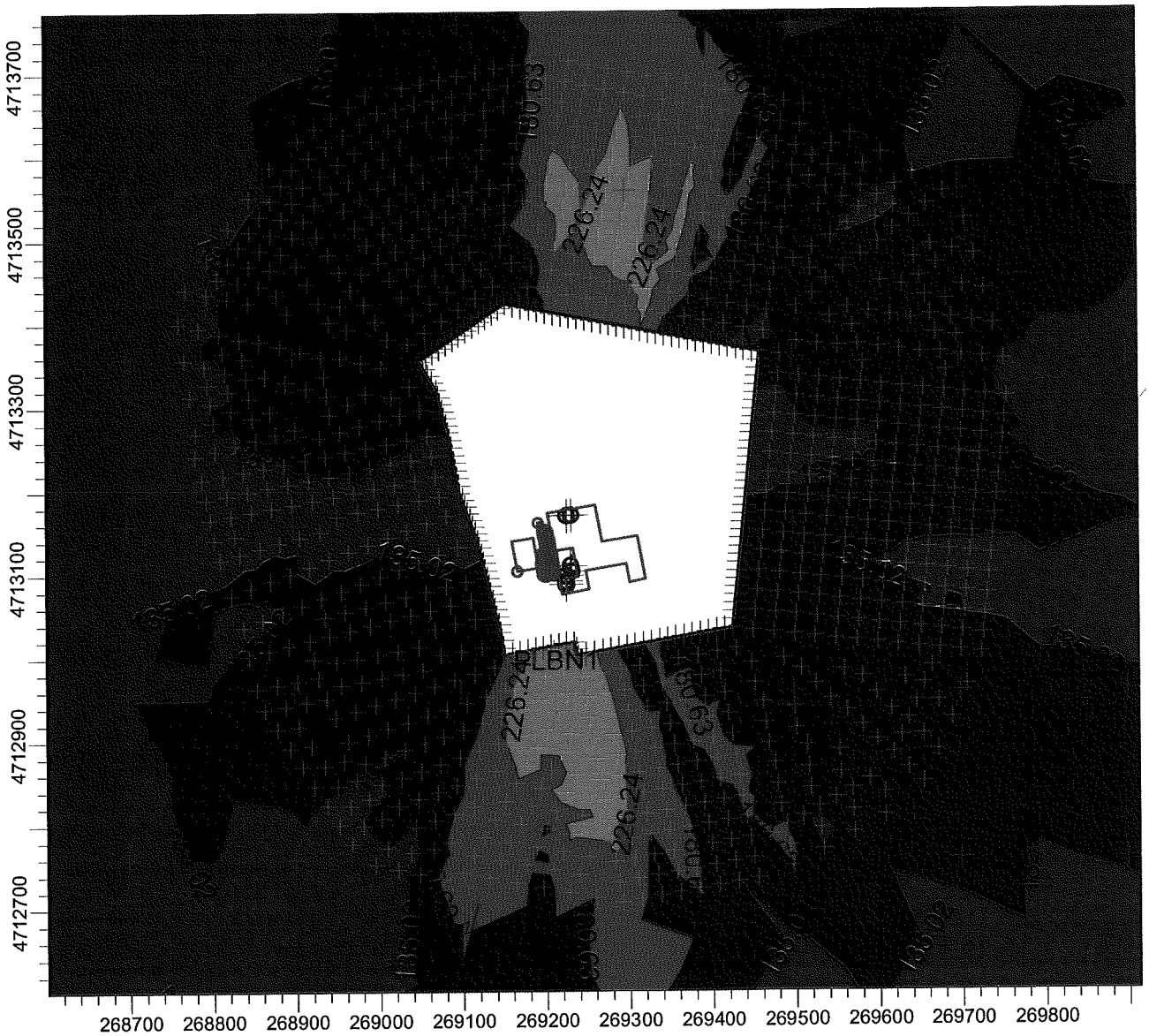
Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112

Appendix 4

Model Output and Electronic Copy of Model Input/Output

PROJECT TITLE:

HIGH DESERT MILK
CO 1-HR 2ND HIGH VALUES - YEAR 1988



PLOT FILE OF HIGH 2ND HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

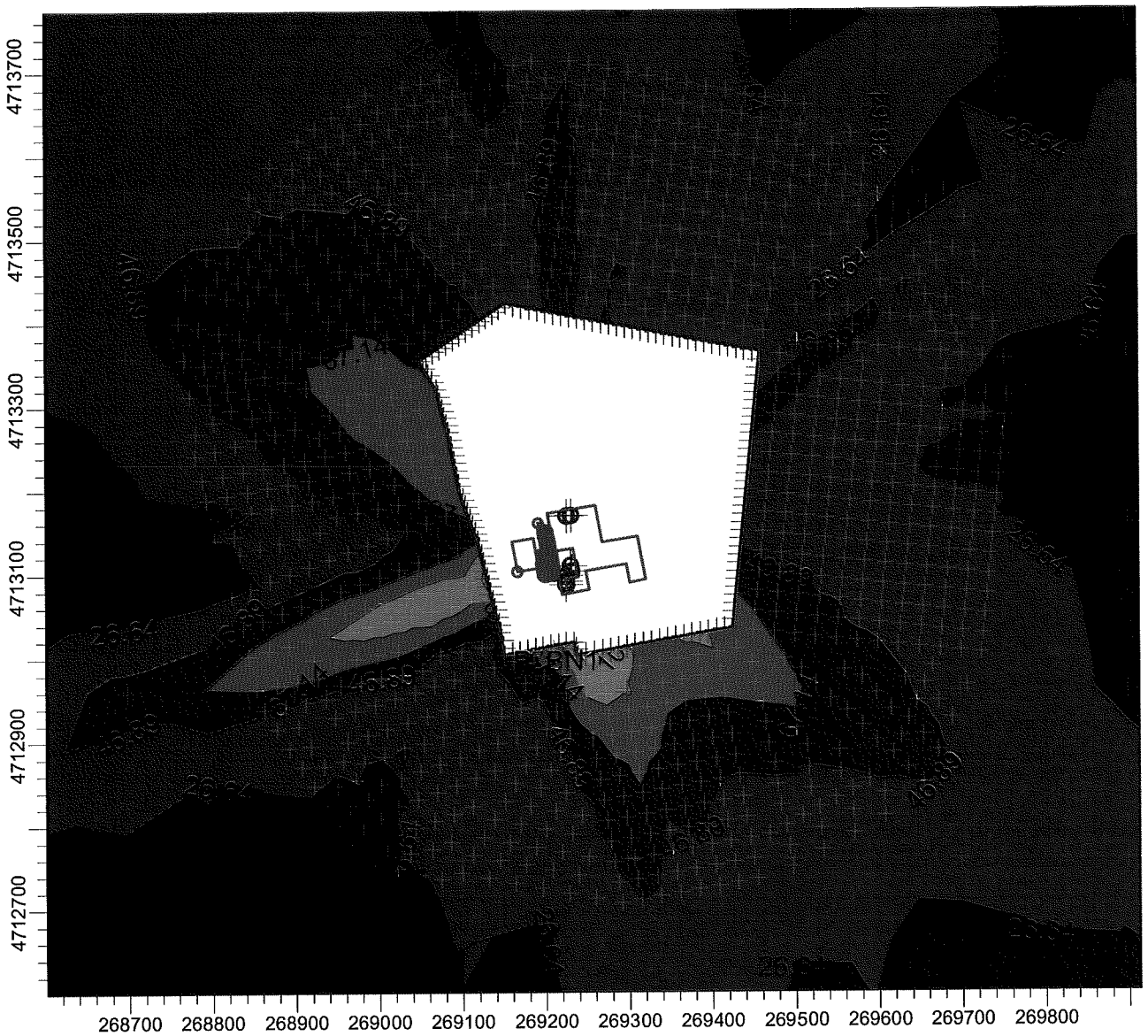
ug/m^3

43.813 89.419 135.025 180.631 226.237 271.842 317.448 363.054 408.660 454.266

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1988 Averaging Time: 1-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	454.2659 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 8-HR 2ND HIGH VALUES - YEAR 1988



PLOT FILE OF HIGH 2ND HIGH 8-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

6.390 26.641 46.893 67.145 87.396 107.648 127.900 148.151 168.403 188.655

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1988 Averaging Time: 8-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	188.65465 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 1-HR 2ND HIGH VALUES - YEAR 1989

PLOT FILE OF HIGH 2ND HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

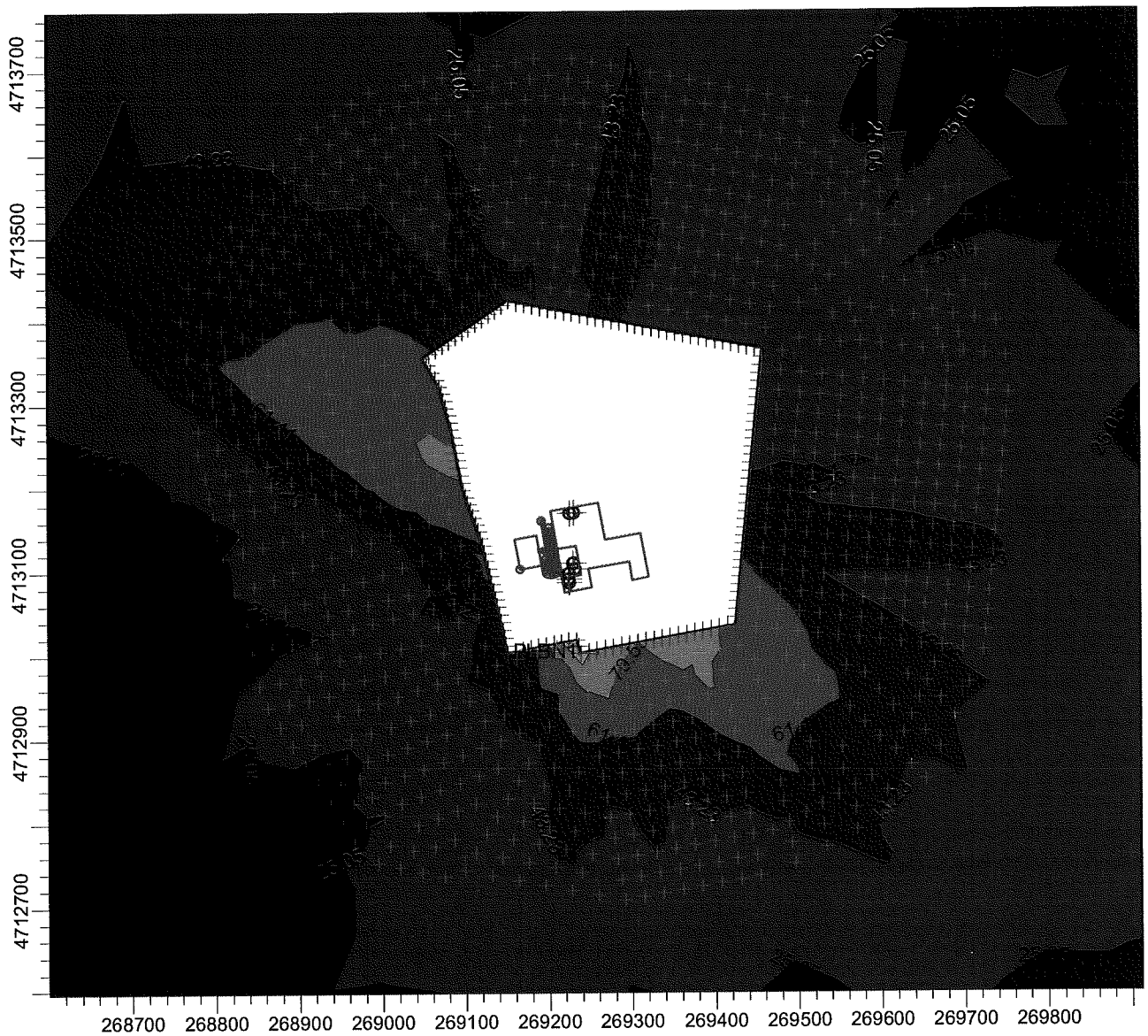
ug/m^3

45.465 90.036 134.607 179.177 223.748 268.319 312.890 357.461 402.032 446.603

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1989 Averaging Time: 1-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	446.60284 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 8-HR 2ND HIGH VALUES - YEAR 1989



PLOT FILE OF HIGH 2ND HIGH 8-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

6.870 25.050 43.229 61.409 79.588 97.768 115.947 134.127 152.307 170.486

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1989 Averaging Time: 8-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	170.48607 ug/m^3	6/15/2007	B2822

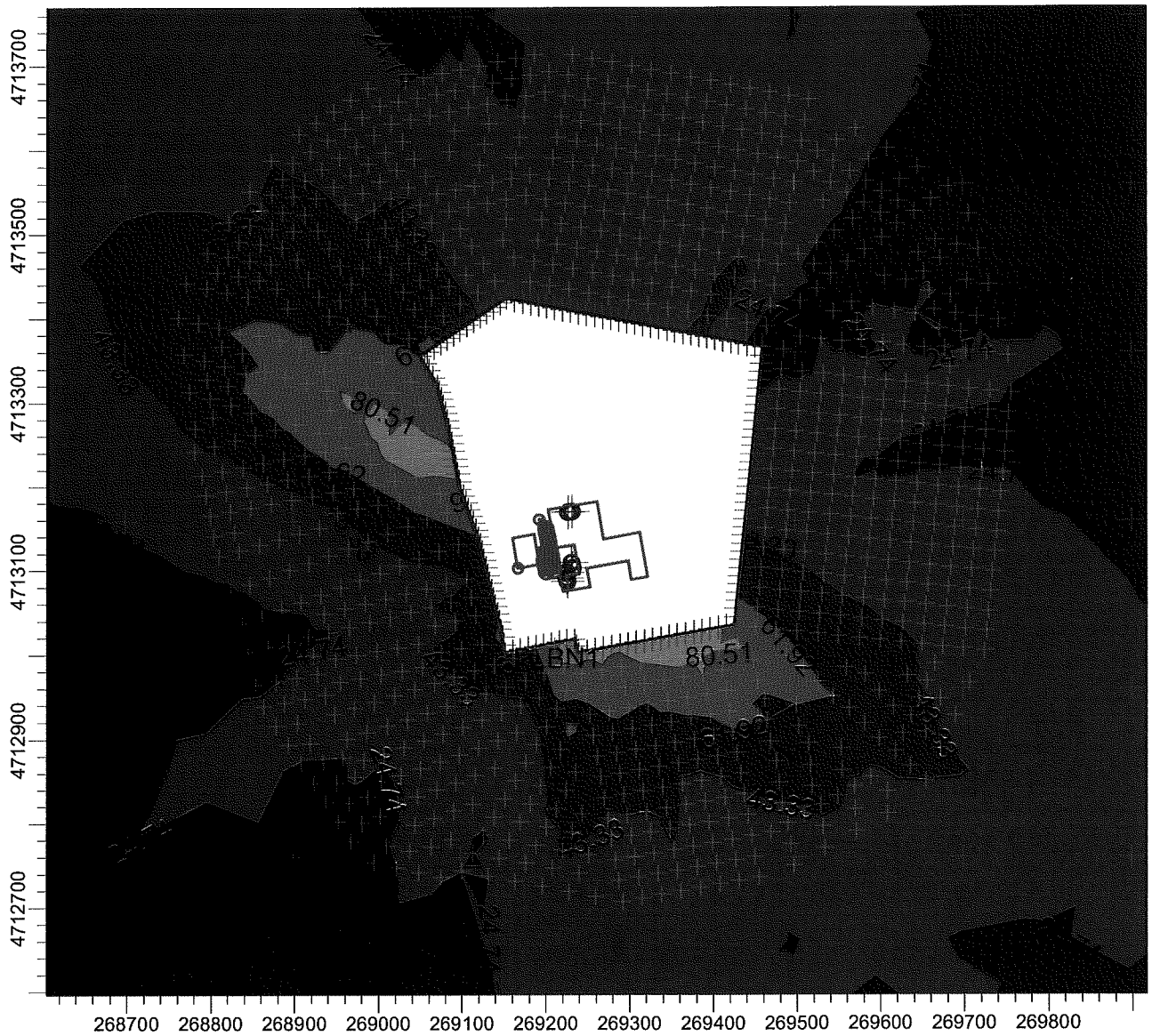
PROJECT TITLE:

HIGH DESERT MILK
CO 1-HR 2ND HIGH VALUES - YEAR 1990

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1990 Averaging Time: 1-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 — 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	467.94131 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 8-HR 2ND HIGH VALUES - YEAR 1990



PLOT FILE OF HIGH 2ND HIGH 8-HR VALUES FOR SOURCE GROUP: ALL

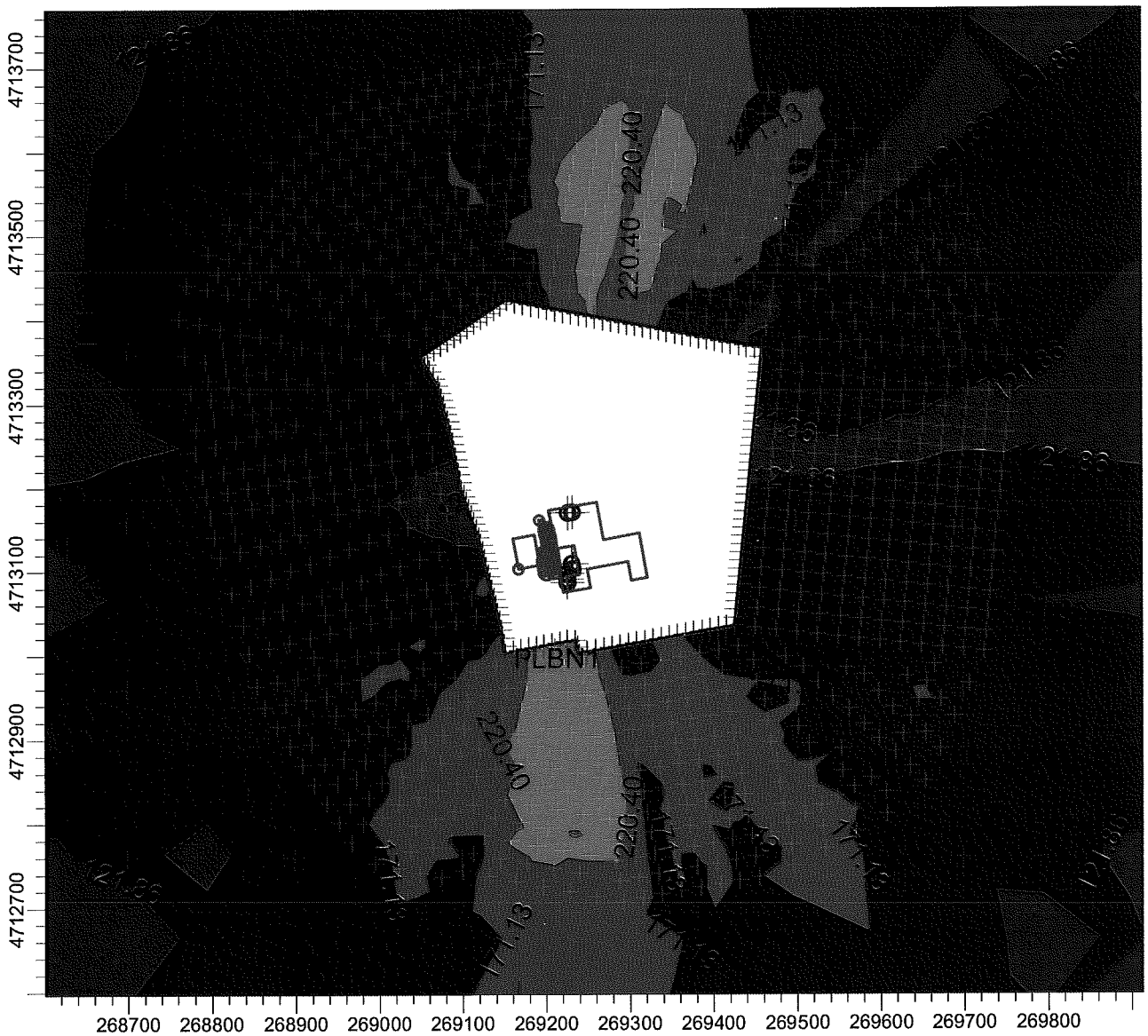
ug/m^3

6.151 24.740 43.329 61.917 80.506 99.095 117.684 136.273 154.861 173.450

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1990 Averaging Time: 8-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	173.45015 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 1-HR 2ND HIGH VALUES - YEAR 1991



PLOT FILE OF HIGH 2ND HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

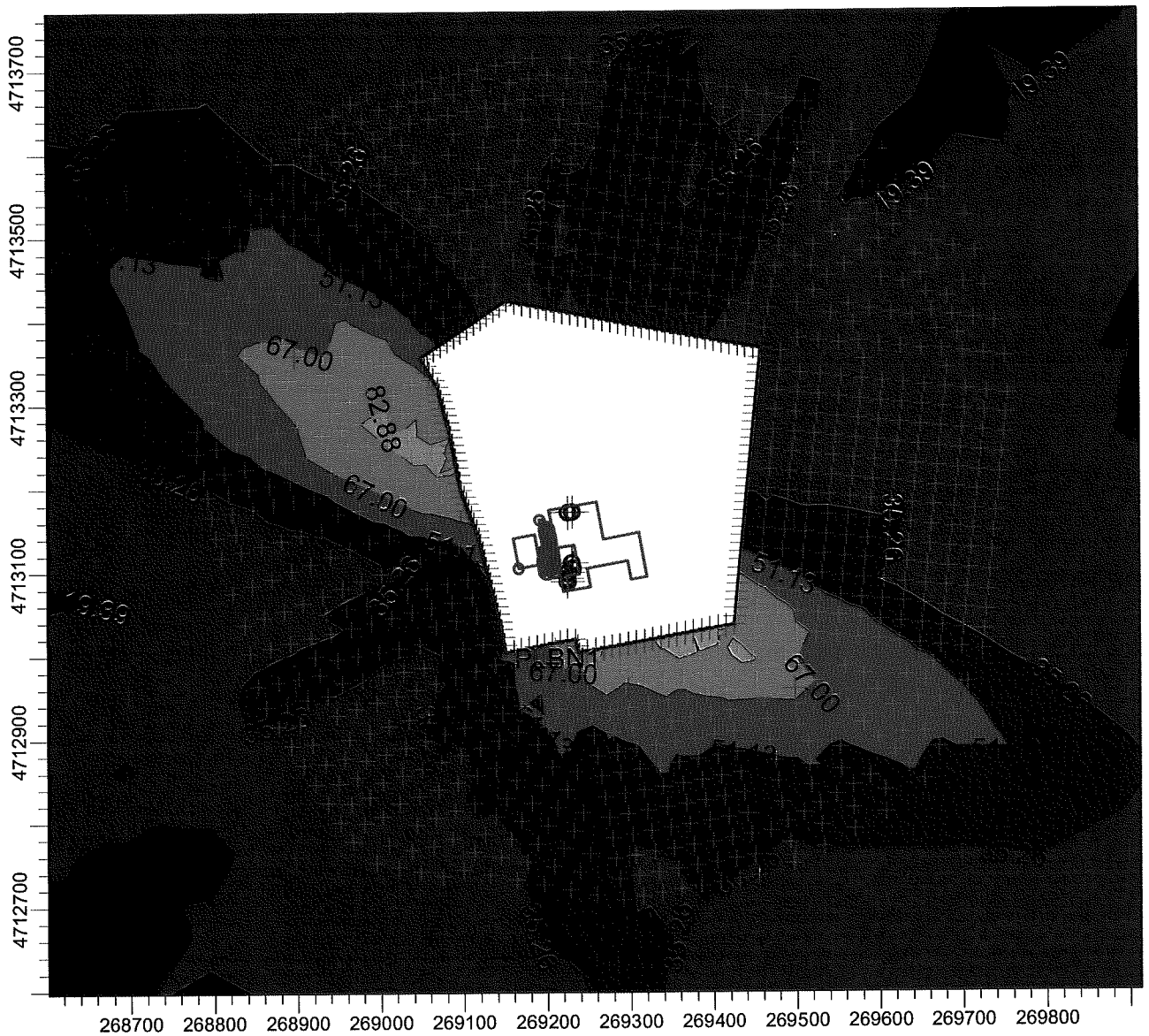
ug/m^3

23.312 72.585 121.858 171.130 220.403 269.676 318.949 368.222 417.494 466.767

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1991 Averaging Time: 1-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	466.76733 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

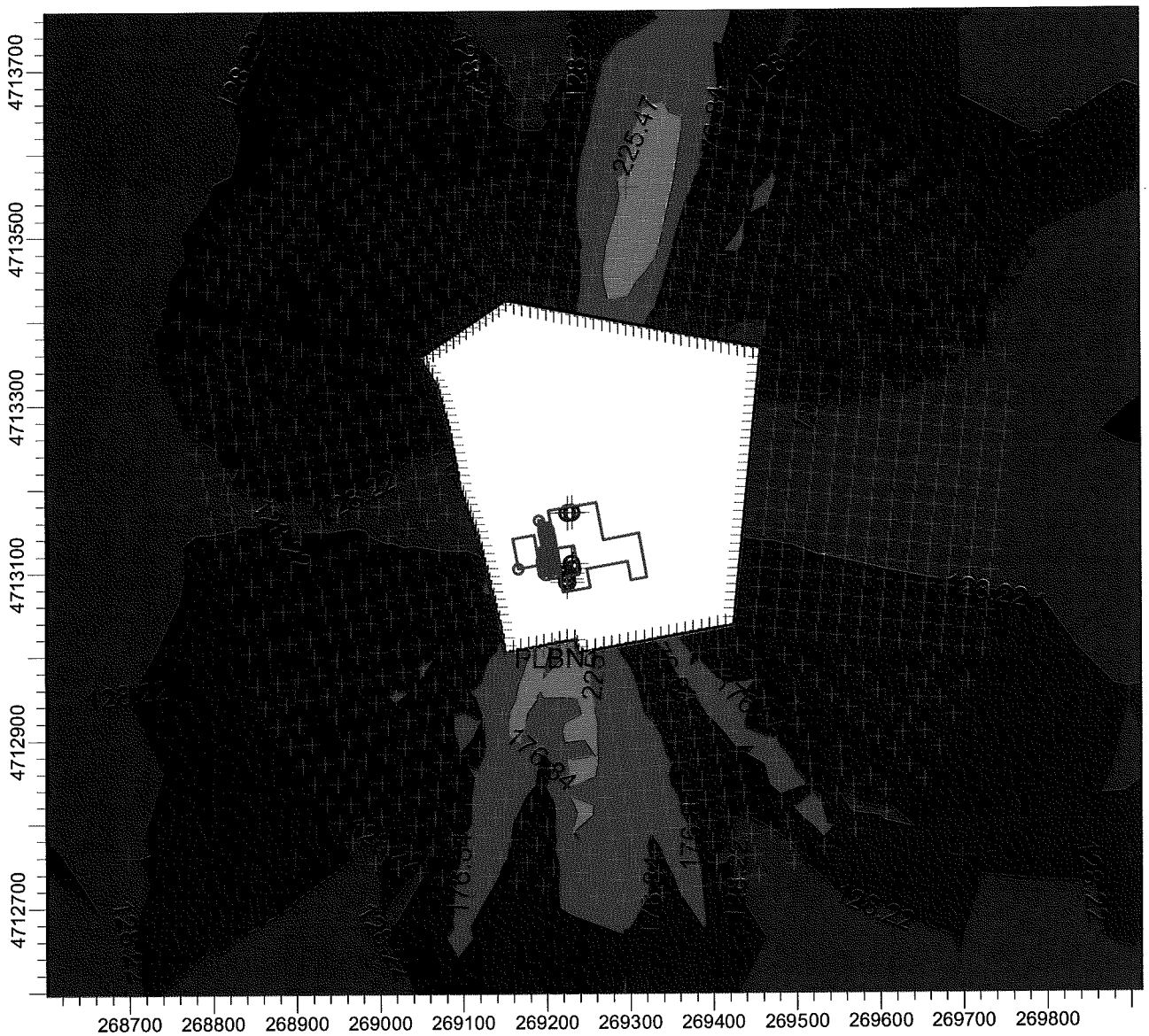
HIGH DESERT MILK
CO 8-HR 2ND HIGH VALUES - YEAR 1991



COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1991 Averaging Time: 8-Hr 2nd High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	146.37024 ug/m^3	**6/15/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
CO 1-HR 2ND HIGH VALUES - YEAR 1992



PLOT FILE OF HIGH 2ND HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

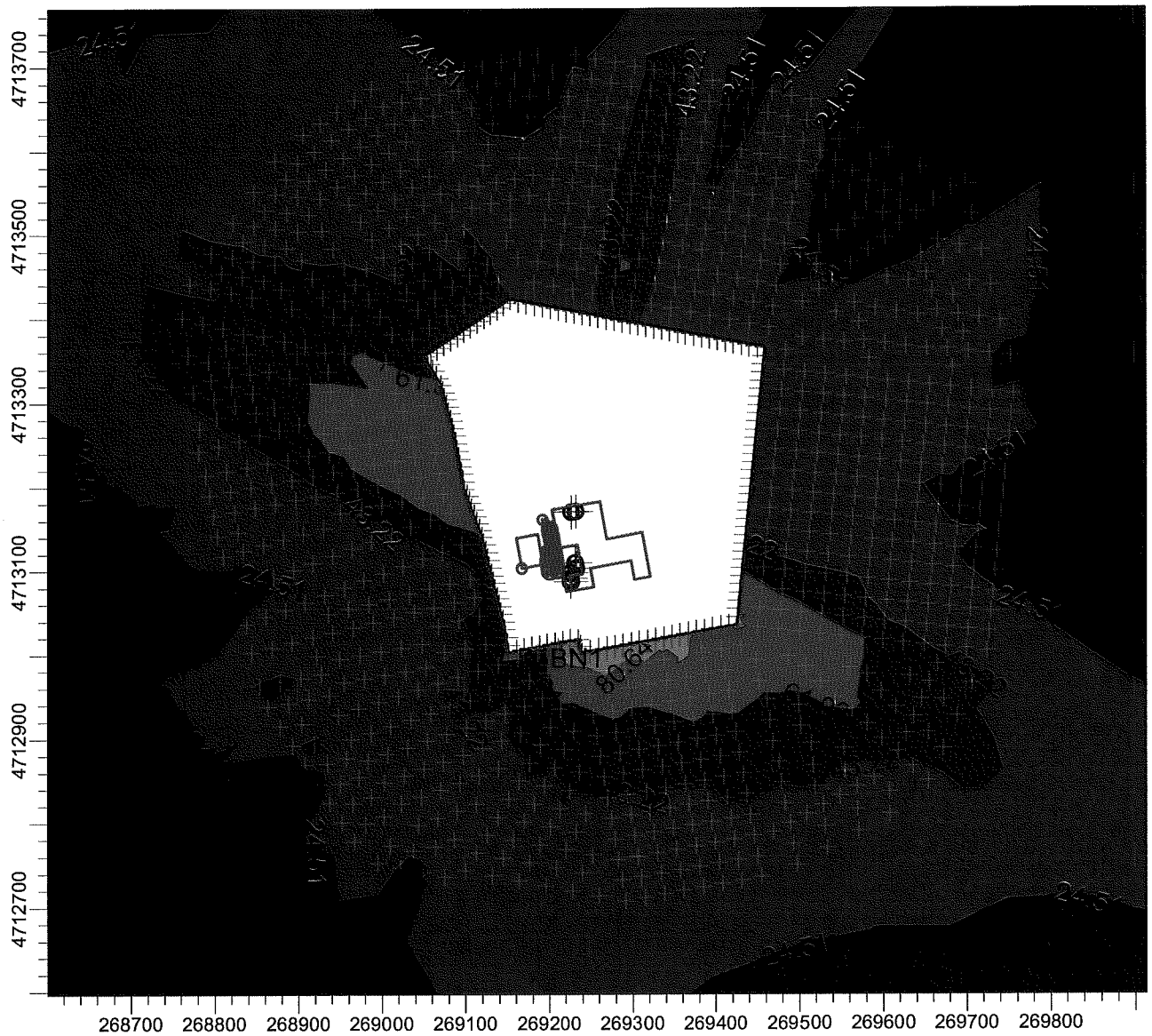
ug/m^3

30.976 79.599 128.222 176.845 225.468 274.090 322.713 371.336 419.959 468.581

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1992 Averaging Time: 1-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	468.5813 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
CO 8-HR 2ND HIGH VALUES - YEAR 1992



PLOT FILE OF HIGH 2ND HIGH 8-HR VALUES FOR SOURCE GROUP: ALL

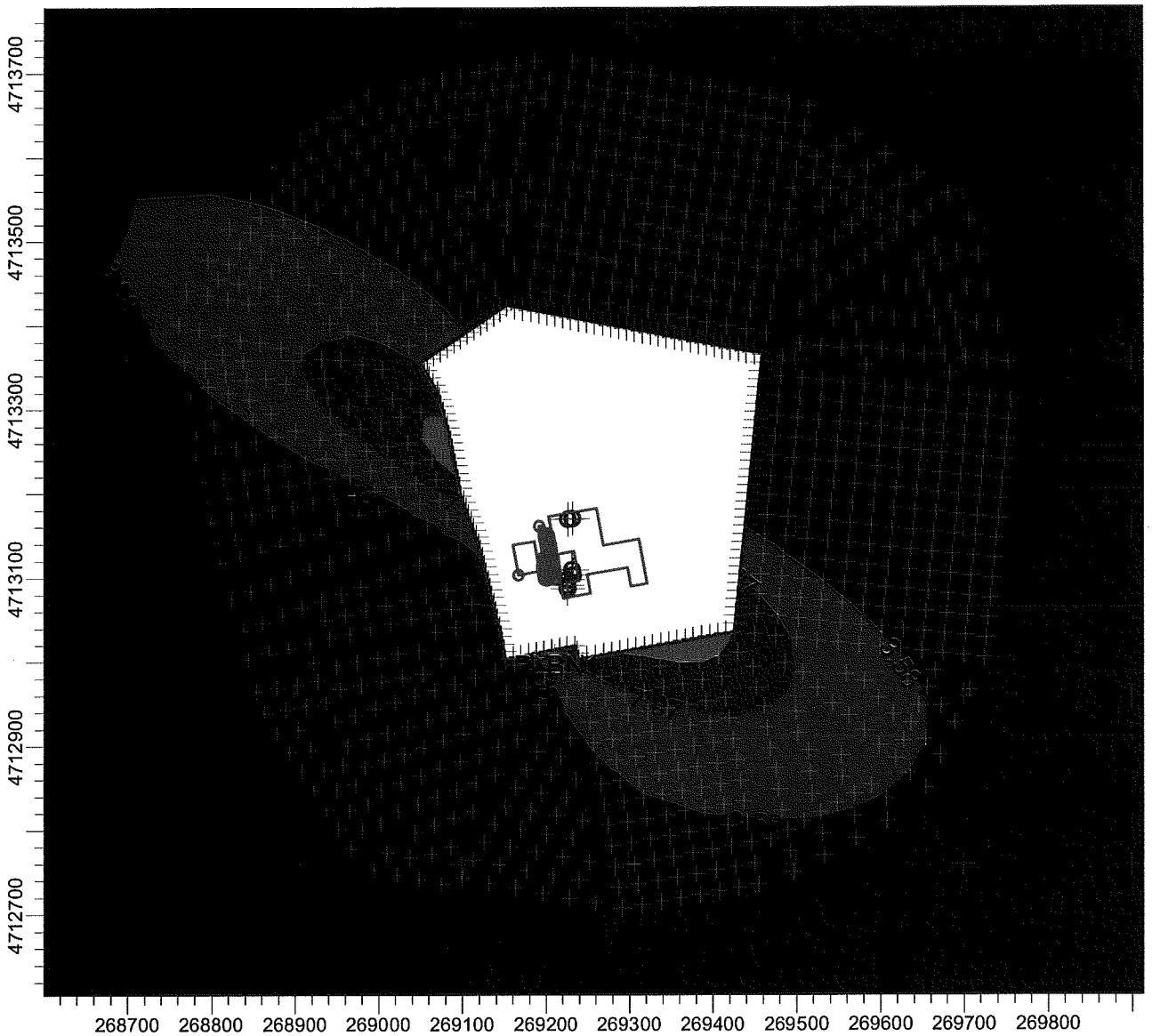
ug/m^3

5.804 24.514 43.224 61.934 80.644 99.355 118.065 136.775 155.485 174.195

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: CO Met Data: 1992 Averaging Time: 8-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	174.1953 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
NOx ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

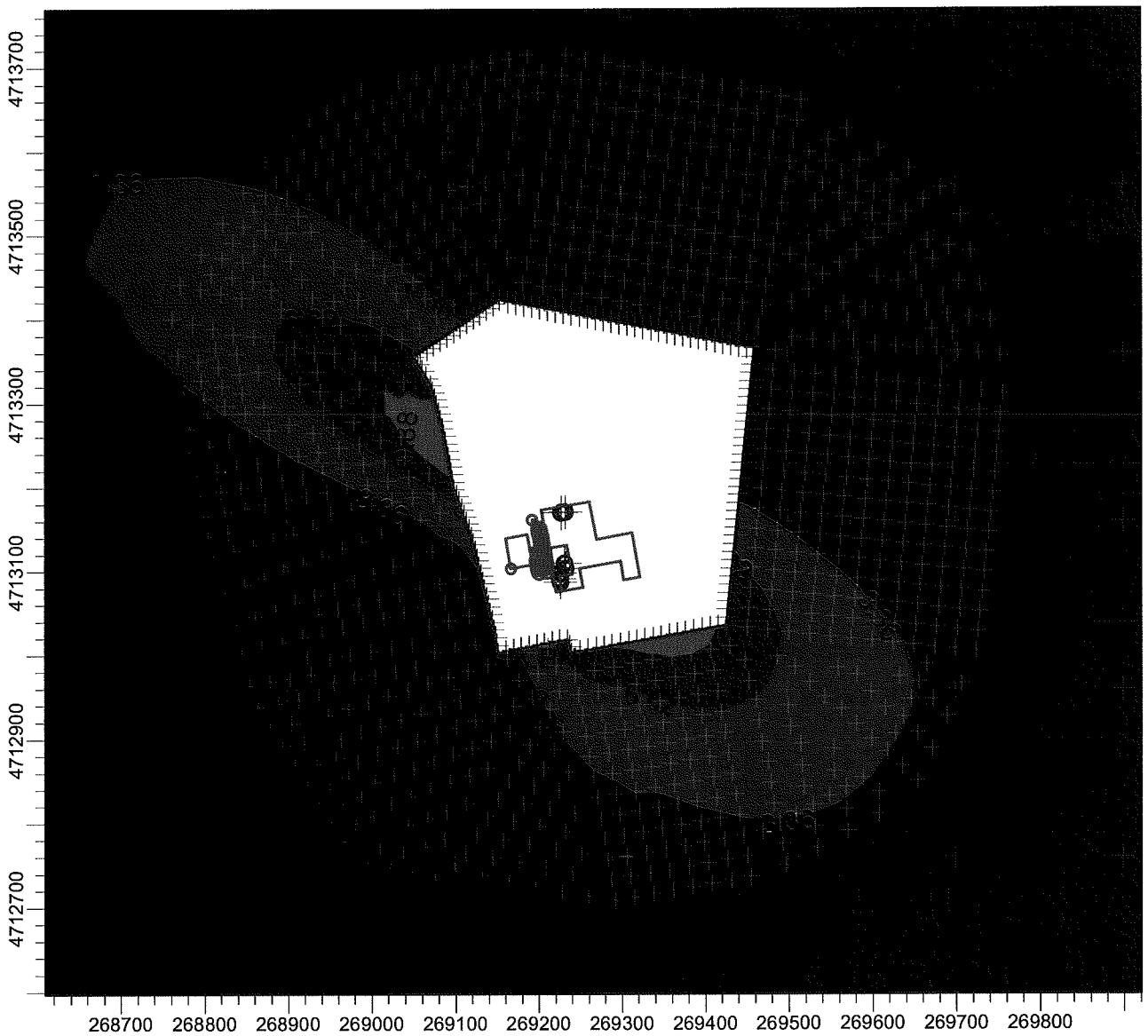
ug/m^3

0.094 3.581 7.069 10.557 14.045 17.532 21.020 24.508 27.995 31.483

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: NOx Met Data: 1988 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **31.48314 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NOx ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

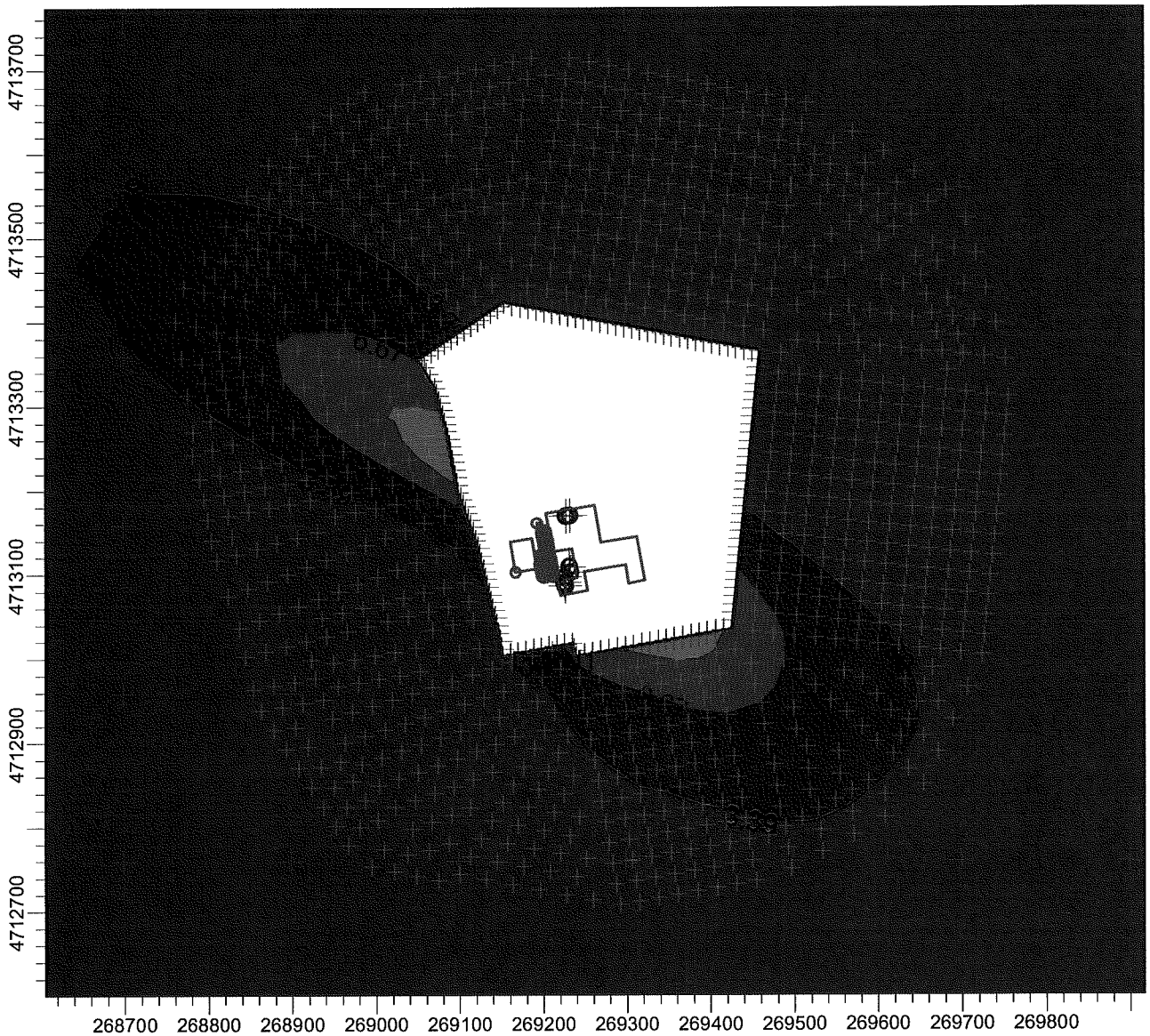
ug/m^3

0.104 3.364 6.624 9.884 13.144 16.404 19.664 22.924 26.184 29.444

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: NOx Met Data: 1989 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **29.44447 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NOx ANNUAL 1ST HIGH VALUES - YEAR 1990



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

0.107 0.107 3.390 6.672 9.954 13.236 16.519 19.801 23.083 26.365 29.648

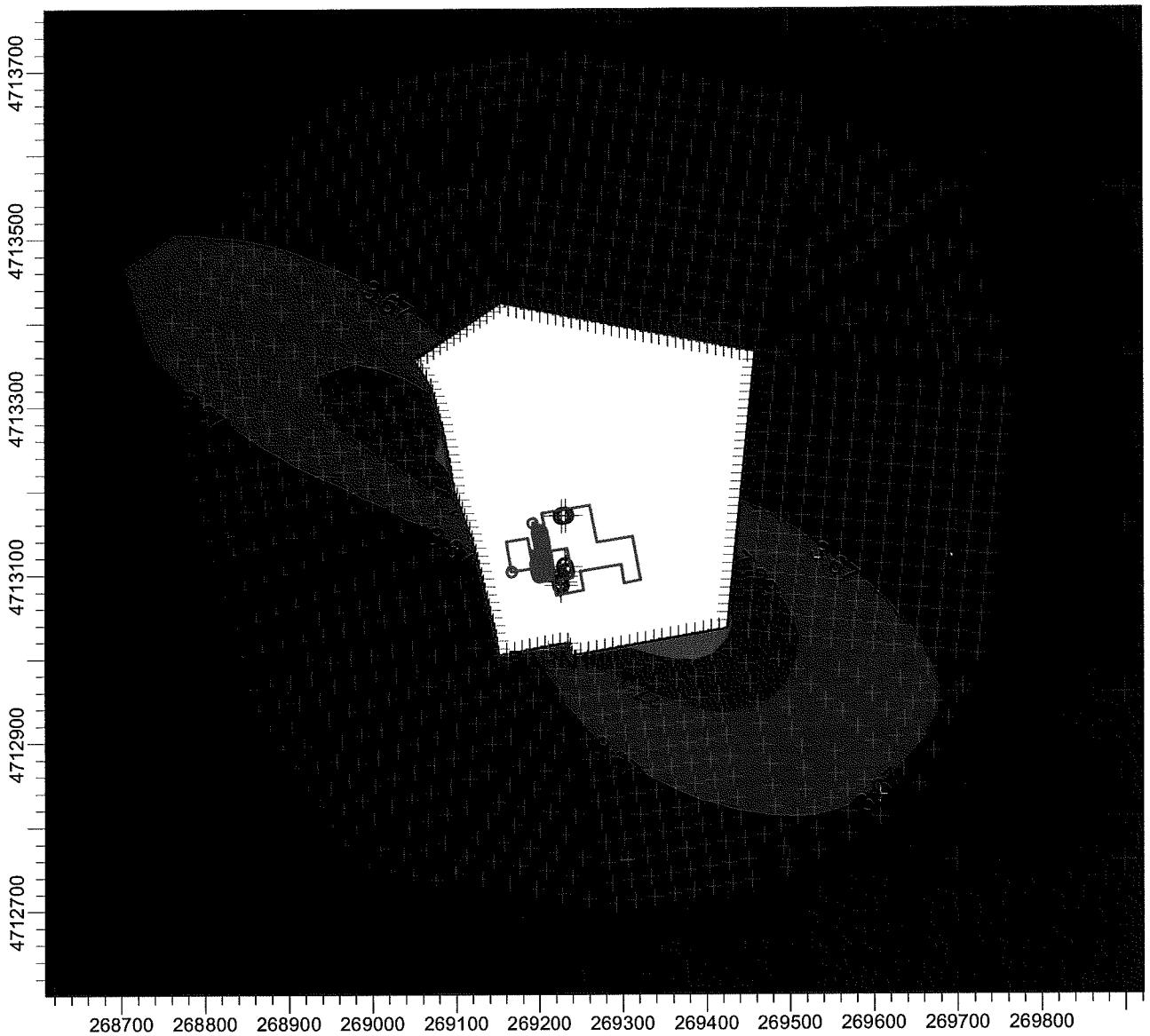
COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: NOx Met Data: 1990 Averaging Time: Annual 1st High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	29.64763 ug/m^3	6/15/2007	B2822

ISC-AERMOD View - Lakes Environmental Software

C:\Documents and Settings\Jared Potts\My Documents\Projects\Air Modeling\HD_MILK\HD_NOX90.isc

PROJECT TITLE:

HIGH DESERT MILK
NOx ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

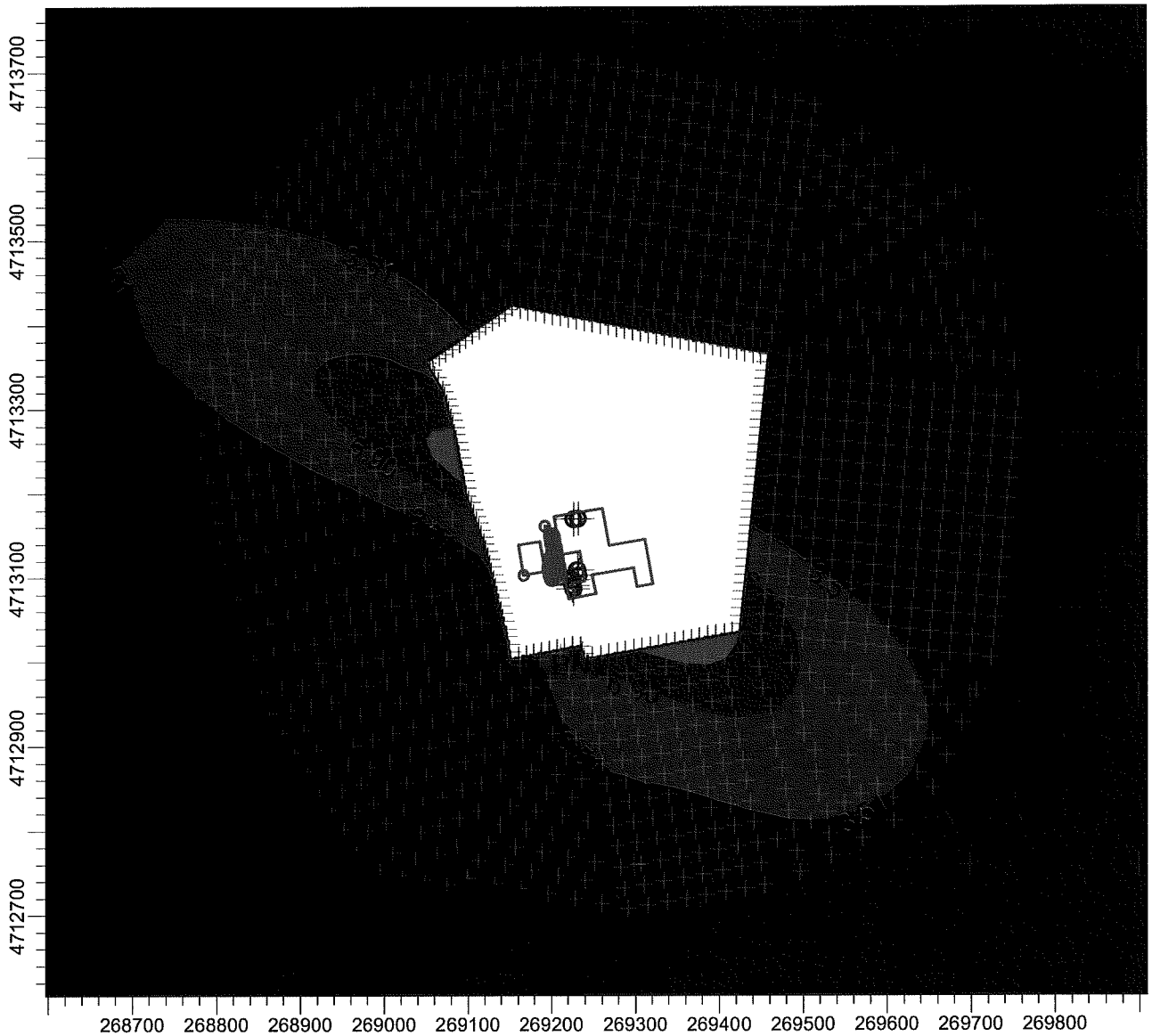
ug/m^3

0.104 3.666 7.229 10.791 14.353 17.915 21.478 25.040 28.602 32.165

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: NOx Met Data: 1991 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **32.16472 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NOx ANNUAL 1ST HIGH VALUES - YEAR 1992



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

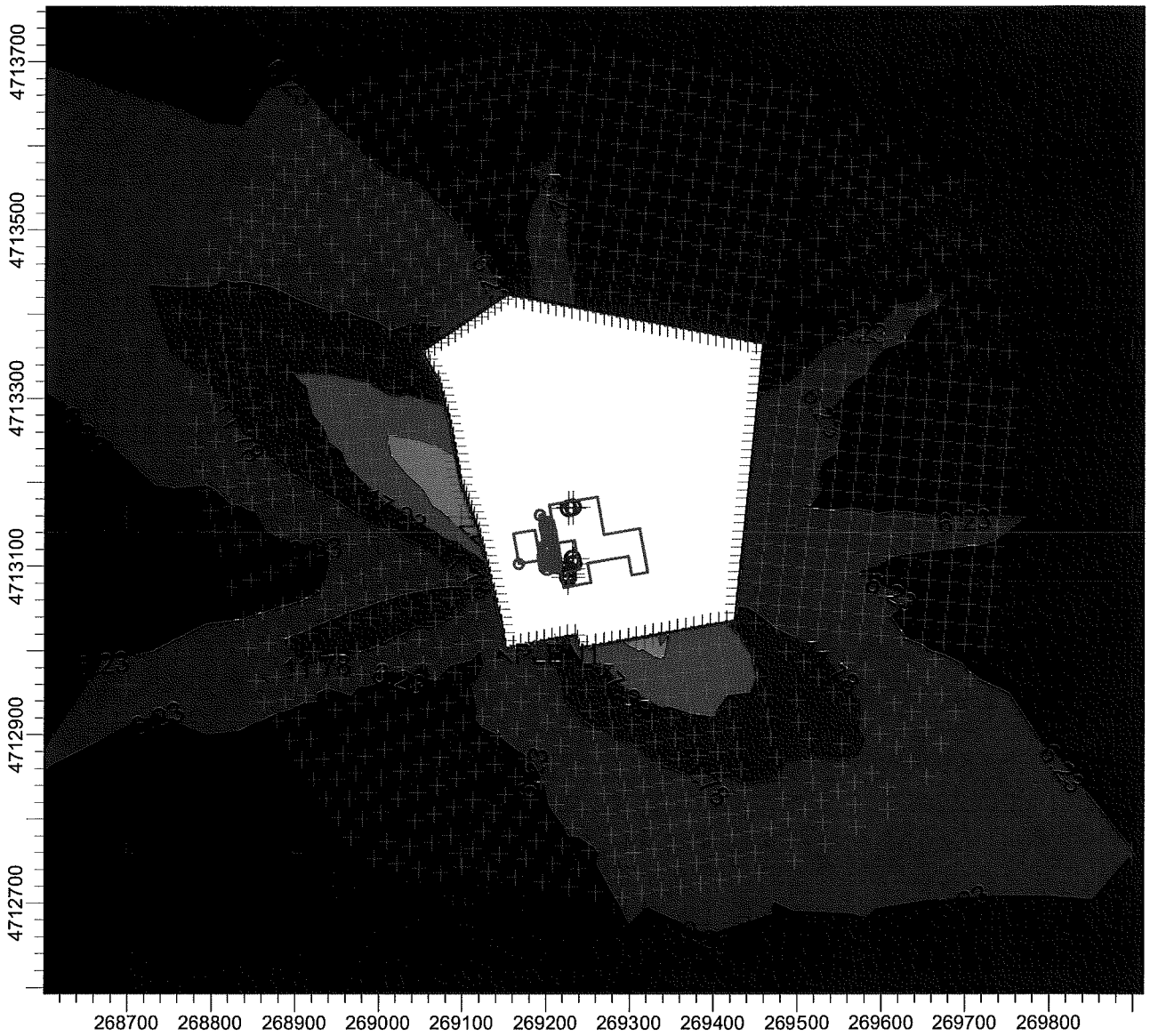
ug/m^3

0.115 3.506 6.898 10.289 13.680 17.071 20.463 23.854 27.245 30.636

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: NOx Met Data: 1992 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **30.63628 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 24-HR 2ND HIGH VALUES - YEAR 1988



PLOT FILE OF HIGH 2ND HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

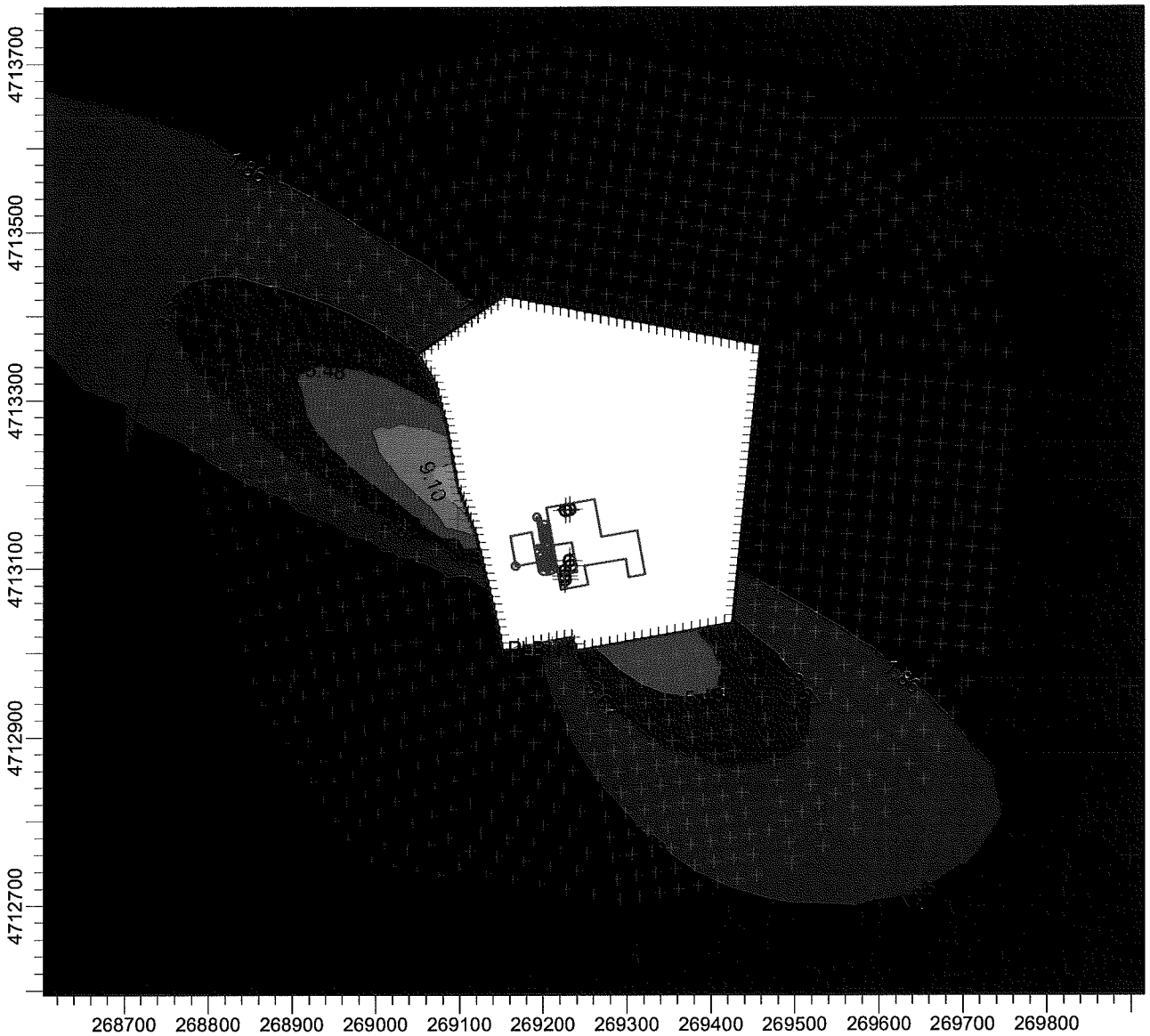
ug/m^3

0.680 6.230 11.780 17.330 22.880 28.430 33.980 39.530 45.081 50.631

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1988 Averaging Time: 24-Hr 2nd High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	50.63063 ug/m^3	**6/15/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

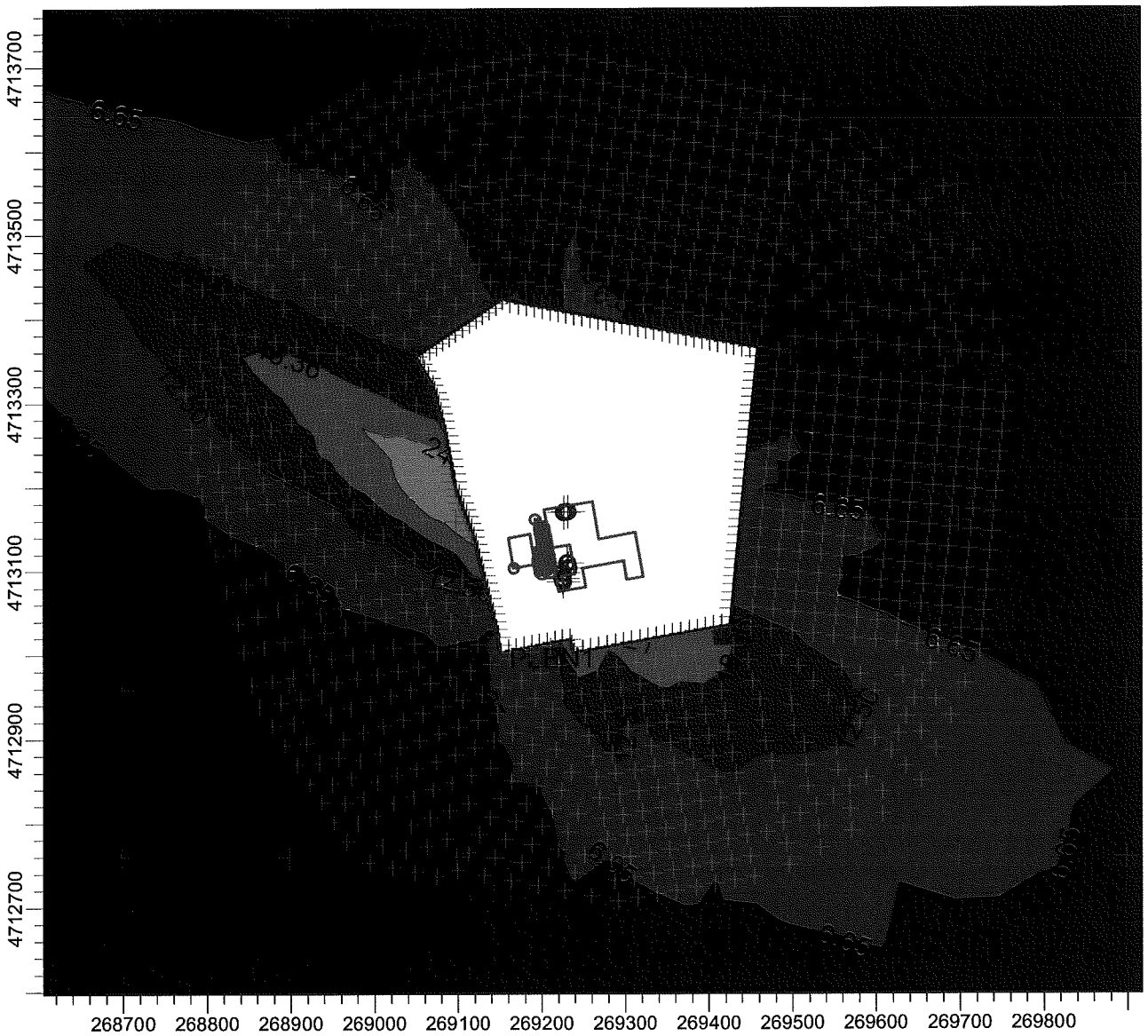
ug/m^3

0.053 1.862 3.672 5.481 7.291 9.100 10.909 12.719 14.528 16.338

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1988 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **16.3376 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 24-HR 2ND HIGH VALUES - YEAR 1989



PLOT FILE OF HIGH 2ND HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

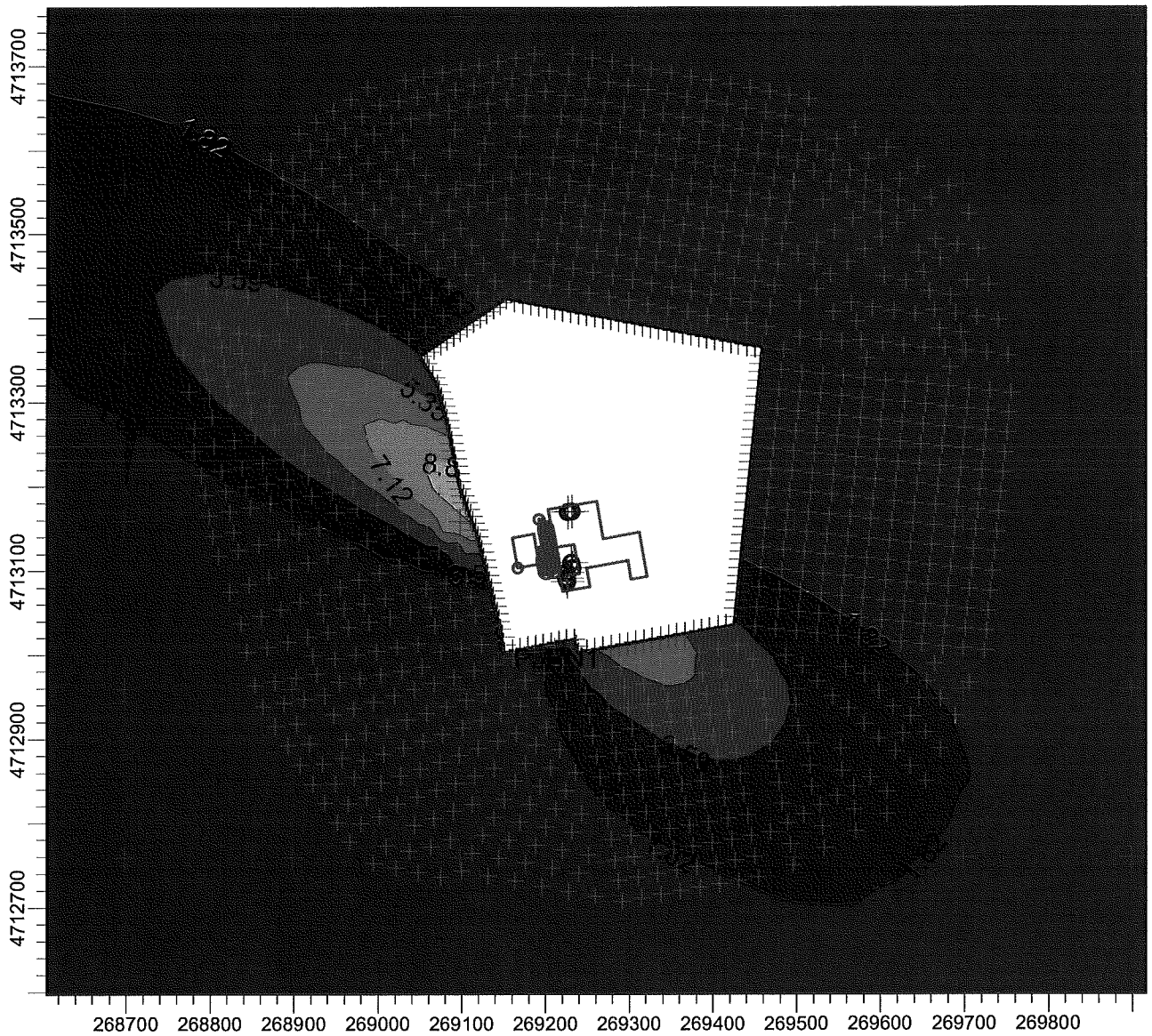
ug/m^3

0.791 6.647 12.502 18.358 24.213 30.069 35.924 41.780 47.635 53.491

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1989 Averaging Time: 24-Hr 2nd High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **53.49093 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

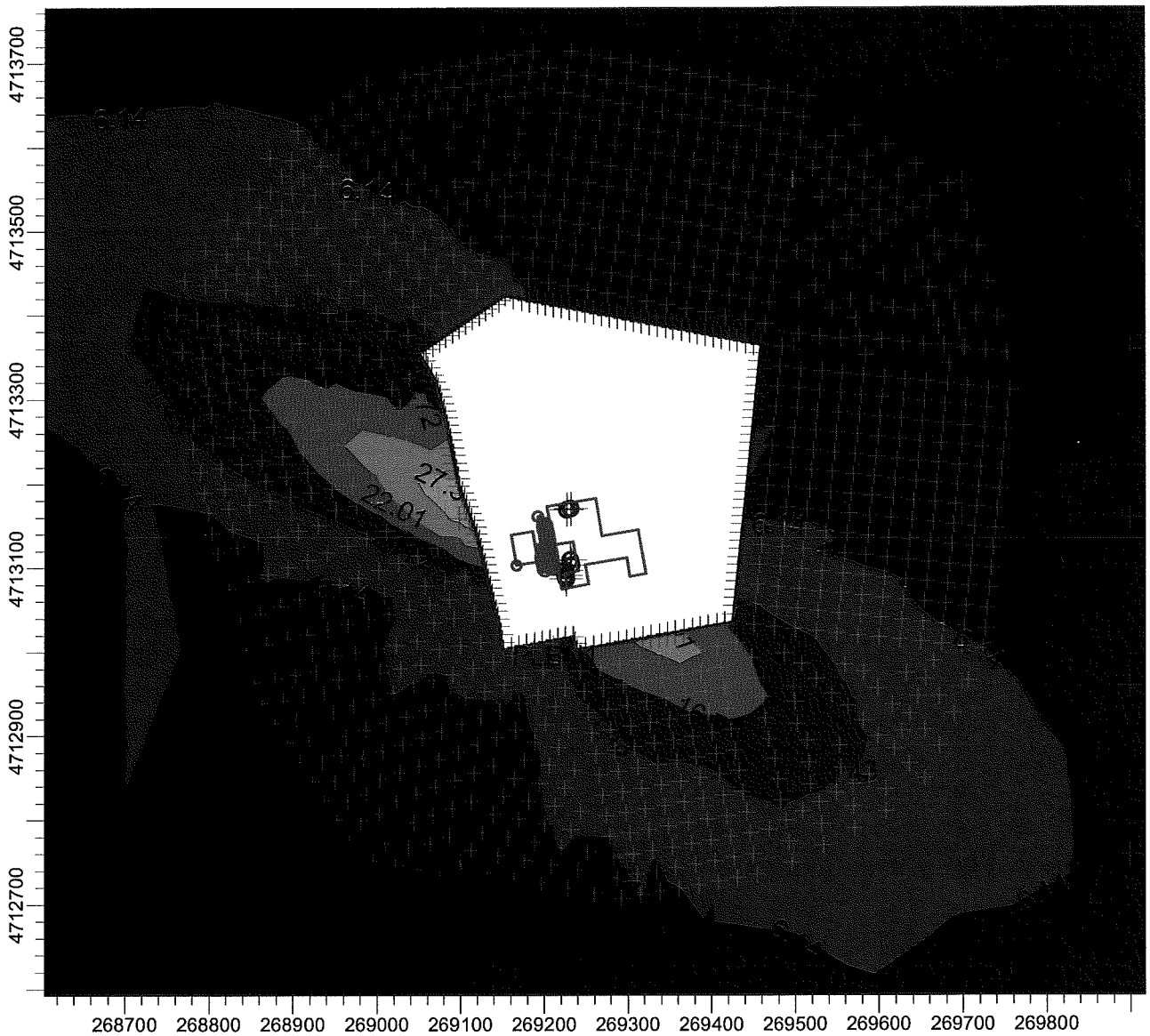
ug/m^3

0.059 0.059 1.824 3.588 5.352 7.117 8.881 10.646 12.410 14.174 15.939

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1989 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	15.93875 ug/m^3	**6/15/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 24-HR 2ND HIGH VALUES - YEAR 1990



PLOT FILE OF HIGH 2ND HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

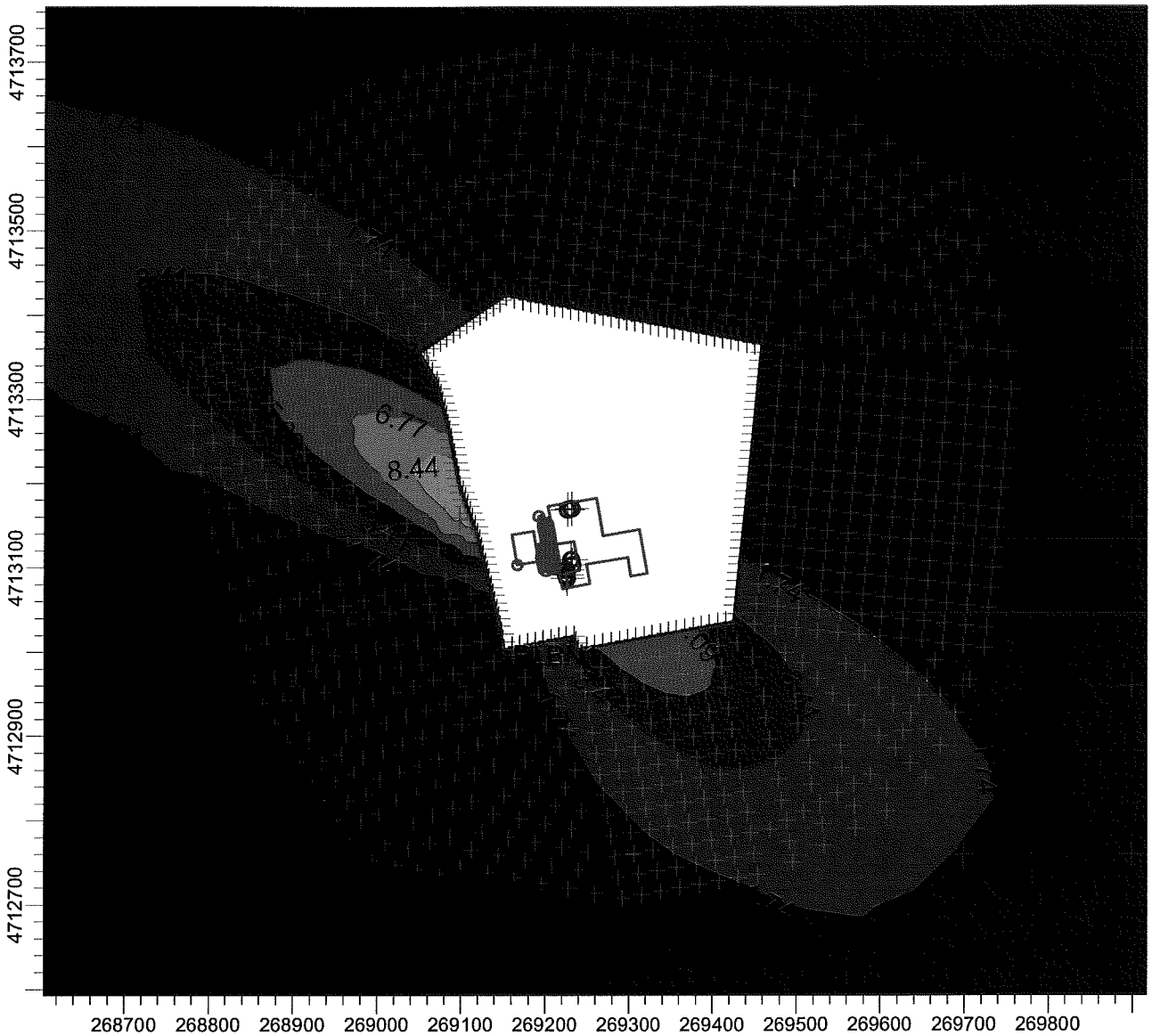
ug/m^3

0.855 6.144 11.432 16.721 22.010 27.299 32.587 37.876 43.165 48.454

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1990 Averaging Time: 24-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	48.45379 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
PM10 ANNUAL 1ST HIGH VALUES - YEAR 1990



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

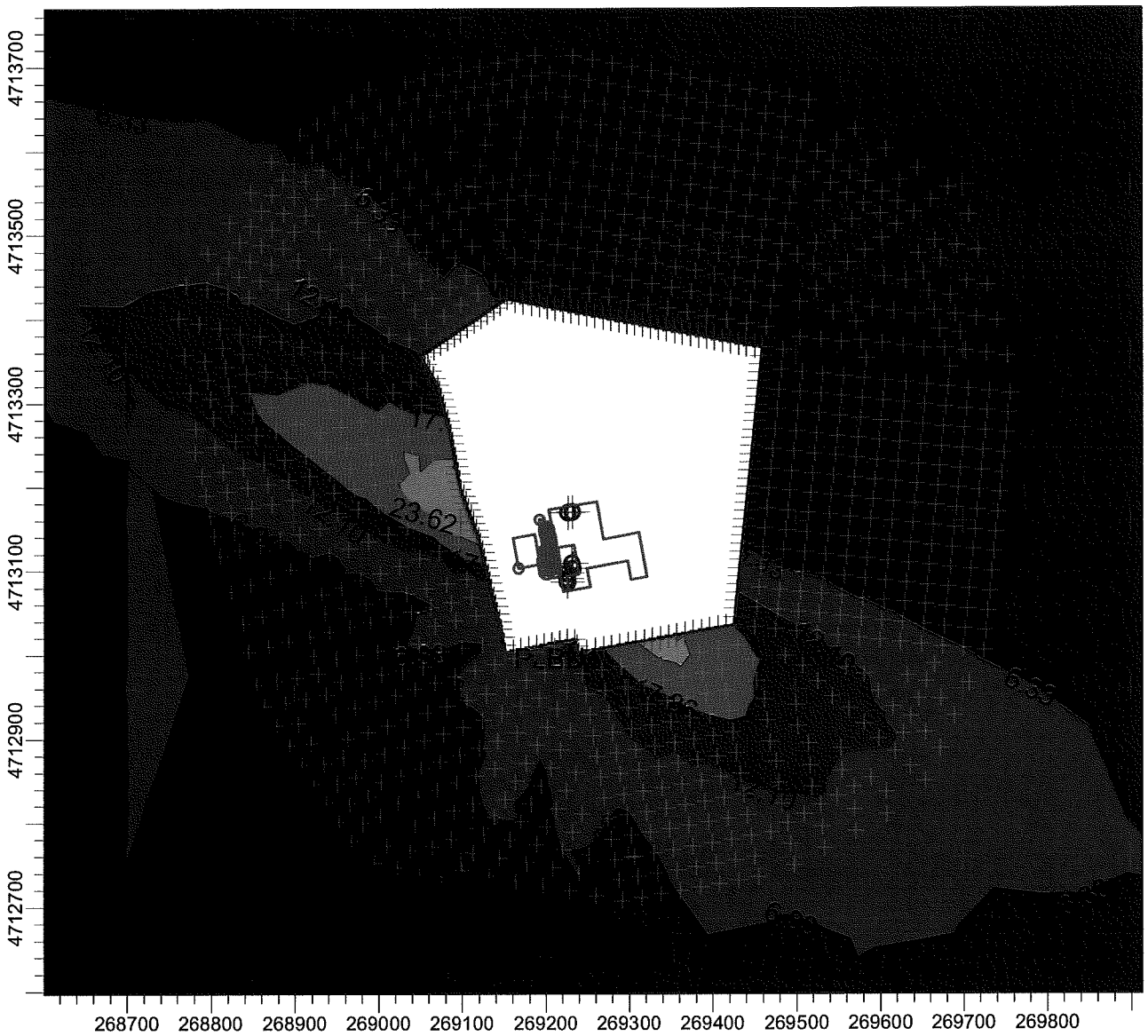
ug/m^3

0.061 1.738 3.414 5.091 6.768 8.445 10.121 11.798 13.475 15.151

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1990 Averaging Time: Annual 1st High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	15.15146 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
PM10 24-HR 2ND HIGH VALUES - YEAR 1991



PLOT FILE OF HIGH 2ND HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

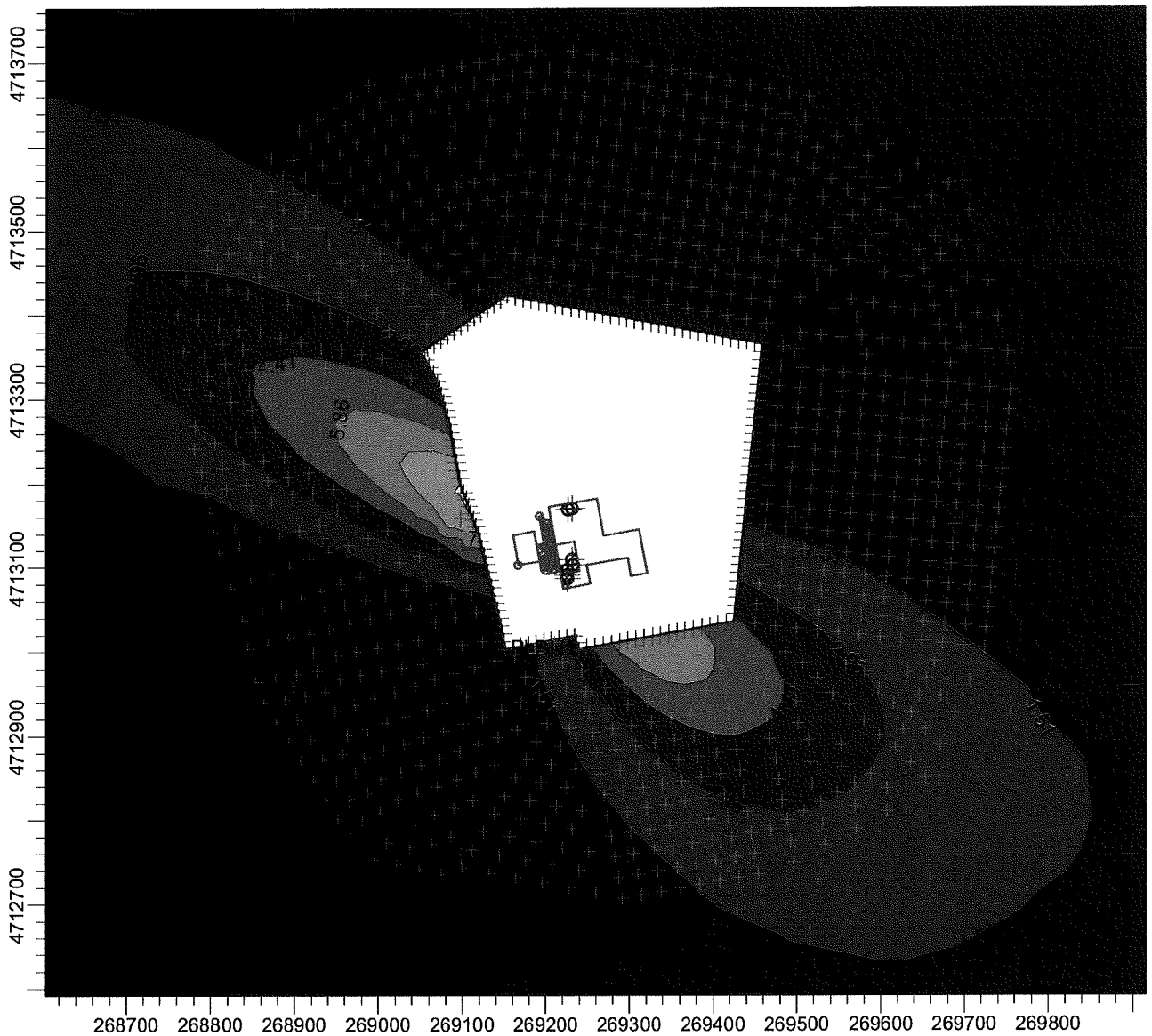
ug/m^3

0.569 6.333 12.096 17.860 23.623 29.387 35.150 40.914 46.677 52.441

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1991 Averaging Time: 24-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	52.44057 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
PM10 ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

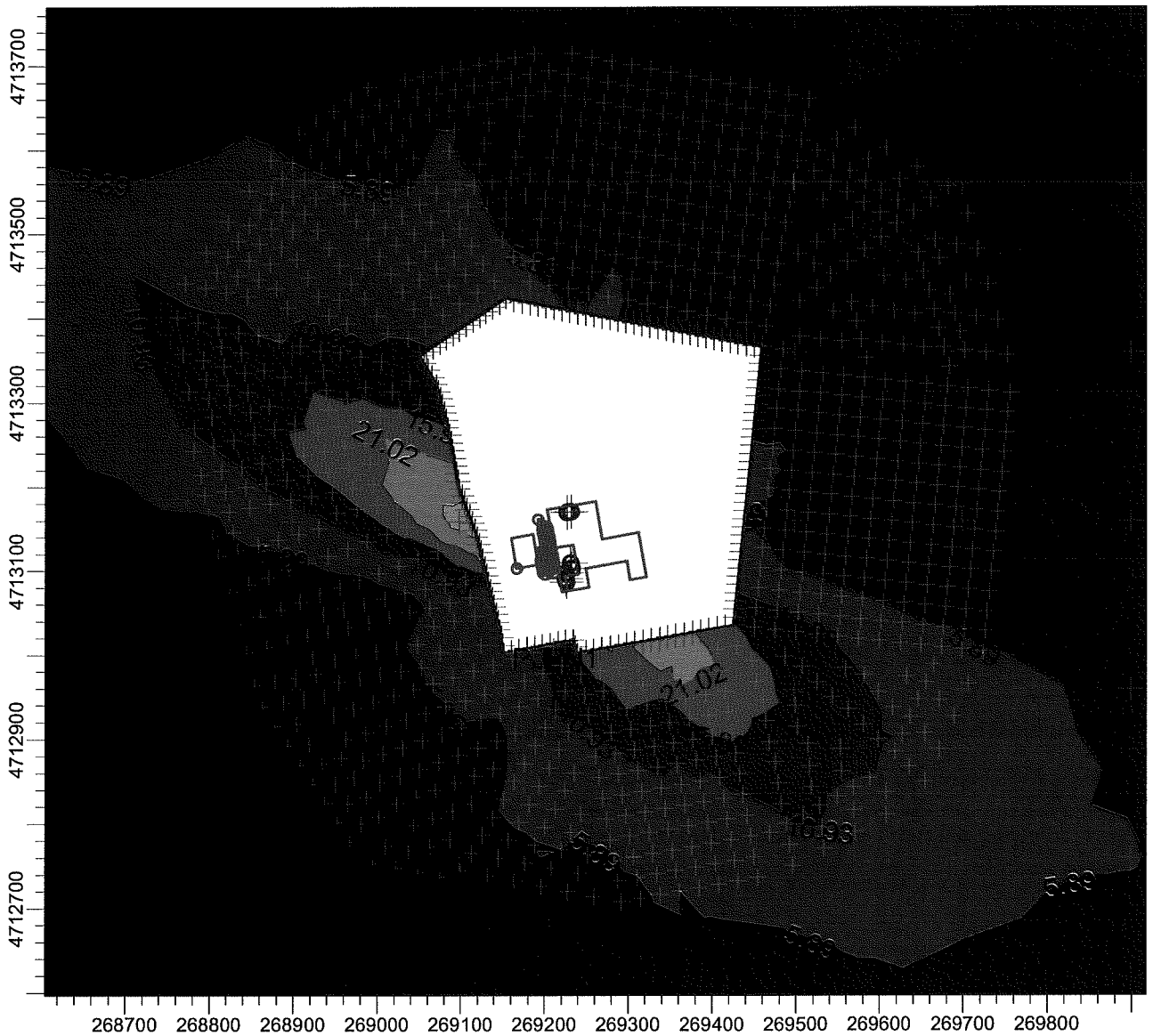
ug/m^3

0.056 1.507 2.959 4.410 5.862 7.313 8.765 10.216 11.668 13.120

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1991 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **13.11962 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
PM10 24-HR 2ND HIGH VALUES - YEAR 1992



PLOT FILE OF HIGH 2ND HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

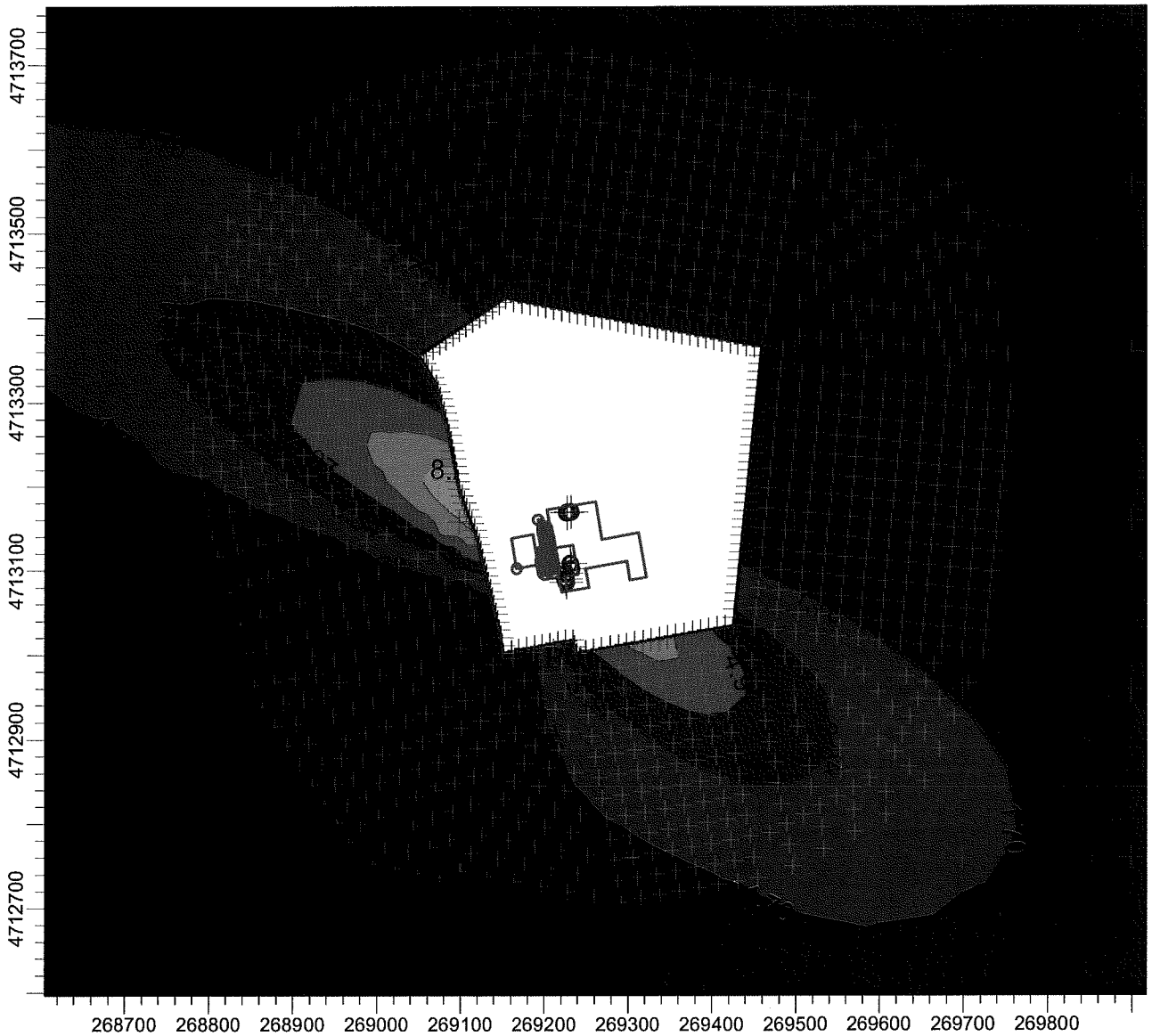
ug/m^3

0.842 5.887 10.933 15.978 21.024 26.069 31.115 36.160 41.205 46.251

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1992 Averaging Time: 24-Hr 2nd High Value	7	Millennium Science & Engineering, Inc.	
	RECEPTORS:	MODELER:	
	1688	JP / TR	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	46.25092 ug/m^3	6/15/2007	B2822

PROJECT TITLE:

HIGH DESERT MILK
PM10 ANNUAL 1ST HIGH VALUES - YEAR 1992



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

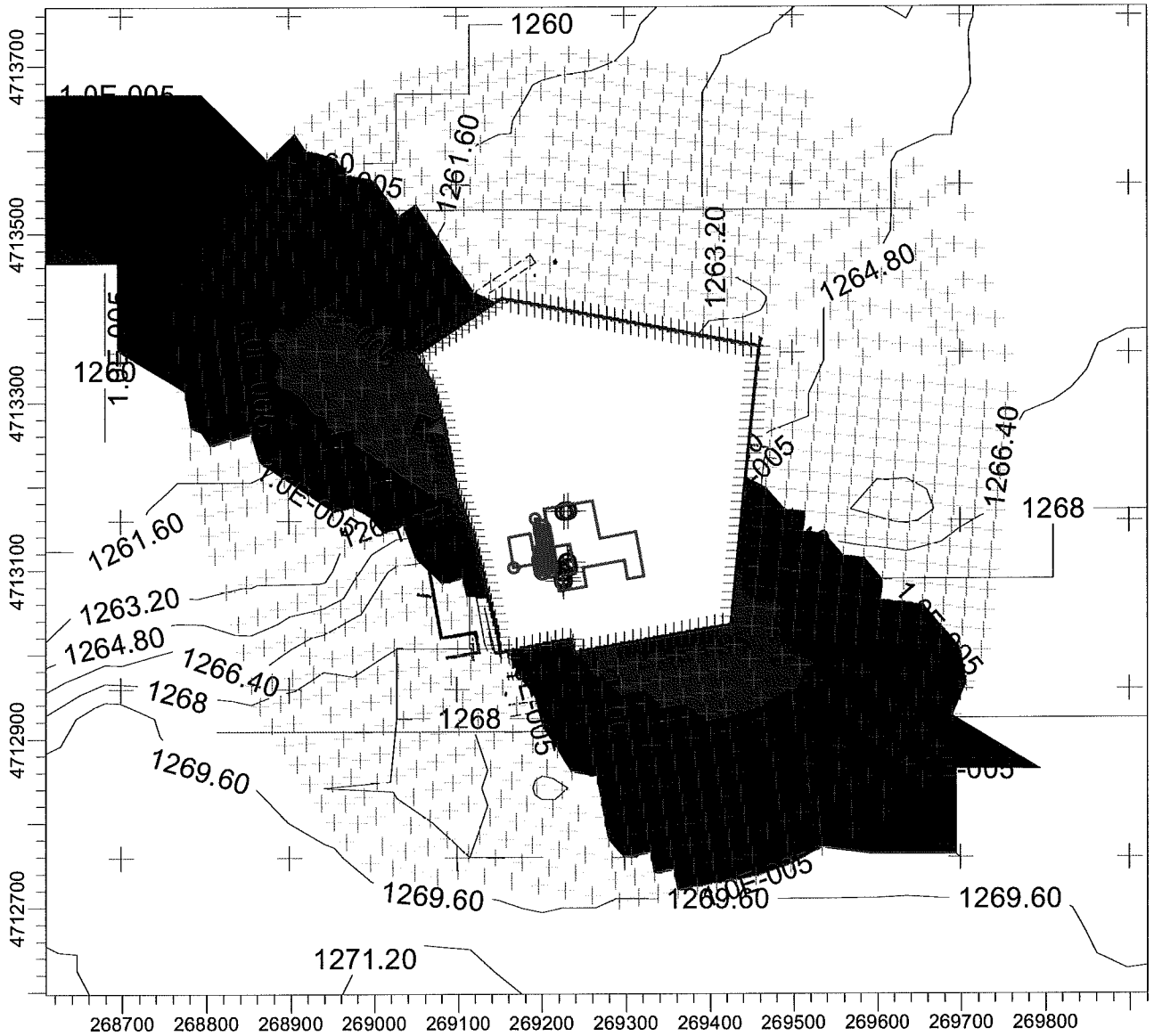
ug/m^3

0.062 1.699 3.335 4.972 6.608 8.245 9.881 11.518 13.155 14.791

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: PM10 Met Data: 1992 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **14.79115 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
ARSENIC ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

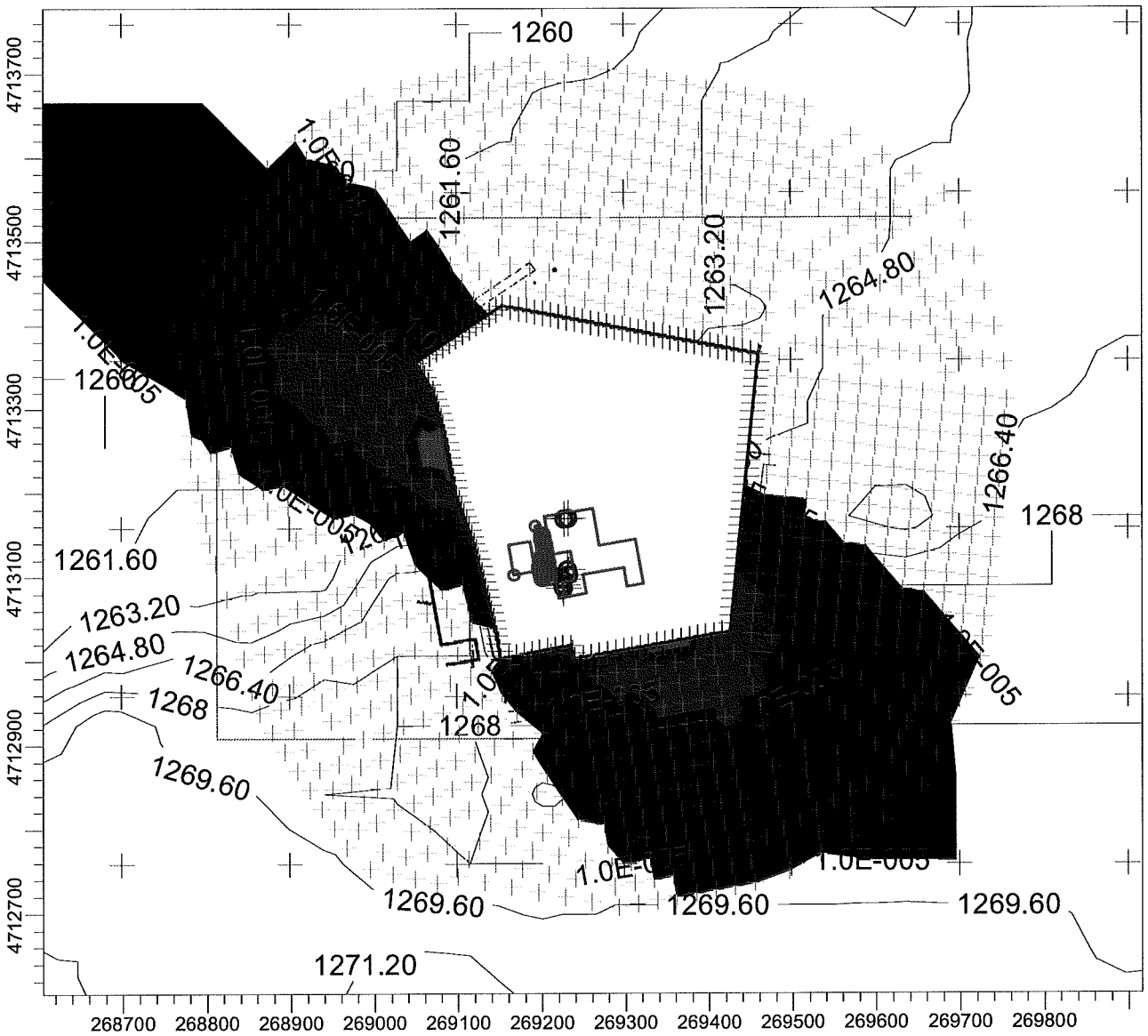
ug/m^3

1.00E-005 1.66E-005 2.33E-005 3.00E-005 3.66E-005 4.33E-005 5.00E-005 5.67E-005 6.33E-005 7.00E-005

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Arsenic Met Data: 1988 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	7E-5 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
ARSENIC ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

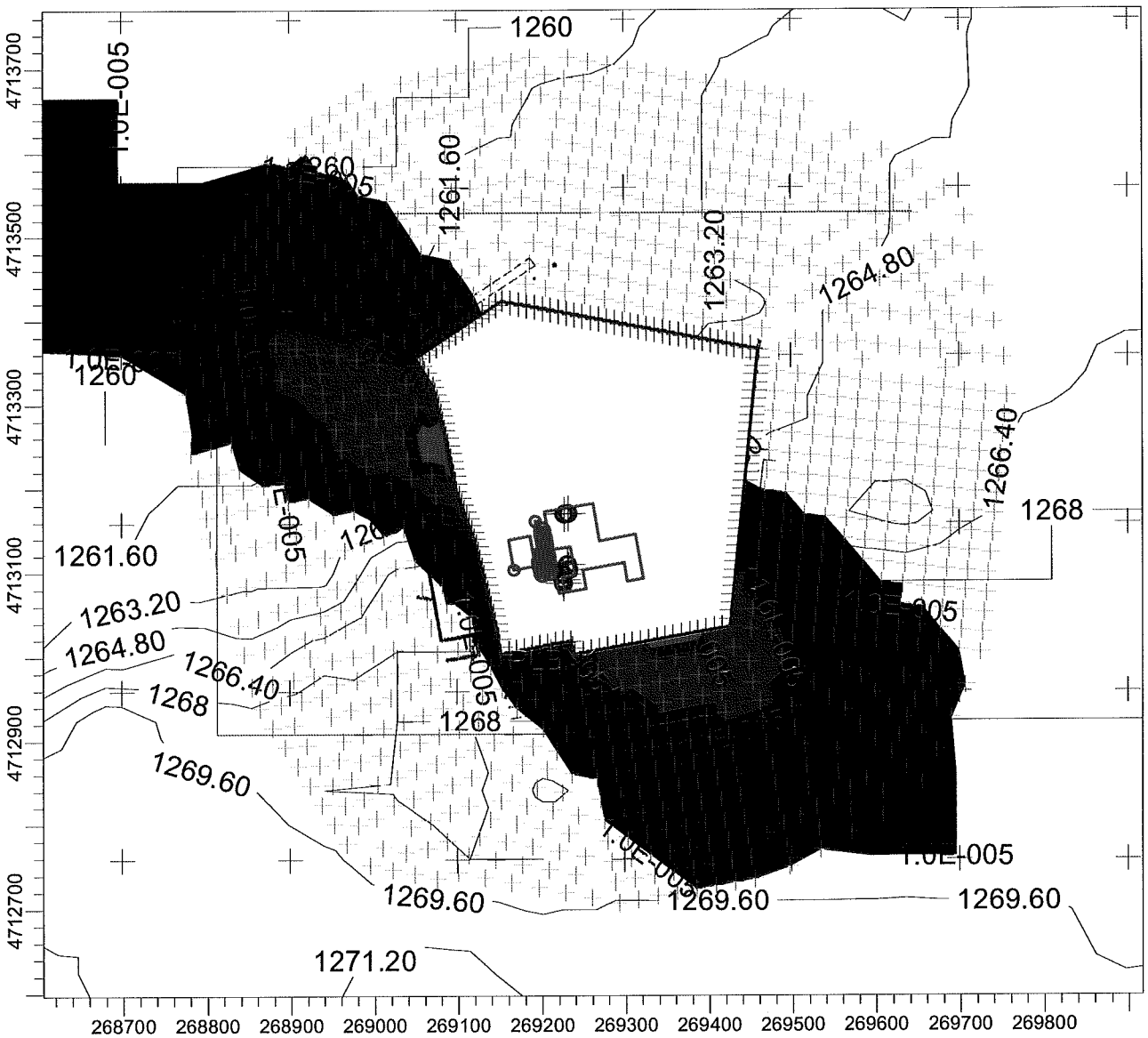
ug/m^3

1.00E-005 1.55E-005 2.11E-005 2.66E-005 3.22E-005 3.78E-005 4.33E-005 4.89E-005 5.44E-005 6.00E-005

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Arsenic Met Data: 1989 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	6E-5 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
ARSENIC ANNUAL 1ST HIGH VALUES - YEAR 1990



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

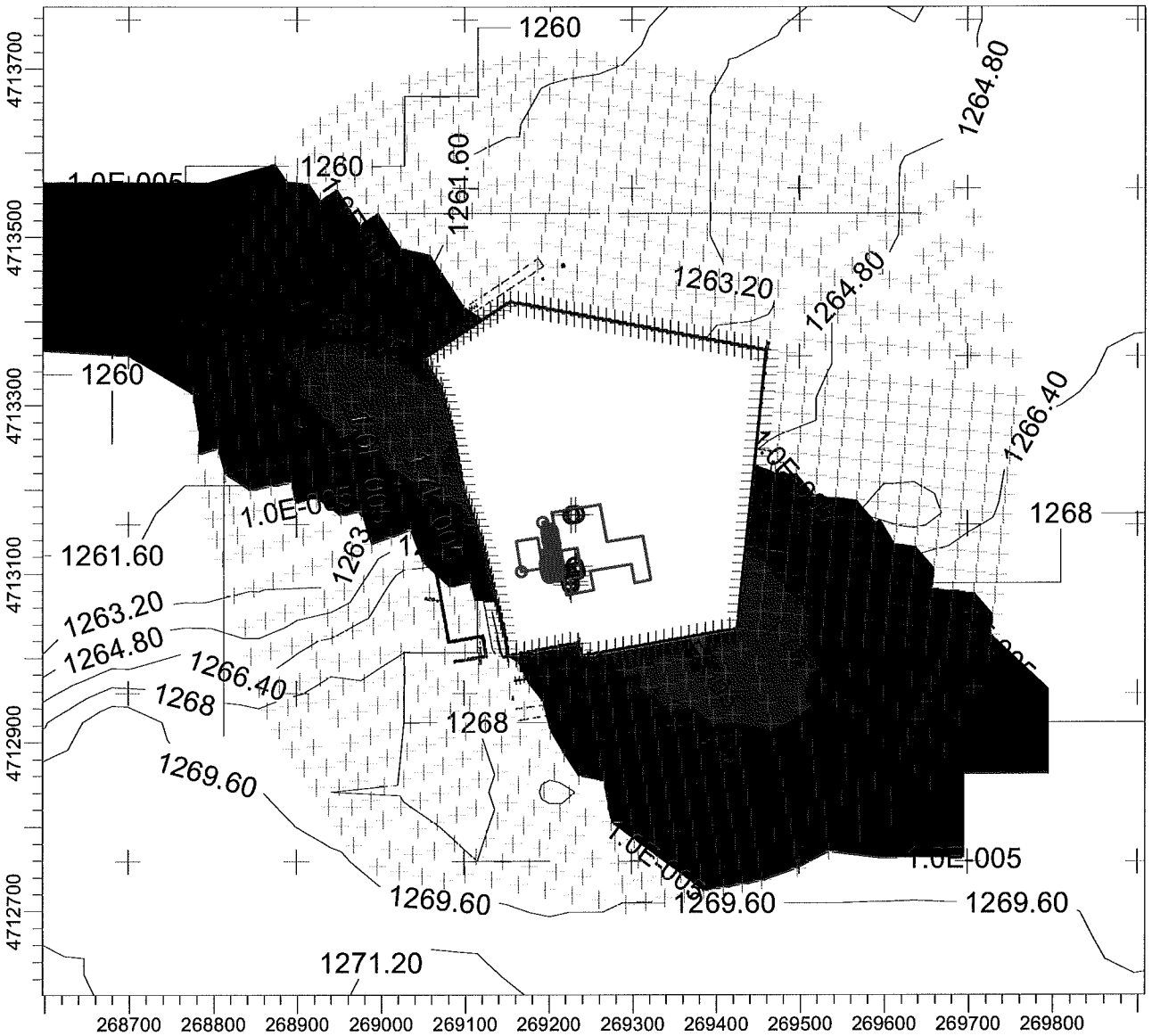
ug/m^3

1.00E-005 1.55E-005 2.11E-005 2.66E-005 3.22E-005 3.78E-005 4.33E-005 4.89E-005 5.44E-005 6.00E-005

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Arsenic Met Data: 1990 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	6E-5 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
ARSENIC ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

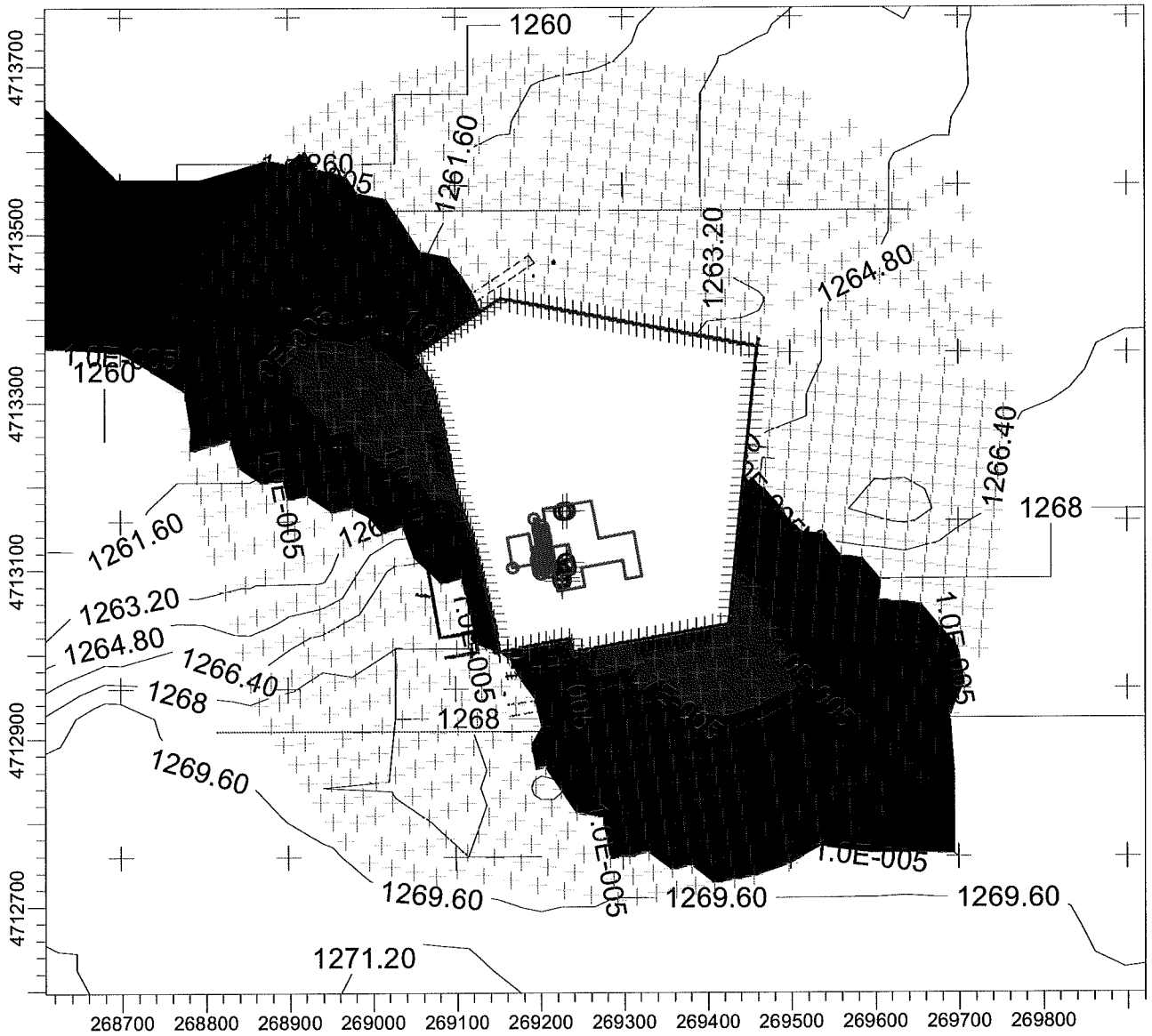
ug/m^3

1.00E-005 1.66E-005 2.33E-005 3.00E-005 3.66E-005 4.33E-005 5.00E-005 5.67E-005 6.33E-005 7.00E-005

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Arsenic Met Data: 1991 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	7E-5 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
ARSENIC ANNUAL 1ST HIGH VALUES - YEAR 1992



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

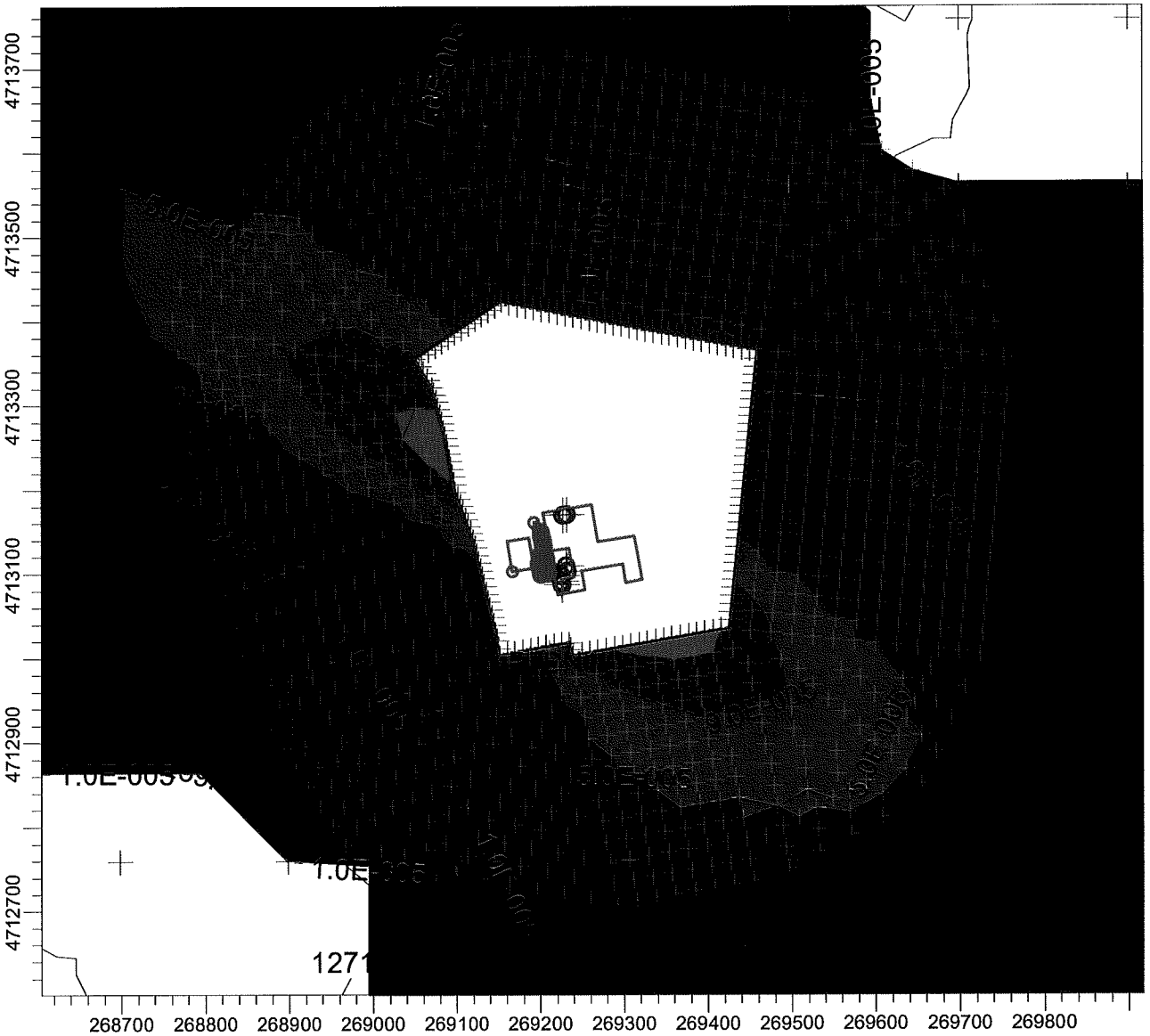
ug/m^3

1.00E-005 1.66E-005 2.33E-005 3.00E-005 3.66E-005 4.33E-005 5.00E-005 5.67E-005 6.33E-005 7.00E-005

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Arsenic Met Data: 1992 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	7E-5 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
CADMIUM ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

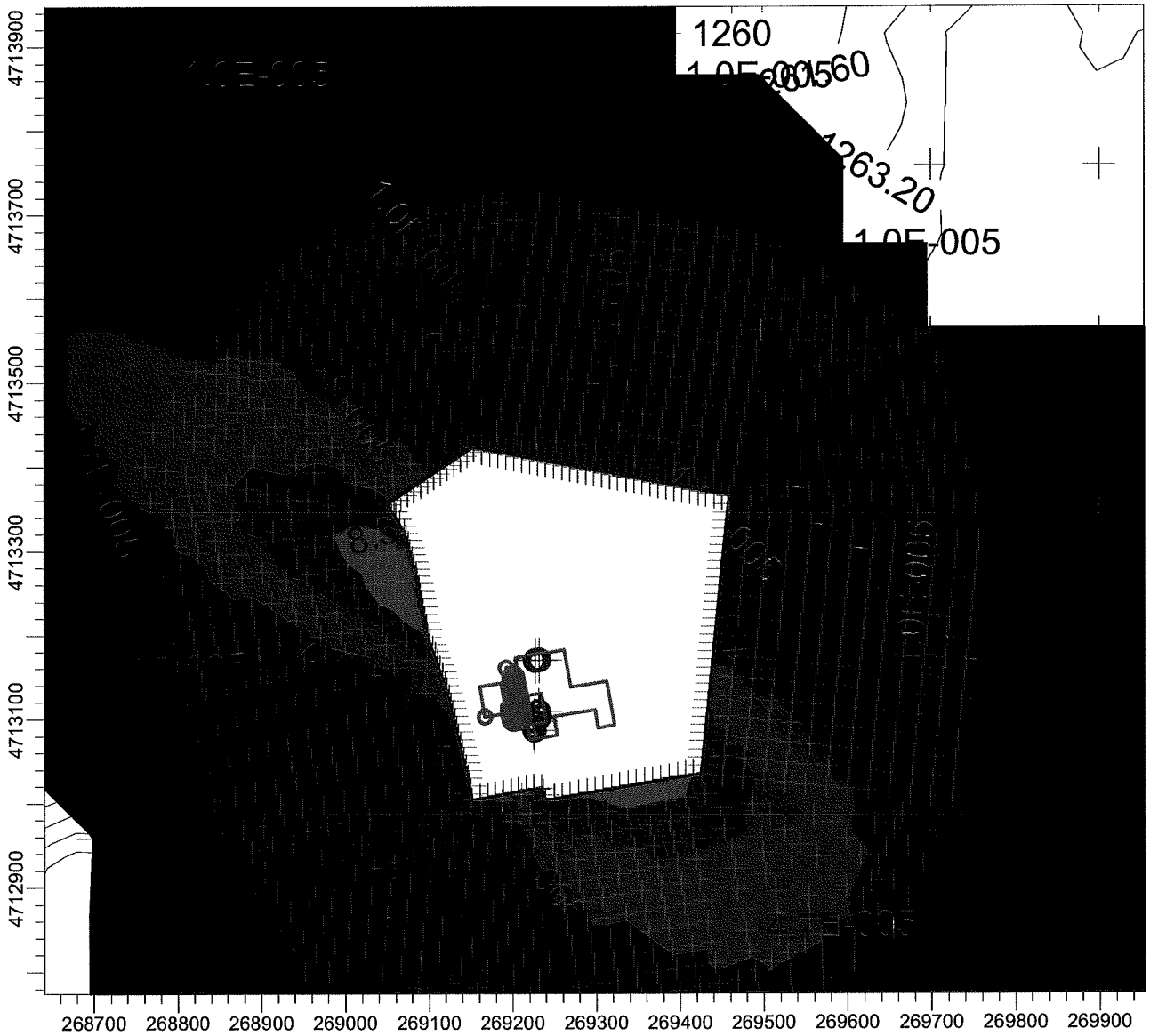
ug/m^3

1.00E-005 5.00E-005 9.00E-005 1.30E-004 1.70E-004 2.10E-004 2.50E-004 2.90E-004 3.30E-004 3.70E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Cadmium Met Data: 1988 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	0.00037 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
CADMIUM ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

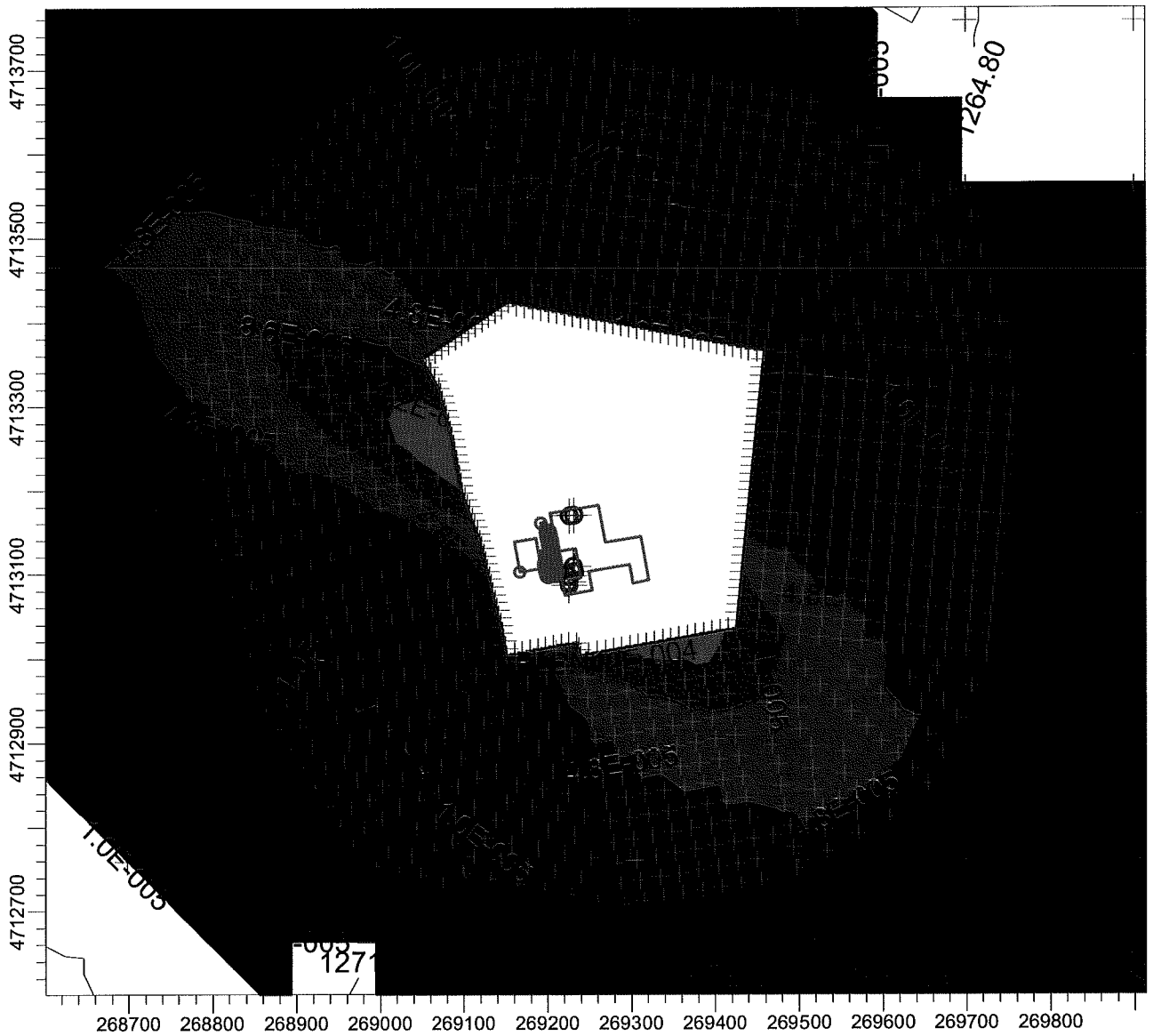
ug/m^3

1.00E-005 4.67E-005 8.33E-005 1.20E-004 1.57E-004 1.93E-004 2.30E-004 2.67E-004 3.03E-004 3.40E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Cadmium Met Data: 1989 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	0.00034 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

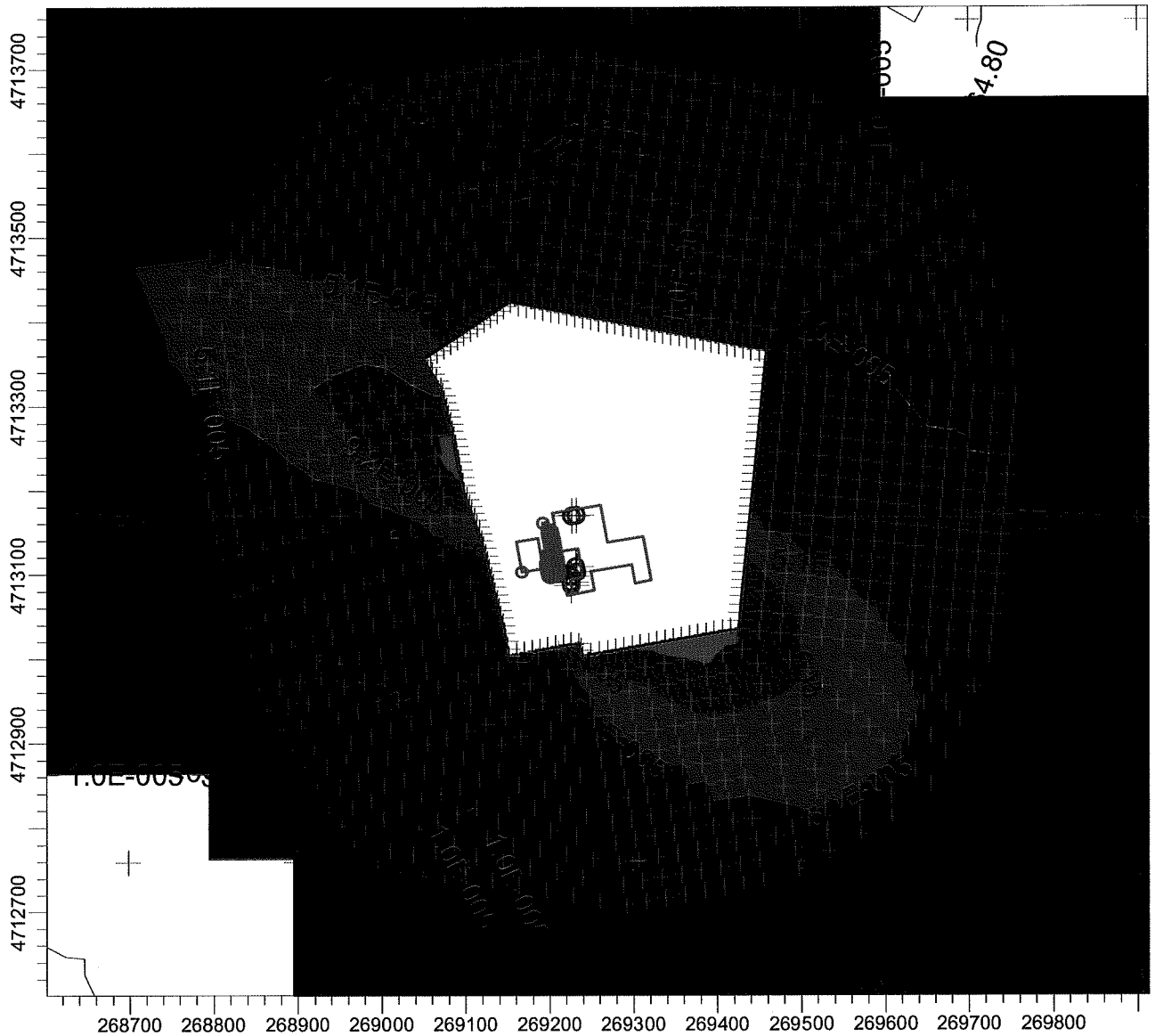
HIGH DESERT MILK
CADMIUM ANNUAL 1ST HIGH VALUES - YEAR 1990



COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Cadmium Met Data: 1990 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 — 0.2 km	
	MAX: **0.00035 ug/m^3**	DATE: **6/18/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
CADMIUM ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

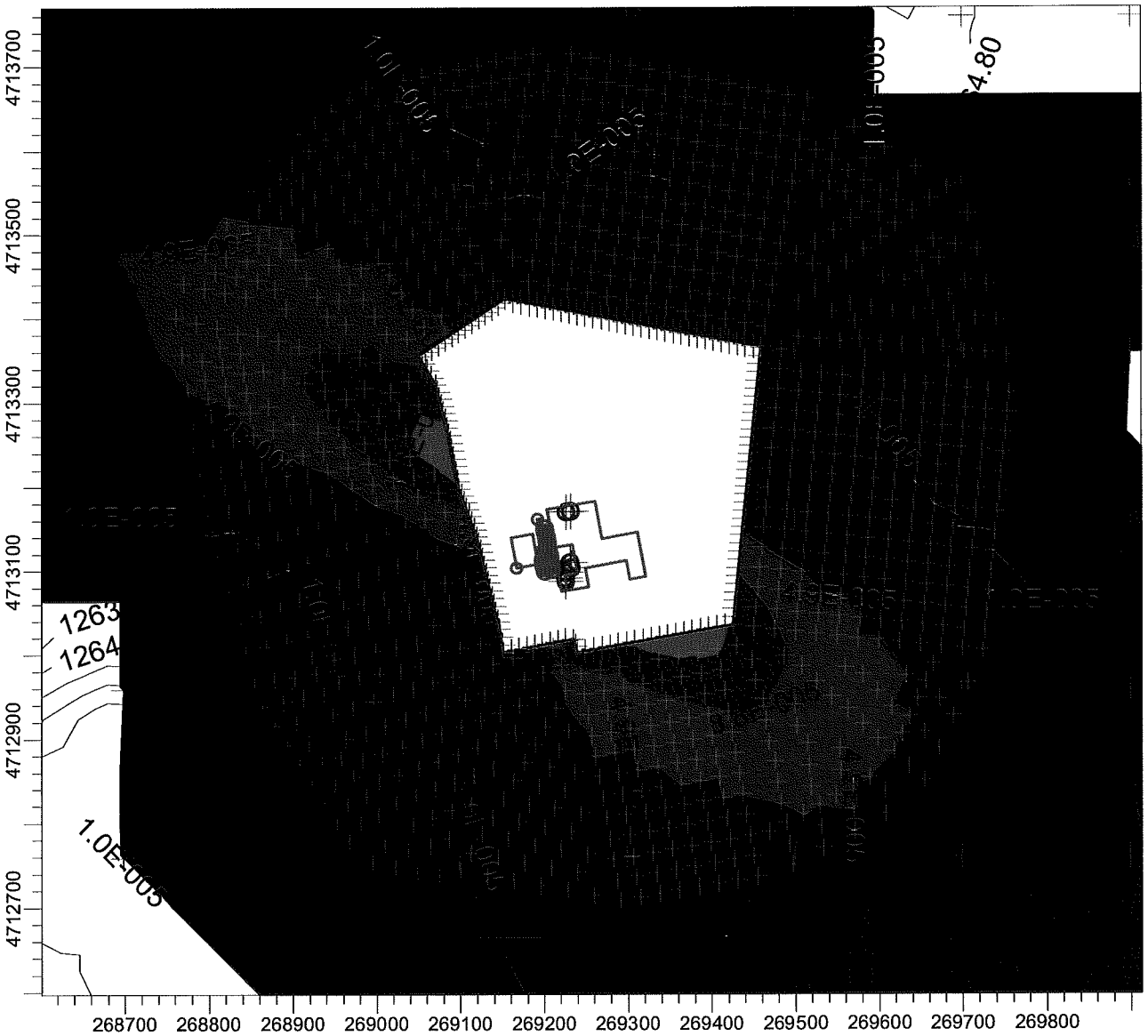
ug/m^3

1.00E-005 5.11E-005 9.22E-005 1.33E-004 1.74E-004 2.16E-004 2.57E-004 2.98E-004 3.39E-004 3.80E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Cadmium Met Data: 1991 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.00038 ug/m^3**	DATE: **6/18/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
CADMIUM ANNUAL 1ST HIGH VALUES - YEAR 1992



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

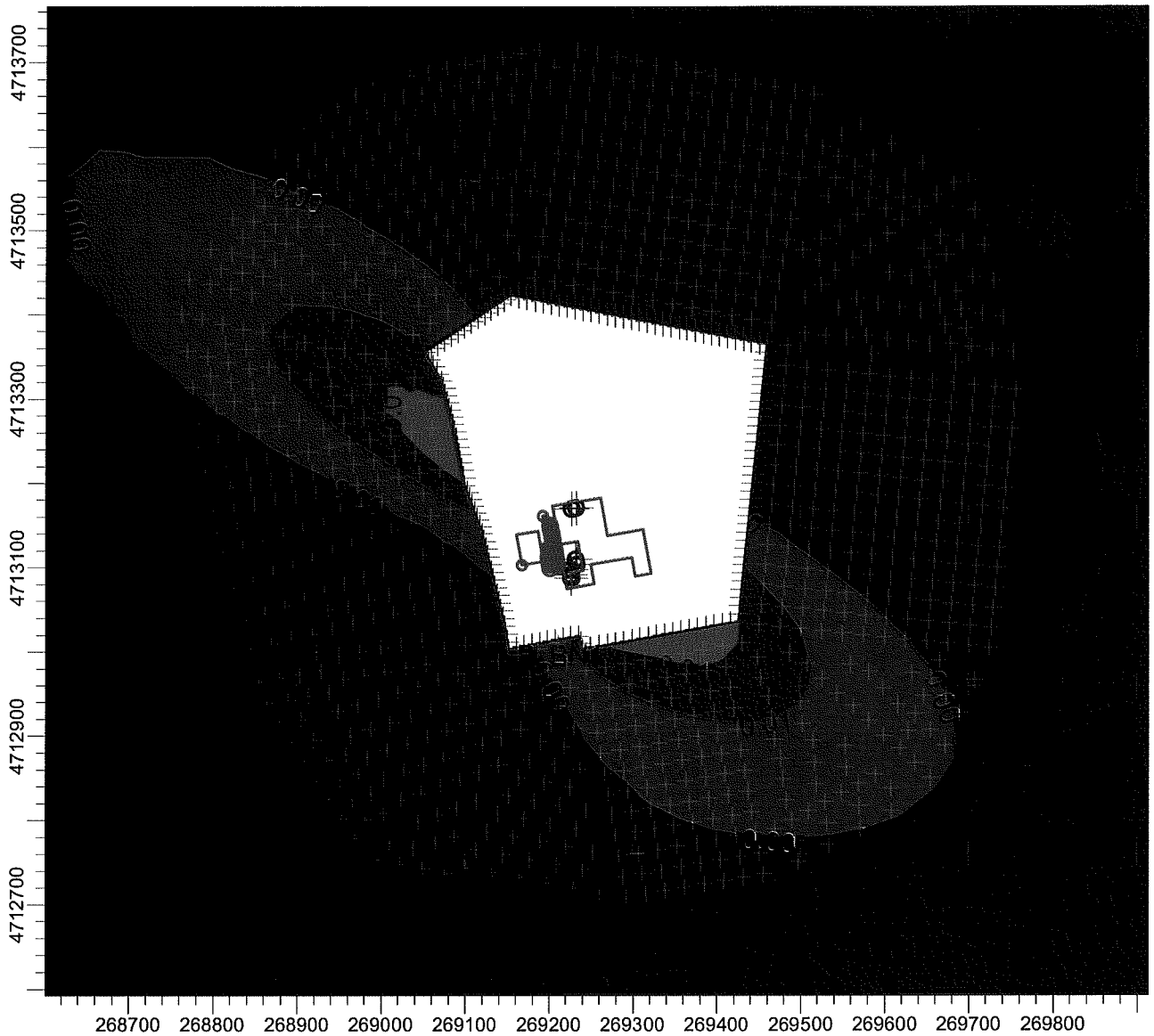
ug/m^3

1.00E-005 4.89E-005 8.78E-005 1.27E-004 1.66E-004 2.04E-004 2.43E-004 2.82E-004 3.21E-004 3.60E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Cadmium Met Data: 1992 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	0.00036 ug/m^3	**6/18/2007**	**B2822**

PROJECT TITLE:

HIGH DESERT MILK
FORMALDEHYDE ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

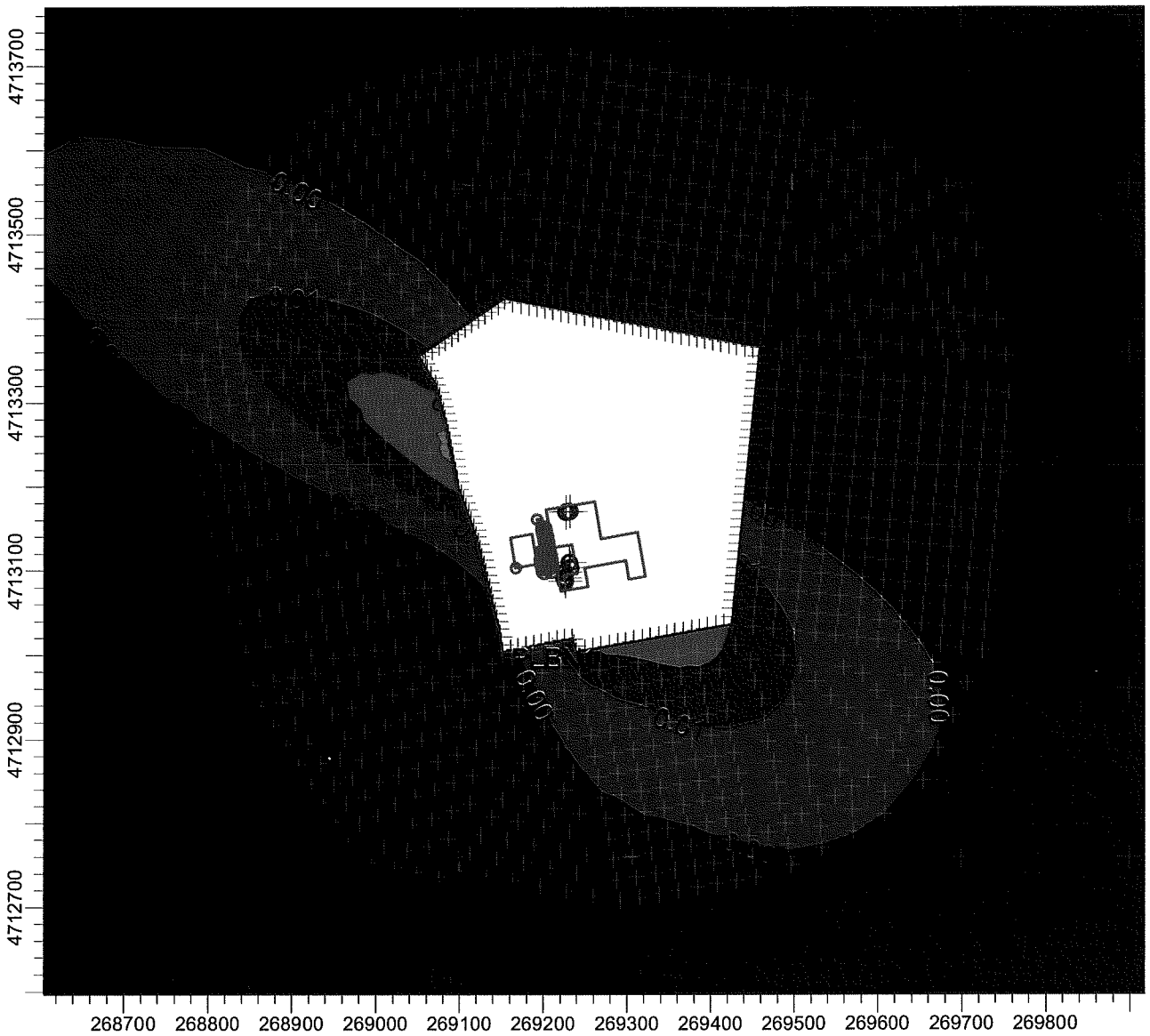
ug/m^3

0.000 0.003 0.006 0.009 0.011 0.014 0.017 0.020 0.023 0.025

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Formalehyde Met Data: 1988 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.02535 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

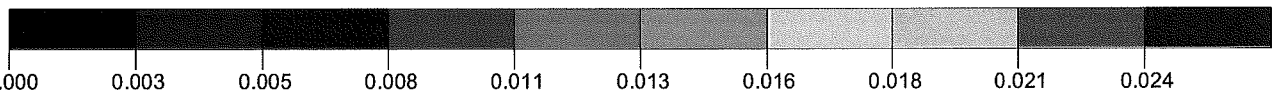
PROJECT TITLE:

HIGH DESERT MILK
FORMALDEHYDE ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

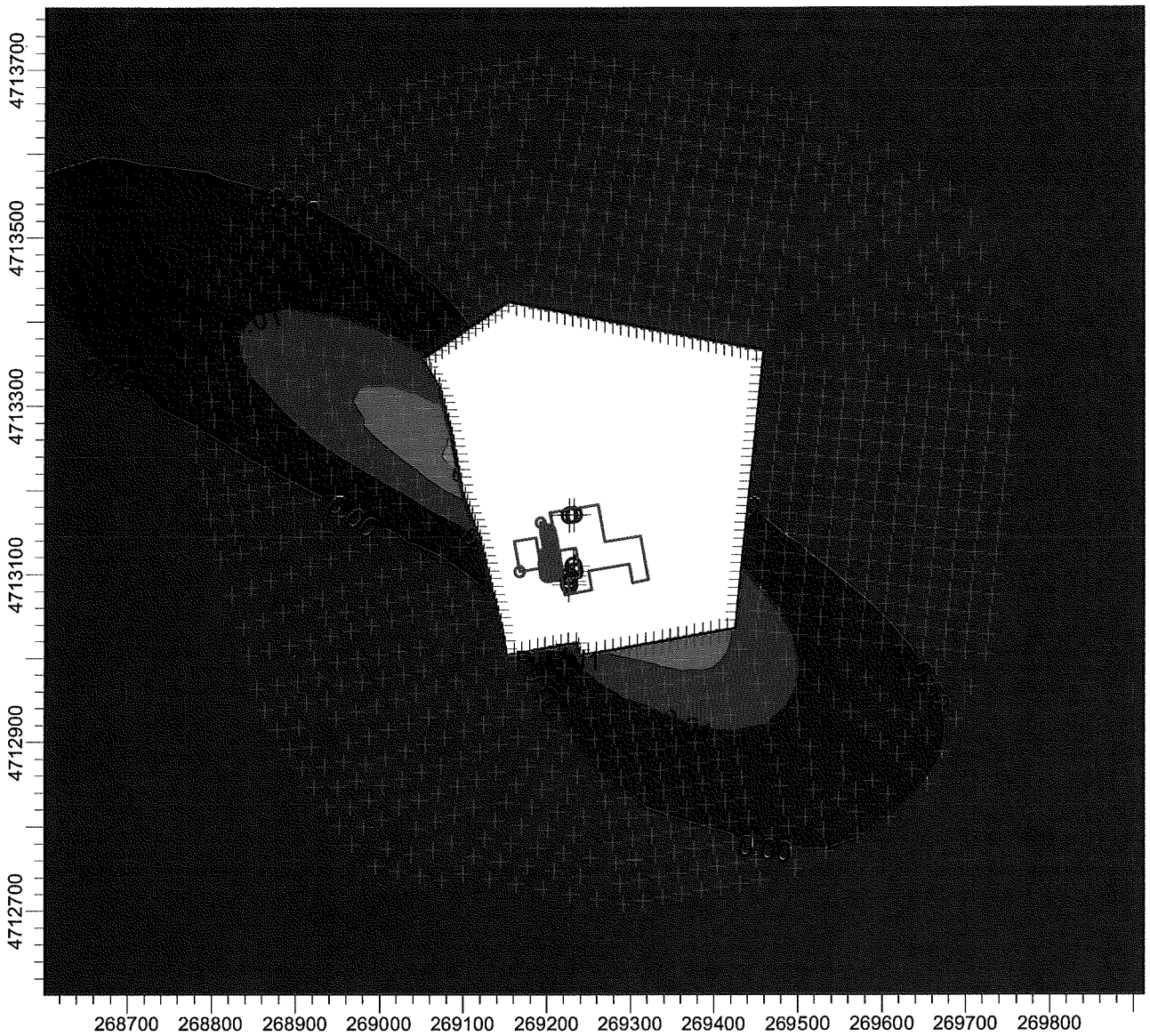
ug/m^3



COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Formaldehyde Met Data: 1989 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 — 0.2 km	
	MAX: **0.02363 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
FORMALDEHYDE ANNUAL 1ST HIGH VALUES - YEAR 1990



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

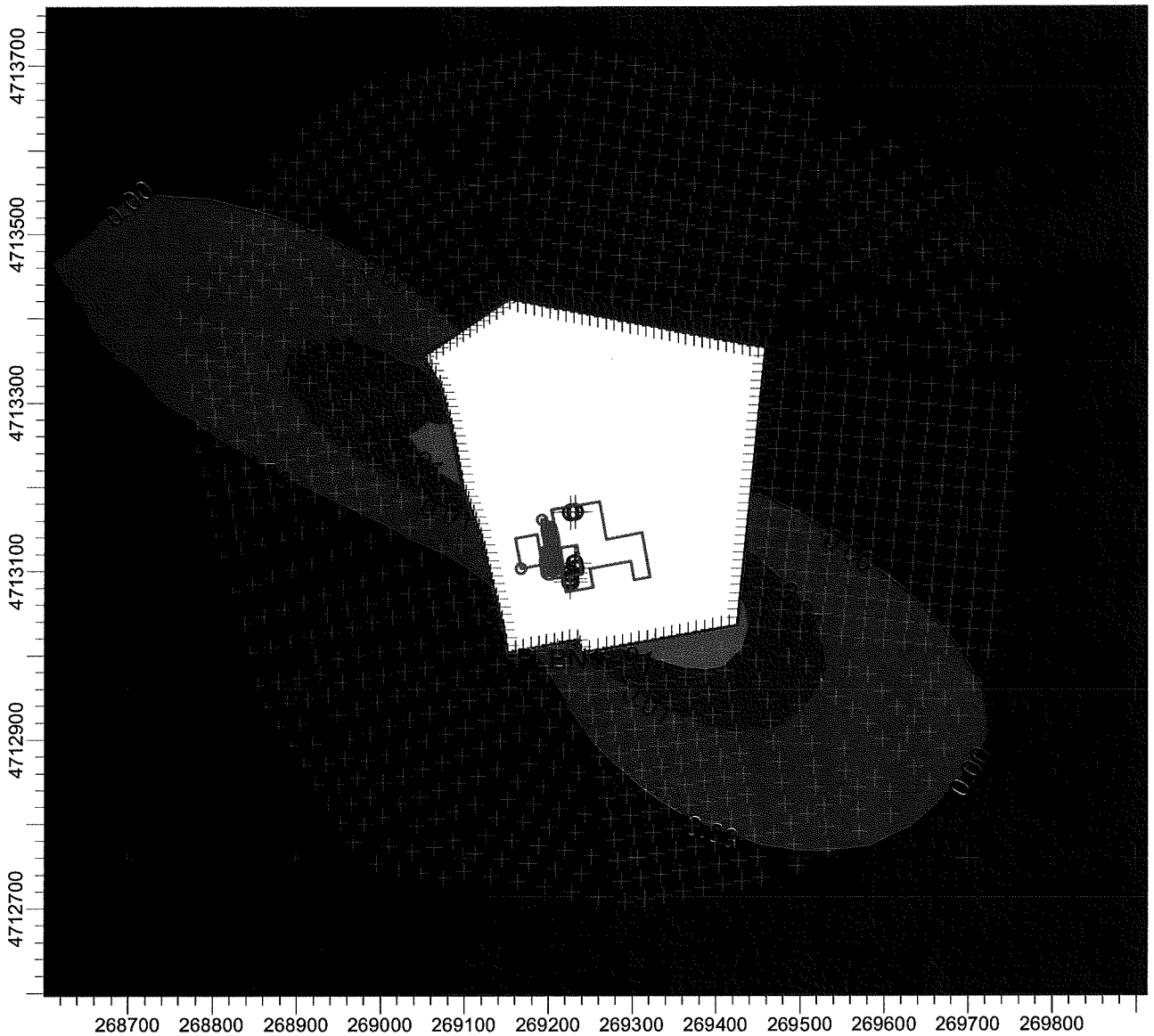
ug/m^3

0.000 0.000 0.003 0.005 0.008 0.011 0.013 0.016 0.019 0.021 0.024

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Formaldehyde Met Data: 1990 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.02386 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
FORMALDEHYDE ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

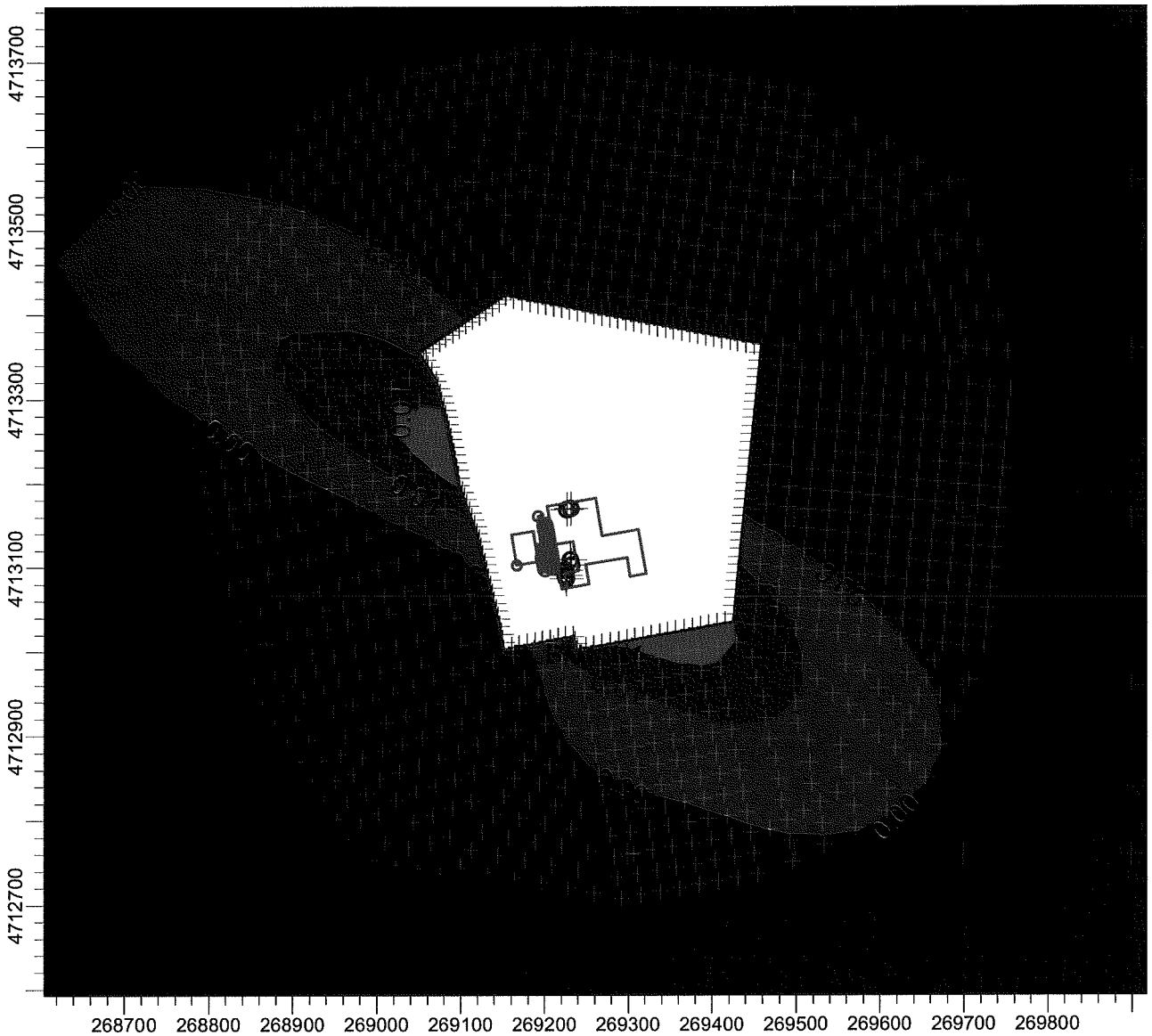
ug/m^3

0.000 0.003 0.006 0.009 0.012 0.014 0.017 0.020 0.023 0.026

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Formaldehyde Met Data: 1991 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.026 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
FORMALDEHYDE ANNUAL 1ST HIGH VALUES - YEAR 1992



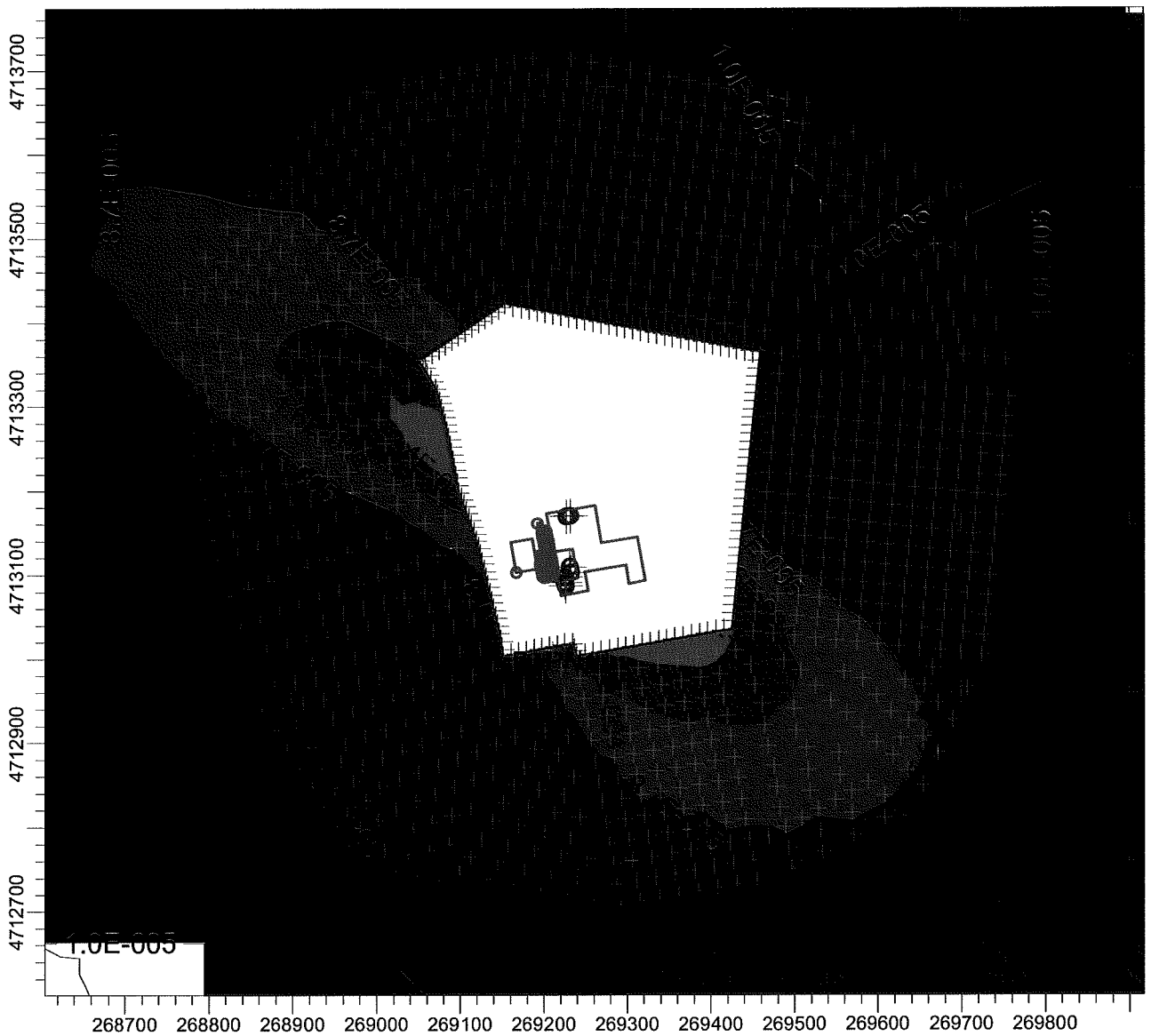
PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Formaldehyde Met Data: 1992 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 — 0.2 km	
	MAX: **0.02484 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NICKEL ANNUAL 1ST HIGH VALUES - YEAR 1988



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

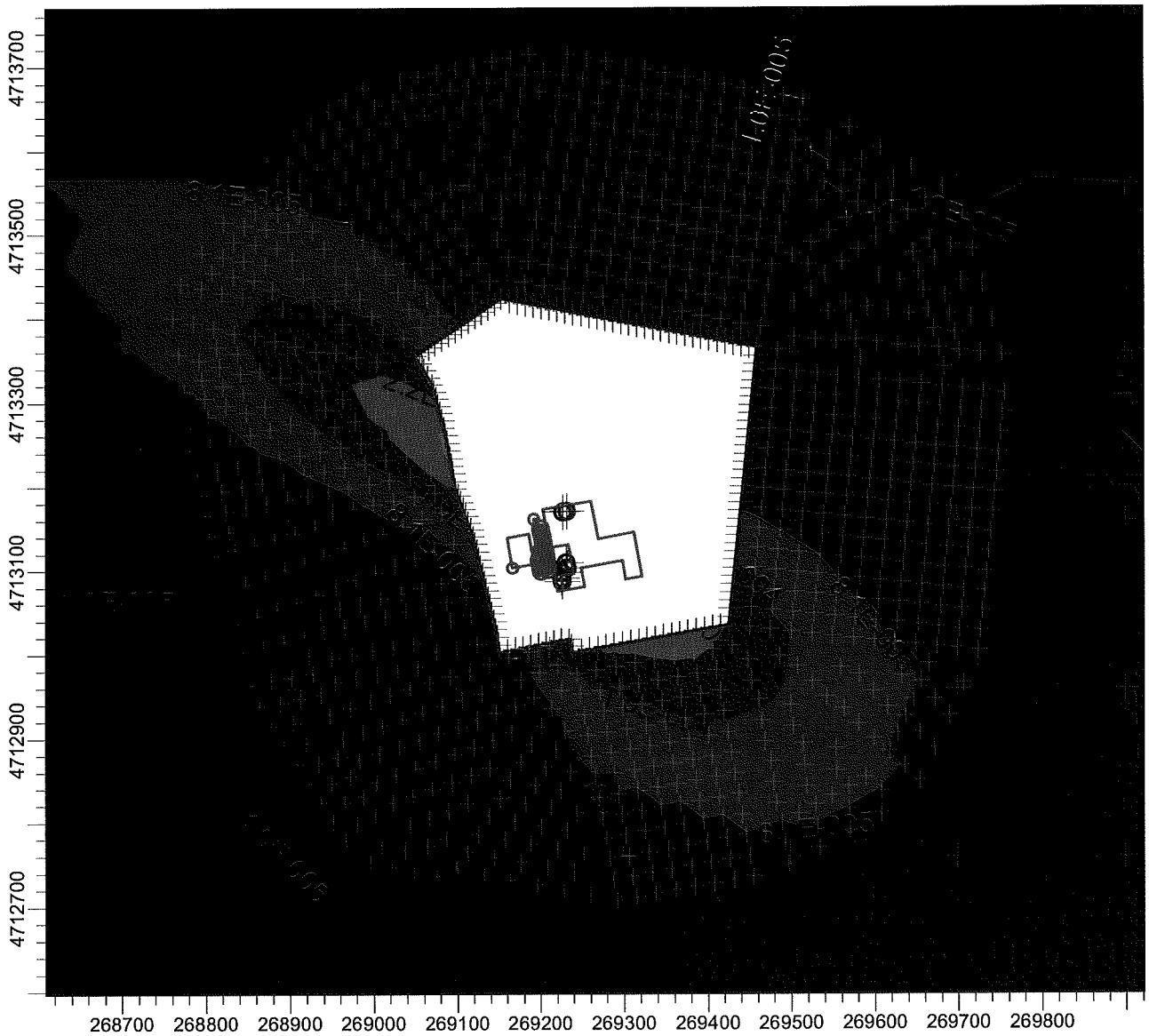
ug/m^3

1.00E-005 8.67E-005 1.60E-004 2.40E-004 3.20E-004 3.90E-004 4.70E-004 5.50E-004 6.20E-004 7.00E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Nickel Met Data: 1988 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.0007 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NICKEL ANNUAL 1ST HIGH VALUES - YEAR 1989



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

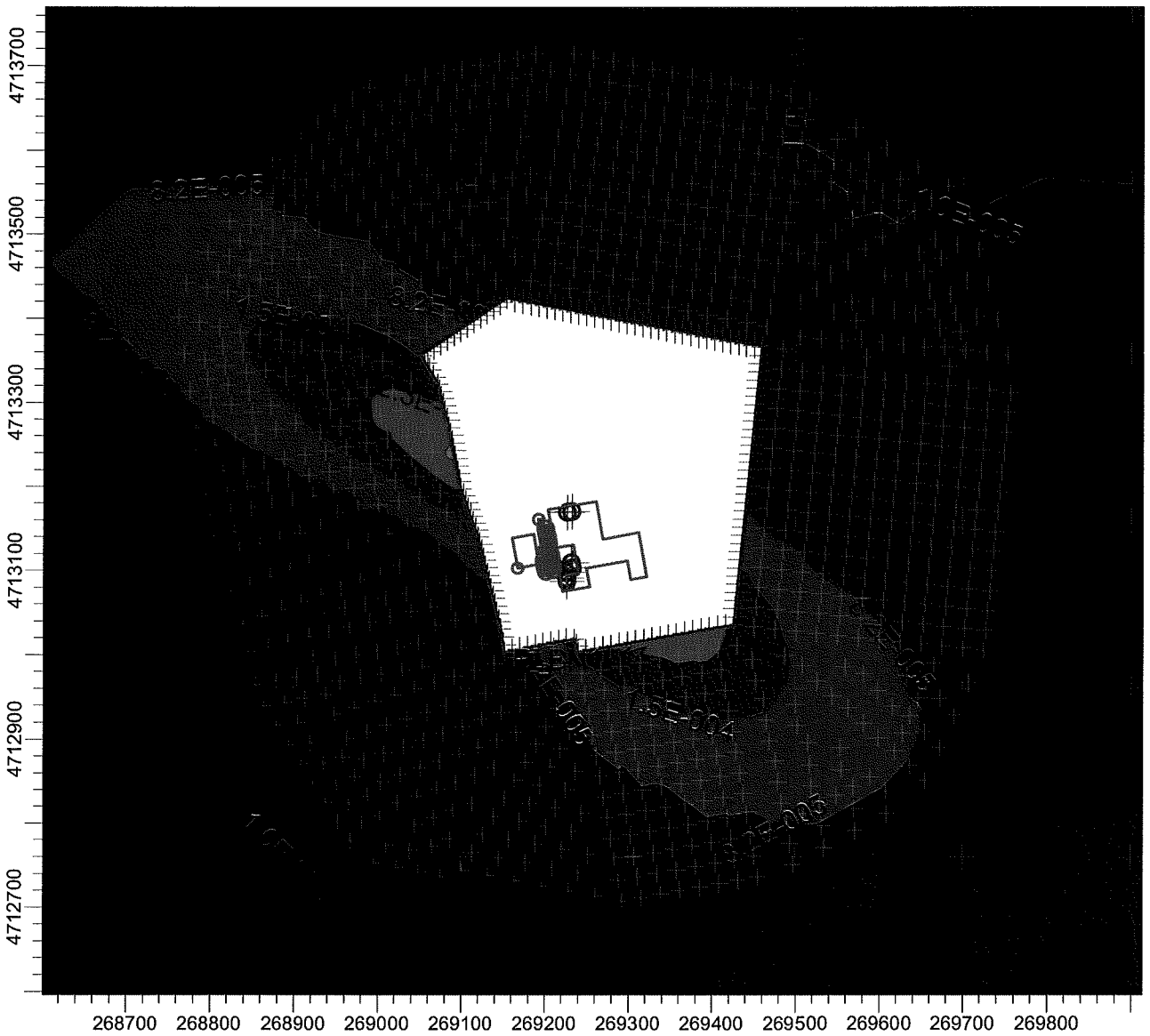
ug/m^3

1.00E-005 8.11E-005 1.52E-004 2.23E-004 2.94E-004 3.66E-004 4.37E-004 5.08E-004 5.79E-004 6.50E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Nickel Met Data: 1989 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.00065 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NICKEL ANNUAL 1ST HIGH VALUES - YEAR 1990



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

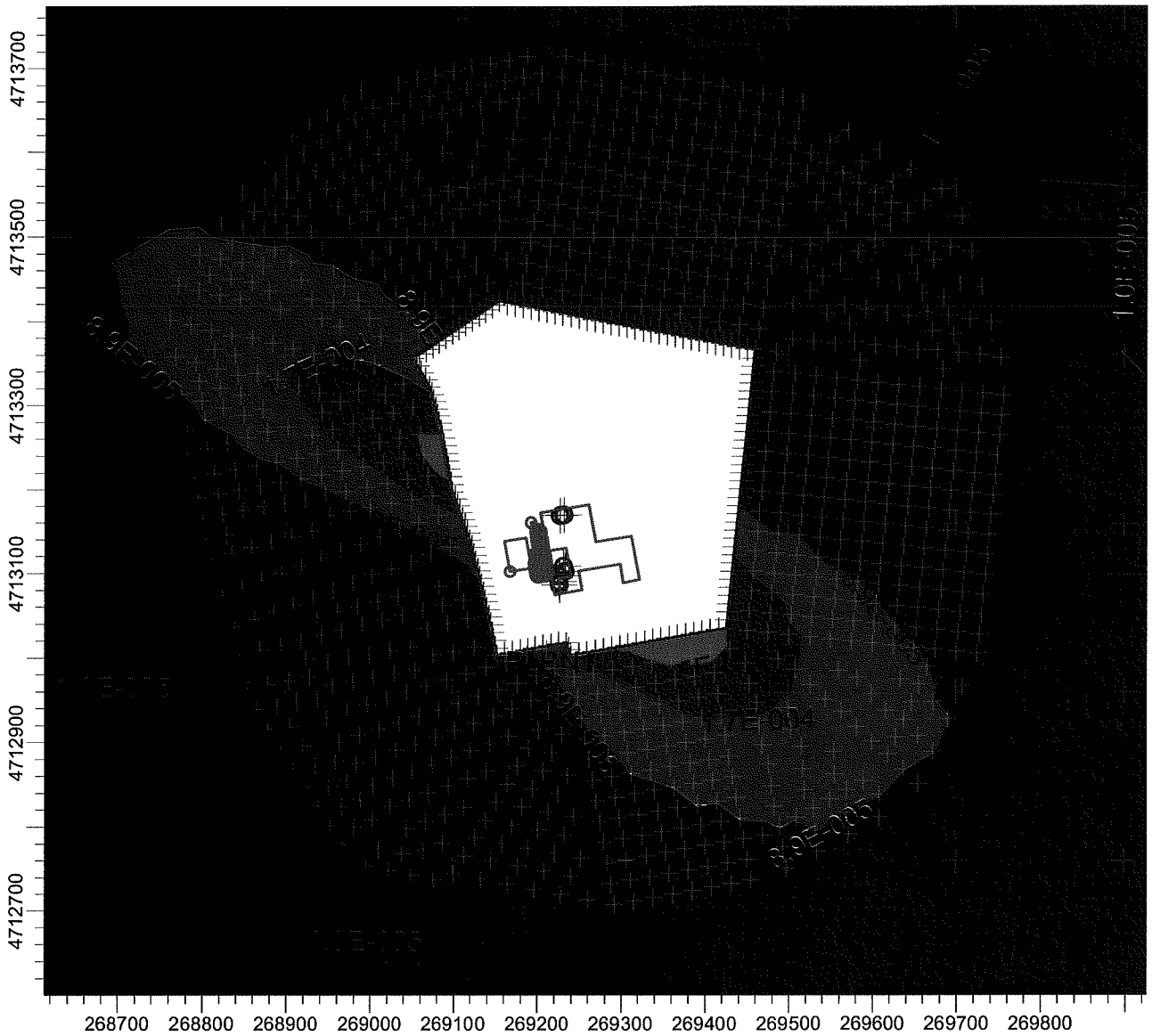
ug/m^3

1.00E-005 8.22E-005 1.54E-004 2.27E-004 2.99E-004 3.71E-004 4.43E-004 5.16E-004 5.88E-004 6.60E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Nickel Met Data: 1990 Averaging Time: Annual 1st High Value	**7**	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.00066 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NICKEL ANNUAL 1ST HIGH VALUES - YEAR 1991



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

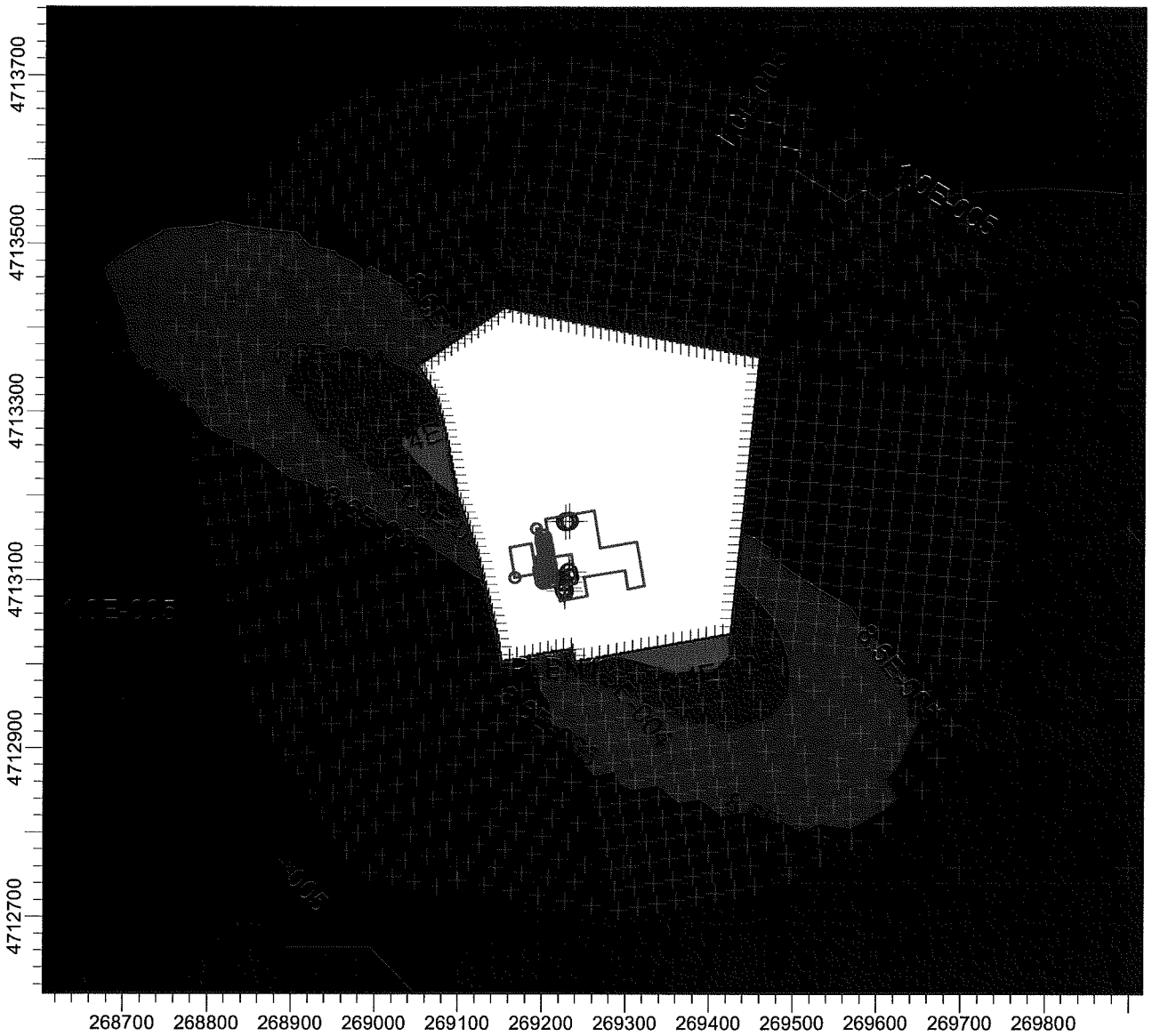
ug/m^3

1.00E-005 8.89E-005 1.68E-004 2.47E-004 3.26E-004 4.04E-004 4.83E-004 5.62E-004 6.41E-004 7.20E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Nickel Met Data: 1991 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS: **1688**	MODELER: **JP / TR**	
	OUTPUT TYPE: **Concentration**	SCALE: 1:8,000 0 0.2 km	
	MAX: **0.00072 ug/m^3**	DATE: **6/15/2007**	PROJECT NO.: **B2822**

PROJECT TITLE:

HIGH DESERT MILK
NICKEL ANNUAL 1ST HIGH VALUES - YEAR 1992



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

1.00E-005 8.56E-005 1.61E-004 2.37E-004 3.12E-004 3.88E-004 4.63E-004 5.39E-004 6.14E-004 6.90E-004

COMMENTS:	SOURCES:	COMPANY NAME:	
Contaminant: Nickel Met Data: 1992 Averaging Time: Annual 1st High Value	7	**Millennium Science & Engineering, Inc.**	
	RECEPTORS:	MODELER:	
	1688	**JP / TR**	
	OUTPUT TYPE:	SCALE: 1:8,000	
	Concentration	0 0.2 km	
	MAX:	DATE:	PROJECT NO.:
	0.00069 ug/m^3	**6/15/2007**	**B2822**

Appendix 5

Permit to Construct Application

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 2
02/13/07

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

DEQ USE ONLY
Date Received
Project Number
Payment / Fees Included? Yes ☐ No ☐
Check Number

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	High Desert Milk	
2. Facility Name	Milk Processing Plant	3. Facility ID No.
4. Brief Project Description - One sentence or less	Construction of new milk processing plant.	

PERMIT APPLICATION TYPE

5. ☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source
☐ Modify Existing Source: Permit No.:_____ Date Issued:_____
☐ Required by Enforcement Action: Case No.:_____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☒	☐	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	☐
☐	☒	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	☐
☒	☐	Form EU5 – Boiler Information Please Specify number of forms attached: _____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	☐
☒	☐	Form BCE - Baghouses Control Equipment	☐
☐	☒	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability	☐

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

PERMIT TO CONSTRUCT APPLICATION

Revision 1
01/11/07

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

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	High Desert Milk, Inc.
2. Facility Name (if different than #1)	High Desert Milk Plant
3. Facility I.D. No.	
4. Brief Project Description:	Construction of new milk processing facility
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	Karl Nelson / General Manager
7. Telephone Number and Email Address	208-312-4510/ k_bnelson@yahoo.com
8. Alternate Facility Contact Person/Title	Dan Ward / President of Board
9. Telephone Number and Email Address	208-312-2836 / makinmilk@safelimk.net
10. Address to which permit should be sent	1051 Hansen Ave.
11. City/State/Zip	Burley, Idaho 83318
12. Equipment Location Address (if different than #9)	1033 Idaho Ave.
13. City/State/Zip	Burley, Idaho 83318
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 2023 Secondary SIC (if any): NAICS: 311514
16. Brief Business Description and Principal Product	The facility will receive raw milk and produce dry skim milk powder.
17. Identify any adjacent or contiguous facility that this company owns and/or operates	None
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☒ New Facility ☐ New Source at Existing Facility ☐ Modify Existing Source: Permit No.:_____ Date Issued: _____ ☐ Unpermitted Existing Source: ☐ Required by Enforcement Action: Case No.:_____
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 ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Karl Nelson, General Manager
20. RESPONSIBLE OFFICIAL SIGNATURE Karl Nelson	Date: 6-18-07
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.	

Emissions Unit - General **Form EU0**

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

PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/14/07

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

IDENTIFICATION

Company Name: High Desert Milk	Facility Name: Milk Processing Plant	Facility ID No:
Brief Project Description:	Construction of a new milk processing plant	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	SKIM MILK DRYER
2. EU ID Number:	P101
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	DRYER: C/E/ROGERS BURNER: MAXON
5. Model:	BURNER: CROSSFIRE LOW NOX LINE BURNER
6. Maximum Capacity:	BURNER: 32,500,000 BTU/HR
7. Date of Construction:	2007-2008
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, Complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:	BAGHOUSES / P101A & P101B		
11. Date of Installation:	2007-2008	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	TBD: EQUIPMENT TO MEET PTC APPLICATION ASSUMPTIONS		
14. ID(s) of Emission Unit Controlled:	P101		
15. Is operating schedule different than emission units(s) involved?:	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐Yes ☐No (If yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	92%	92%				

17. 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)

18. Actual Operation	8,760 HOURS/YEAR
19. Maximum Operation	8,760 HOURS/YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

Emissions Unit - General **Form EU0**

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

PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/14/07

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

IDENTIFICATION

Company Name: High Desert Milk	Facility Name: Milk Processing Plant	Facility ID No:
Brief Project Description:	Construction of new milk processing plant.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	FLUID-BED
2. EU ID Number:	P102
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	C/E/ROGERS
5. Model:	
6. Maximum Capacity:	9,000 LB/HR OF PRODUCT
7. Date of Construction:	2007-2008
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, Complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:	FLUID-BED BAGHOUSE / P102		
11. Date of Installation:	2007-2008	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	C/E/ROGERS, FLUID-BED BAGHOUSE		
14. ID(s) of Emission Unit Controlled:	P102		
15. Is operating schedule different than emission units(s) involved?:	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐Yes ☐No (If yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	99.93%	99.93				

17. 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)

18. Actual Operation	8,760 HOURS/YEAR
19. Maximum Operation	8,760 HOURS/YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

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 2
02/14/07

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

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
High Desert Milk	Milk Processing Plant	
Brief Project Description:	Construction of new milk processing plant.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	POWDER HANDLING
2. EU ID Number:	P103
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	C/E/ROGERS
5. Model:	
6. Maximum Capacity:	
7. Date of Construction:	2007-2008
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, Complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:	BAGHOUSES / P103A & P103B		
11. Date of Installation:	2007-2008	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	C/E/ROGERS, POWDER HANDLING BAGHOUSE		
14. ID(s) of Emission Unit Controlled:	P103		
15. Is operating schedule different than emission units(s) involved?:	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐Yes ☐No (If yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	98.4%	98.4%				

17. 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)

18. Actual Operation	8,760 HOURS/YEAR
19. Maximum Operation	8,760 HOURS/YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

Emissions Unit - General **Form EU0**

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

PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/14/07

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

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
High Desert Milk	Milk Processing Plant	
Brief Project Description:	Construction of new milk processing plant.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	BOILER #1
2. EU ID Number:	P104
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	SUPERIOR BOILER WORKS, INC. (OR EQUIVALENT)
5. Model:	SUPER SEMIINOLE 7500 (OR EQUIVALENT)
6. Maximum Capacity:	62,766,000 BTU/HR
7. Date of Construction:	2007-2008
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, Complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:			
11. Date of Installation:		12. Date of Modification (if any):	
13. Manufacturer and Model Number:			
14. ID(s) of Emission Unit Controlled:			
15. Is operating schedule different than emission units(s) involved?:	☐ Yes ☐ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐Yes ☐No (If yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

17. 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)

18. Actual Operation	8,760 HOURS/YEAR
19. Maximum Operation	8,760 HOURS/YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

Emissions Unit - General **Form EU0**

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

PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/14/07

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

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
High Desert Milk	Milk Processing Plant	
Brief Project Description:	Construction of new milk processing plant.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	BOILER #2
2. EU ID Number:	P105
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	SUPERIOR BOILER WORKS, INC. (OR EQUIVALENT)
5. Model:	SUPER SEMIINOLE 7500 (OR EQUIVALENT)
6. Maximum Capacity:	62,766,000 BTU/HR
7. Date of Construction:	2007-2008
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, Complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:			
11. Date of Installation:		12. Date of Modification (if any):	
13. Manufacturer and Model Number:			
14. ID(s) of Emission Unit Controlled:			
15. Is operating schedule different than emission units(s) involved?:	☐ Yes ☐ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐Yes ☐No (If yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

17. 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)

18. Actual Operation	8,760 HOURS/YEAR
19. Maximum Operation	8,760 HOURS/YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

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 2
02/13/07

Please see instructions on page 3 before filling out the form.

IDENTIFICATION		
Company Name: High Desert Milk	Facility Name: Milk Processing Plant	Facility ID No:
Brief Project Description:	Construction of a new milk processing plant	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

Boiler (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

1. Type of Request ☒ New Unit ☐ Unpermitted Existing Unit ☐ Modification to a unit with Permit #:

2. Use of Boiler: ☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

3. Boiler ID Number: P104	4. Rated Capacity: ☒ 62.77 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb	
5. Construction Date: 2007-2008	6. Manufacturer: Superior	7. Model: Super Seminole 7500
8. Date of Modification (if applicable):	9. Serial Number (if available):	10. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

11. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
12. Full Load Consumption Rate		61,535 scf/hr		
13. Actual Consumption Rate		61,535 scf/hr		
14. Fuel Heat Content (Btu/unit, LHV)		1,020 Btu/scf		
15. Sulfur Content wt%				
16. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

17. Steam Heat Content	NA	NA		
18. Steam Temperature (°F)	N/A	N/A		
19. Steam Pressure (psi)	N/A	N/A		
20. Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):

22. Operating Schedule (hours/day, months/year, etc.): 24 hr/day, 365 days/yr

DEQ AIR QUALITY PROGRAM
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PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/13/07

Please see instructions on page 3 before filling out the form.

IDENTIFICATION		
Company Name: High Desert Milk	Facility Name: Milk Processing Plant	Facility ID No:
Brief Project Description:	Construction of a new milk processing plant	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

Boiler (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

1. Type of Request ☒ New Unit ☐ Unpermitted Existing Unit ☐ Modification to a unit with Permit #:

2. Use of Boiler: ☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

3. Boiler ID Number: P105	4. Rated Capacity: ☒ 62.77 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb	
5. Construction Date: 2007-2008	6. Manufacturer: Superior	7. Model: Super Seminole 7500
8. Date of Modification (if applicable):	9. Serial Number (if available):	10. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

11. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
12. Full Load Consumption Rate		61,535 scf/hr		
13. Actual Consumption Rate		61,535 scf/hr		
14. Fuel Heat Content (Btu/unit, LHV)		1,020 Btu/scf		
15. Sulfur Content wt%				
16. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

17. Steam Heat Content	NA	NA		
18. Steam Temperature (°F)	N/A	N/A		
19. Steam Pressure (psi)	N/A	N/A		
20. Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):

22. Operating Schedule (hours/day, months/year, etc.): 24 hr/day, 365 days/yr

DEQ AIR QUALITY PROGRAM
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PERMIT TO CONSTRUCT APPLICATION

Revision 2
02/13/07

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IDENTIFICATION		
Company Name: High Desert Milk	**Facility Name:** Milk Processing Plant	**Facility ID #:**
Brief Project Description:		

IDENTIFICATION				BAGHOUSE			BAGS			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Emission Unit	EU ID No.	CE ID No.	Stack ID No.	Baghouse Manufacturer	Baghouse Model No.	Type	Type	Size (Dia x Ht)	No. of Bags	Air to Cloth
Skim Milk Dryer Baghouses	P101	P101A	P101A	TBD	TBD	TBD	TBD	TBD	TBD	TBD
" " " "	"	P101B	P101B	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Fluid-Bed Baghouse	P102	P102	P102	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Powder Handling Baghouses	P103	P103A	P103A	TBD	TBD	TBD	TBD	TBD	TBD	TBD
" " " "	"	P103B	P103B	TBD	TBD	TBD	TBD	TBD	TBD	TBD

DEQ AIR QUALITY PROGRAM
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PERMIT TO CONSTRUCT APPLICATION
Revision 2
2/14/2007

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plant
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

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

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Skim Milk Dryer (P101)	P101A	5.28	23.11	0.01	0.04	0.73	3.21	5.96	26.10	0.09	0.38	0.00	0.00
Skim Milk Dryer (P101)	P101B	5.28	23.11	0.01	0.04	0.73	3.21	5.96	26.10	0.09	0.38	0.00	0.00
Fluid-Bed Baghouse (P102)	P102	1.08	4.73										
Powder Handling Baghouse(P103)	P103A	0.06	0.25										
Powder Handling Baghouse(P103)	P103B	0.06	0.25										
Boiler #1 (P104)	P104	0.47	2.05	0.04	0.16	6.15	26.95	5.17	22.64	0.34	1.48	0.00	0.00
Boiler #1 (P105)	P105	0.47	2.05	0.04	0.16	6.15	26.95	5.17	22.64	0.34	1.48	0.00	0.00
name of the emissions unit8													
name of the emissions unit9													
name of the emissions unit10													
name of the emissions unit11													
name of the emissions unit12													
name of the emissions unit13													
name of the emissions unit14													
name of the emissions unit15													
name of the emissions unit16													
name of the emissions unit17													
name of the emissions unit18													
name of the emissions unit19													
name of the emissions unit20													
name of the emissions unit21													
(insert more rows as needed)													
Total		12.68	55.54	0.09	0.41	13.78	60.34	22.26	97.48	0.85	3.73	0.00	0.00

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton, Boise, ID 83706 For assistance, call the Air Permit **Hotline - 877-5PERMIT**	**PERMIT TO CONSTRUCT APPLICATION** Revision 1 1/11/2007
Company Name:	High Desert Milk	
Facility Name:	Milk Processing Plant	
Facility ID No.:		
Brief Project Description:	Construction of a new milk processing plant.	

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

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - FUGITIVE SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Fugitive Source Name	Fugitive ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Fugitive Source(s)													
Name of Fugitive Source 1													
Name of Fugitive Source 2													
Name of Fugitive Source 3													
Name of Fugitive Source 4													
Name of Fugitive Source 5													
Name of Fugitive Source 6													
Name of Fugitive Source 7													
Name of Fugitive Source 8													
Name of Fugitive Source 9													
Name of Fugitive Source 10													
Name of Fugitive Source 11													
Name of Fugitive Source 12													
Name of Fugitive Source 13													
Name of Fugitive Source 14													
Name of Fugitive Source 15													
Name of Fugitive Source 16													
Name of Fugitive Source 17													
Name of Fugitive Source 18													
Name of Fugitive Source 19													
Name of Fugitive Source 20													
Name of Fugitive Source 21													
... (insert more rows as needed)													
Total													

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 2
2/14/2007

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

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plant
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Skim Milk Dryer (P101)	P101A	5.28	23.11	0.01	0.04	0.73	3.21	5.96	26.10	0.09	0.38	0.00	0.00
Skim Milk Dryer (P101)	P101B	5.28	23.11	0.01	0.04	0.73	3.21	5.96	26.10	0.09	0.38	0.00	0.00
Fluid-Bed Baghouse (P102)	P102	1.08	4.73										
Powder Handling Baghouse(P103)	P103A	0.06	0.25										
Powder Handling Baghouse(P103)	P103B	0.06	0.25										
Boiler #1 (P104)	P104	0.47	2.05	0.04	0.16	6.15	26.95	5.17	22.64	0.34	1.48	0.00	0.00
Boiler #1 (P105)	P105	0.47	2.05	0.04	0.16	6.15	26.95	5.17	22.64	0.34	1.48	0.00	0.00
name of the emissions unit8													
name of the emissions unit9													
name of the emissions unit10													
name of the emissions unit11													
name of the emissions unit12													
name of the emissions unit13													
name of the emissions unit14													
name of the emissions unit15													
name of the emissions unit16													
name of the emissions unit17													
name of the emissions unit18													
name of the emissions unit19													
name of the emissions unit20													
name of the emissions unit21													
(insert more rows as needed)													
Total		12.68	55.54	0.09	0.41	13.78	60.34	22.26	97.48	0.85	3.73	0.00	0.00

	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 2 2/14/2007
Company Name:	High Desert Milk	
Facility Name:	Milk Processing Plant	
Facility ID No.:		
Brief Project Description:	Construction of a new milk processing plant.	

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

SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - FUGITIVE SOURCES

		3. Air Pollutant Maximum Change in Emissions Rate (lbs/hr or t/yr)											
1.	2.	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Fugitive Source Name	**Fugitive ID**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**
Fugitive Source(s)													
Name of Fugitive Source 1													
Name of Fugitive Source 2													
Name of Fugitive Source 3													
Name of Fugitive Source 4													
Name of Fugitive Source 5													
Name of Fugitive Source 6													
Name of Fugitive Source 7													
Name of Fugitive Source 8													
Name of Fugitive Source 9													
Name of Fugitive Source 10													
Name of Fugitive Source 11													
Name of Fugitive Source 12													
Name of Fugitive Source 13													
Name of Fugitive Source 14													
Name of Fugitive Source 15													
Name of Fugitive Source 16													
Name of Fugitive Source 17													
Name of Fugitive Source 18													
Name of Fugitive Source 19													
Name of Fugitive Source 20													
Name of Fugitive Source 21													
(insert more rows as needed)													
Total													

	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 2 2/14/2007

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plant
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

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

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (μg/m3)**	**Significant Contribution Level (μg/m3)**	**Full Impact Analysis Results (μg/m3)**	**Background Concentration (μg/m3)**	**Total Ambient Impact (μg/m3)**	**NAAQS (μg/m3)**	**Percent of NAAQS**
PM_{10}	24-hour	NA	5	64.00	76.00	140.00	150	93%
	Annual	NA	1	20.00	27.00	47.00	50	94%
SO_2	3-hr	NA	25					
	24-hr	NA	5					
	Annual	NA	1					
NO_2	Annual	NA	1	39.00	32.00	71.00	100	71%
CO	1-hr	NA	2000	562.00	10,200.00	10,762.00	40,000	27%
	8-hr	NA	500	226.00	3,400.00	3,626.00	10,000	36%

	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 2 2/14/2007

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plnat
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

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

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	.7	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Stack Height (m)**	**Modeled Diameter (m)**	**Stack Exit Temperature (K)**	**Stack Exit Flowrate (acfm)**	**Stack Exit Velocity (m/s)**	**Stack orientation (e.g., horizontal, rain cap)**
Point Source(s)										
Skim Milk Dryer (P101)	P101A	#########	#########	1,268.42	34.75	1.24	360.93	728.54	17.08	Vertical
Skim Milk Dryer (P101)	P101B	#########	#########	1,268.26	34.75	1.24	360.93	728.54	17.08	Vertical
Fluid-Bed Baghouse (P102)	P102	#########	#########	1,268.45	34.75	0.53	327.59	130.66	16.78	Vertical
Powder Handling Baghouse (P103)	P103A	#########	#########	1,268.56	27.43	0.00	299.82	0.00	0.00	Horizontal
Powder Handling Baghouse (P103)	P103B	#########	#########	1,268.26	27.43	0.00	299.82	0.00	0.00	Horizontal
Boiler #1 (P104)	P104	#########	#########	1,268.42	11.58	1.22	449.82	329.84	7.99	Vertical
Boiler #2 (P105)	P105	#########	#########	1,266.70	11.58	1.22	449.82	329.84	7.99	Vertical
name of the emissions unit8										
name of the emissions unit9										
name of the emissions unit10										
name of the emissions unit11										
name of the emissions unit12										
name of the emissions unit13										
name of the emissions unit14										
name of the emissions unit15										
name of the emissions unit16										
name of the emissions unit17										
name of the emissions unit18										
name of the emissions unit19										
name of the emissions unit20										
name of the emissions unit21										
(insert more rows as needed)										

	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 2 2/14/2007

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plant
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

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

FUGITIVE SOURCE PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Release Height (m)**	**Easterly Length (m)**	**Northerly Length (m)**	**Angle from North (°)**	**Initial Vertical Dimension (m)**	**Initial Horizontal Dimension (m)**
Area Source(s)										
name of the emissions unit1	NA									
name of the emissions unit2										
name of the emissions unit3										
name of the emissions unit4										
name of the emissions unit5										
name of the emissions unit6										
name of the emissions unit7										
name of the emissions unit8										
name of the emissions unit9										
name of the emissions unit10										
Volume Source(s)										
name of the emissions unit11										
name of the emissions unit12										
name of the emissions unit13										
name of the emissions unit14										
name of the emissions unit15										
name of the emissions unit16										
name of the emissions unit17										
name of the emissions unit18										
name of the emissions unit19										
(insert more rows as needed)										

	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 2 2/14/2007

Company Name:	High Desert Milk
Facility Name:	Milk Processing Plant
Facility ID No.:	
Brief Project Description:	Construction of a new milk processing plant.

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

BUILDING AND STRUCTURE INFORMATION

1.	2.	3.	4.	5.	6.	7.
Building ID Number	**Length (ft)**	**Width (ft)**	**Base Elevation (m)**	**Building Height (m)**	**Number of Tiers**	**Description/Comments**
BLD_1	119.32	85.56	1268.92	7.62	1	Rectangular building
BLD_2	108.01	14.01	1266.99	7.62	1	Rectangular building
BLD_4	108.01	14.01	1269.00	7.62	1	Rectangular building
BLD_6	Various	Various	1268.84	9.75/33.83	2	Polygonal two tier building
BLD_7		12.50	1268.00	24.31	1	Circular building
BLD_9		12.50	1268.50	24.31	1	Circular building
BLD_10		12.50	1268.94	24.31	1	Circular building
BLD_11		12.50	1269.00	24.31	1	Circular building
BLD_12		12.50	1269.00	24.31	1	Circular building
BLD_14		12.50	1269.00	13.34	1	Circular building
BLD_15		12.50	1269.00	13.34	1	Circular building
BLD_16		12.50	1269.00	16.99	1	Circular building
BLD_17		12.50	1269.00	16.99	1	Circular building
BLD_19		12.50	1269.00	16.99	1	Circular building
BLD_20		12.50	1269.00	24.31	1	Circular building
BLD_21		12.50	1269.00	24.31	1	Circular building
BLD_22		12.50	1269.00	24.31	1	Circular building
BLD_23		12.50	1269.00	24.31	1	Circular building
BLD_25		12.50	1269.00	24.31	1	Circular building

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 2
02/14/07

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

IDENTIFICATION		
Company Name: High Desert Milk	Facility Name: Milk Processing Plant	Facility ID No:
Brief Project Description: Construction of a new milk processing plant		

APPLICABILITY DETERMINATION		
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	☒ NO	☐ YES* * If YES then applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	☐ NO	☒ YES* *If YES please identify sub-part: Dc
3. Will this project be subject to a MACT (Maximum Achievable Control Technology) regulation? (40 CFR part 63) THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT	☒ NO	☐ YES* *If YES please identify sub-part: _____
4. Will this project be subject to a NESHAP (National Emission Standards for Hazardous Air Pollutants) regulation? (40 CFR part 61)	☒ NO	☐ YES* *If YES please identify sub-part: _____
5. Will this project be subject to PSD (Prevention of Significant Deterioration)? (40 CFR section 52.21)	☒ NO	☐ YES
6. Was netting done for this project to avoid PSD?	☒ NO	☐ YES* *If YES please attach netting calculations

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT

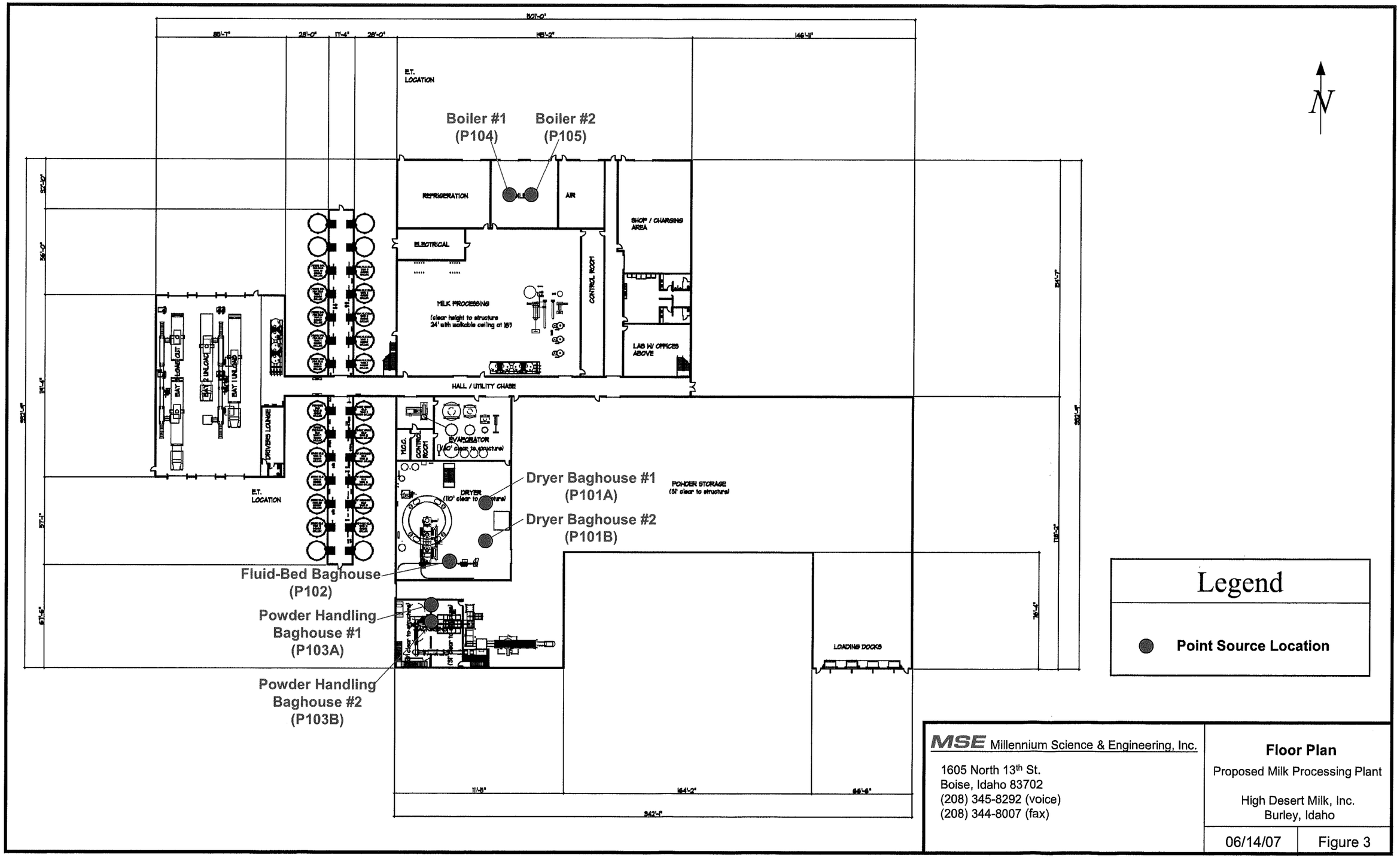
No.	Date	By	Revision
1	3/17/07	JN	Added architect site plan to topo

HANSEN & ASSOCIATES, INC.
Consulting Engineers and Land Surveyors
538 North Main Brigham City, Utah 84302
Brigham City (435)723-3491 Ogden (801)399-4905 Logan (435)752-8272

Drawn By: JN Date: 12/28/06
Designed By:
Checked By:
Approved By:
Scale: 1"=100'
Drawing File: L06-3-135.dwg
JOB NUMBER: L06-3-135

A Site Overlay For:
High Desert - Lundahl Building Systems
Burley, Cassia County, Idaho
A PART SECTION 19,
TOWNSHIP 10 SOUTH, RANGE 23 EAST, BOISE MERIDIAN.

SHEET 1 OF 1 SHEETS



MSE Millennium Science & Engineering, Inc.

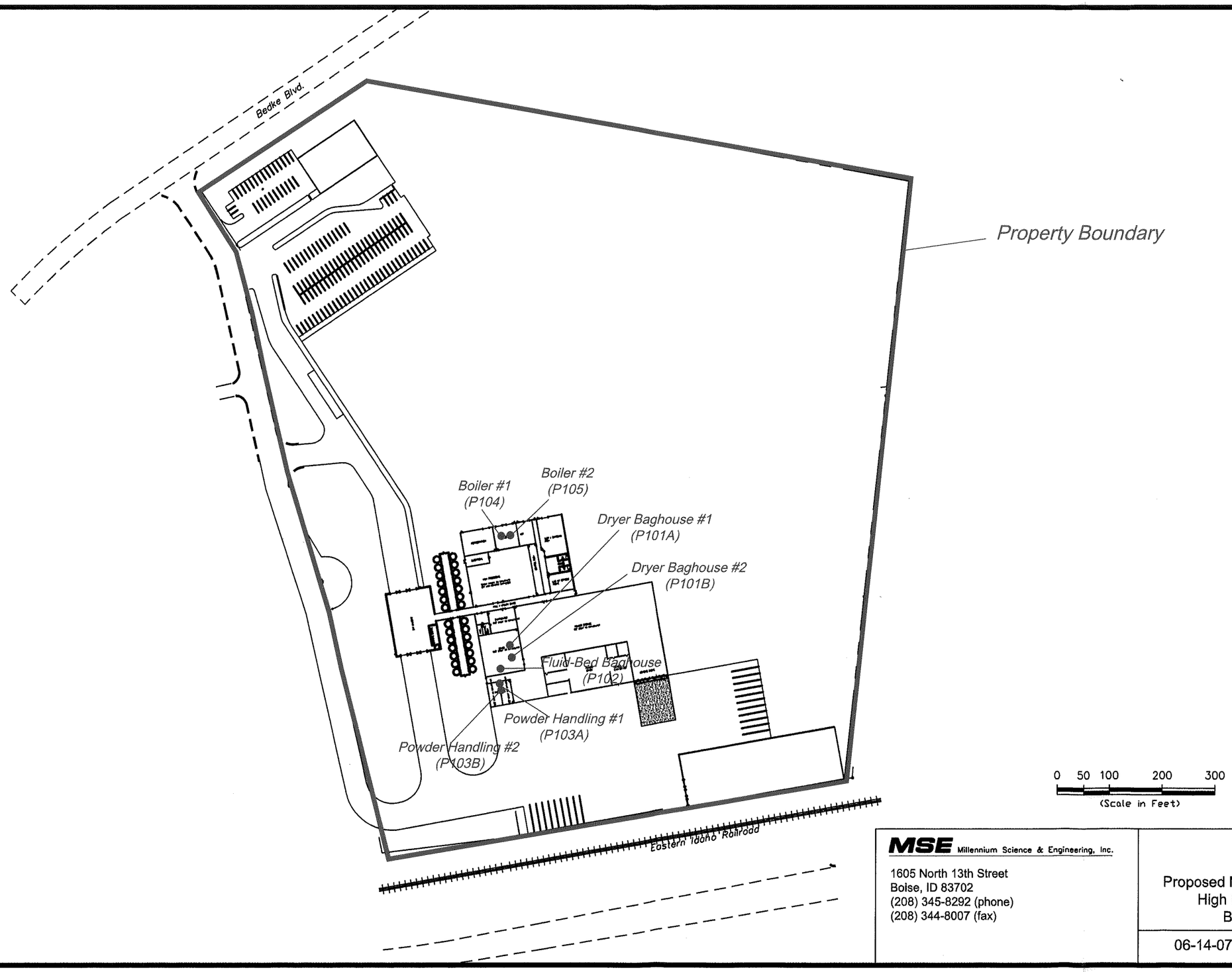
1605 North 13th St.
Boise, Idaho 83702
(208) 345-8292 (voice)
(208) 344-8007 (fax)

Floor Plan

Proposed Milk Processing Plant

High Desert Milk, Inc.
Burley, Idaho

06/14/07 | Figure 3



MSE Millennium Science & Engineering, Inc.

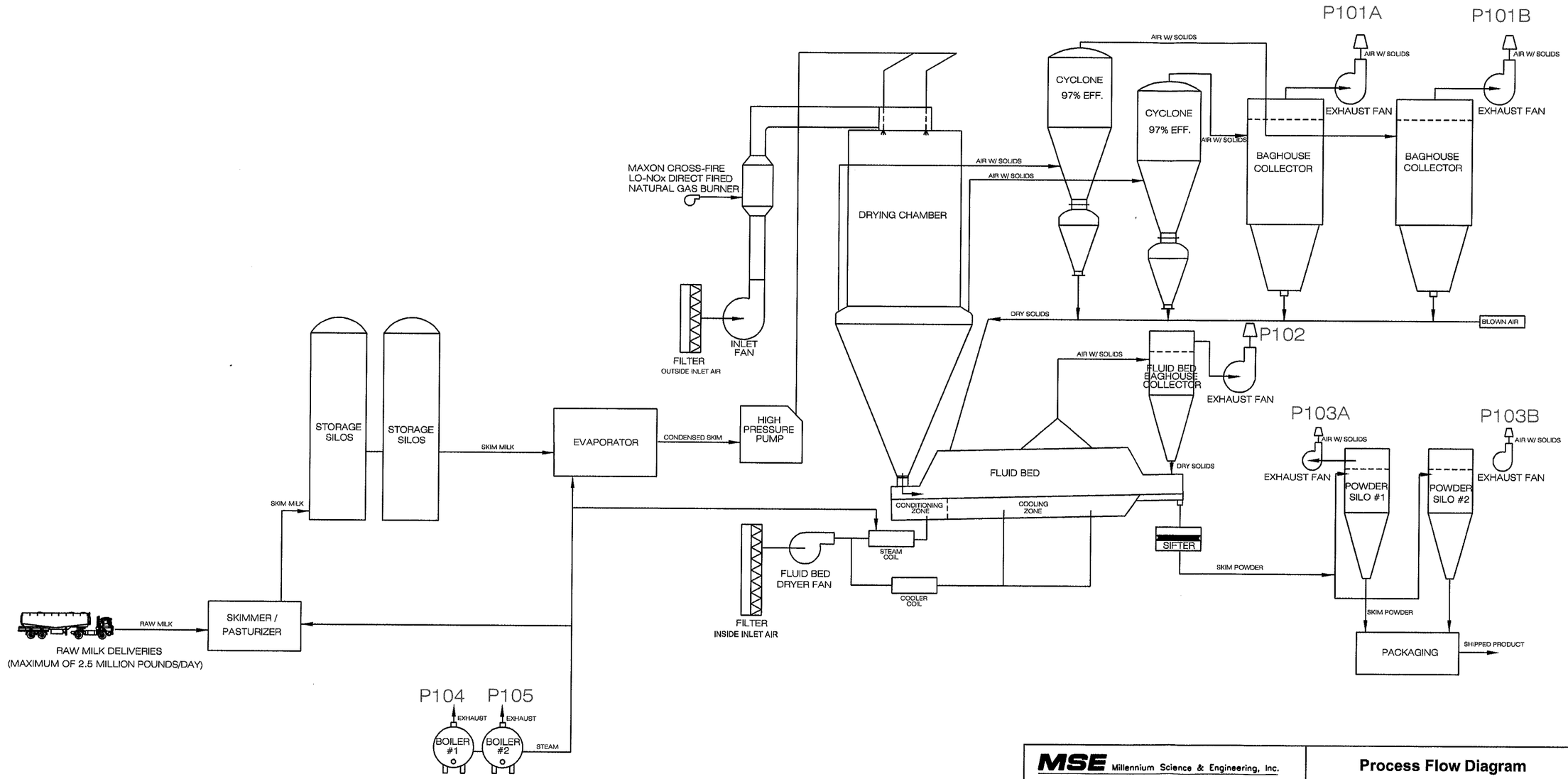
1605 North 13th Street
Boise, ID 83702
(208) 345-8292 (phone)
(208) 344-8007 (fax)

Site Plan

Proposed Milk Processing Plant
High Desert Milk, Inc.
Burley, Idaho

06-14-07

Figure 2



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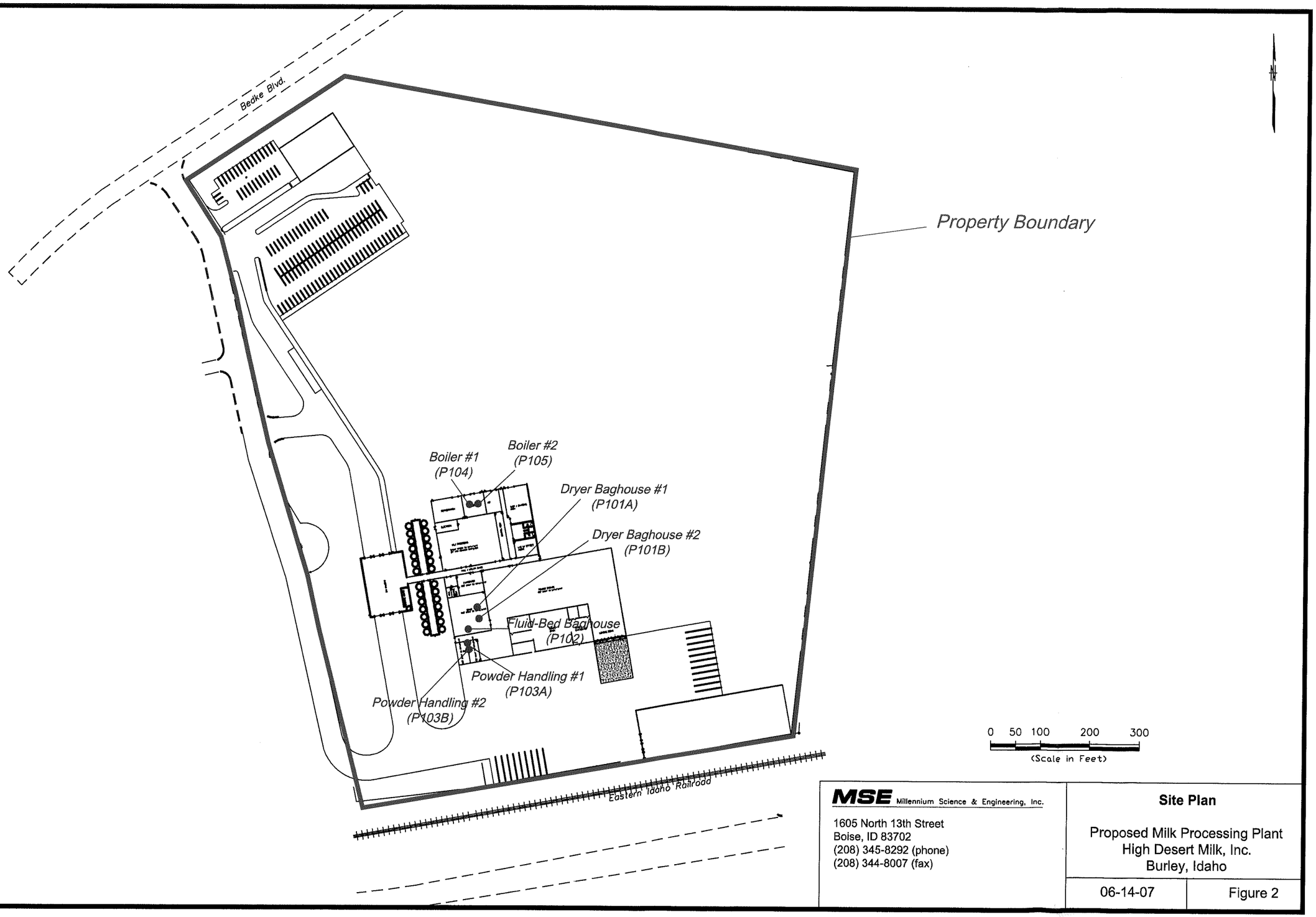
(208) 345-8292 (phone)
(208) 344-8007 (fax)

Process Flow Diagram

Proposed Milk Processing Plant
High Desert Milk, Inc.
Burley, Idaho

06-14-07

Figure 1



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Site Plan

Proposed Milk Processing Plant
High Desert Milk, Inc.
Burley, Idaho

06-14-07

Figure 2