

**EASTERN KERN AIR POLLUTION CONTROL DISTRICT
TECHNICAL SUPPORT DOCUMENT FOR
US BORAX, INC.
2011 TITLE V PERMIT RENEWAL NO: 1004-V-2000**

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APPLICATION RECEIVED FROM: **U.S. BORAX, INCORPORATED
14486 BORAX ROAD
BORON, CALIFORNIA 93516-2000**

PLANT SITE LOCATION: **14486 Borax Road, Boron, CA**

SECTION/TOWNSHIP/RANGE: **SW23/T11N/R08W SBB&M**

APPLICATION PROCESSED BY: **Jeremiah Cravens, Air Quality Specialist II**

APPLICATION REVIEWED BY: **Glen Stephens, Air Pollution Control Officer**

NATURE OF BUSINESS: **Mining and Refining of Sodium and Calcium Borates, Tincal, and Kernite to Product 5 MOL, 10 MOL, Boric Acid, Anhydrous Borate (AB), Anhydrous Borate Acid (ABA), PENTA, and PBPG**

SIC Code: **3241**

RESPONSIBLE OFFICIAL: **Rhys Jenkins**
Title: **Environmental Manager**
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FACILITY CONTACT PERSON: **Timothy E. Burke**
Title: **Principal Environmental Advisor**
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I. INTRODUCTION

This Technical Support Document (TSD) pertains to the US Borax, Inc. (US Borax) 2011 Title V renewal of Permit No. 1004-V-2000. US Borax is located in Boron California and owned by the Rio Tinto Company. US Borax operates California's largest open pit mine that has one of the richest borate deposits on the planet. US Borax supplies nearly half the world's demand for refined borates, minerals essential to life and modern living.

Renewal of Permit No. 1004-V-2000 will allow US Borax to continue their mining and refining operation pursuant to the requirements of Eastern Kern Air Pollution Control District's (District) Rule 201.1, Permits to Operate for Sources Subject to Title V of the Federal Clean Air Act Amendments of 1990.

Attainment Classification

The facility is located in an area of the District designated Nonattainment/Marginal for the 2008, 8-hour Ozone NAAQS but Attainment for the 1997, 8-hour Ozone NAAQS. The major source threshold is 50 tons per year for VOCs and NO_x (as ozone precursors in an area formerly designated as a serious 1-hour Ozone nonattainment area). The District is designated attainment or unclassifiable for the NAAQS for the pollutants NO₂, SO₂, CO, PM₁₀, PM_{2.5}, and lead, these major source thresholds are 100 tons per year.

II. BACKGROUND

Pursuant to District Rule 201.1, Permits to Operate for Sources Subject to Title V (Title V) of the Federal Clean Air Act Amendment of 1990, a Federal Part 70 Permit Renewal has been issued to US Borax. The District issued the initial Federal Part 70 Title V Permit to Operate to US Borax in 2001.

US Borax applied for a Title V Permit renewal in 2005. The District issued the first Title V Permit renewal in 2006. US Borax applied for a second Title V Permit renewal in 2010. Upon review of National Cement's 2010 Title V renewal application, District staff found that only minor modifications occurred to the facility, mainly dealing with plant efficiency, during the past 5 years. Staff updated the facility's previous Title V Permit to include equipment and permit condition changes, updated all NSPS and NESHAP requirements, and added Greenhouse Gas (GHG) provisions.

On January 13, 2012, the District submitted a copy of the proposed draft renewal permit to EPA and US Borax for a 45-day review in accordance with 40 CFR 70.8(c), and District Rule 201.1. A public notice for the proposed draft Title V renewal permit was published February 9, 2012 that allowed a 30-day public review period. The District received no public comments regarding the proposed draft permit. However, EPA deemed the proposed draft incomplete due to the "high-level references to federal requirements".

On June 30, 2014, Staff provided US Borax a second draft of the permit renewal for 45-day review. US Borax provided a few comments which, the District addressed. Staff provided EPA with a second draft of the renewal permit on February 18, 2015, containing applicable NSPS and NESHAP requirements as appendices to the US Borax Renewal Title V Permit. A second 30-day public notice and public review period will be concurrent with EPA's 45-day review period.

Under permit shield, this proposed permit renewal allows the facility to operate without violating their Title V permit.

App. Rec.:	09/29/2010	
60-Days:	11/28/2010	
Req. Info. (Deem Incomplete):	10/28/2010	
Deemed Complete:	04/18/2011	
Current Title V Permit Expiration:	03/29/2011	Under Permit Shield
Initial Facility 45-Day Review:	Start: 01/13/2012	End: 02/27/2012
Initial EPA 45-Day Review:	Start: 01/13/2012	End: 02/27/2012
Initial 30 Day Public Notice:	Start: 02/09/2012	End: 03/10/2012
Second Facility 45-Day Review:	Start: 06/30/2014	End: 08/13/2014
Second EPA 45-Day Review:	Start: 2/18/2015	End: 4/03/2015
Second 30 Day Public Notice:	Start: 2/18/2015	End: 3/19/2015

III. FACILITY DESCRIPTION

US Borax US Borax mines and refines borate ores (borax) utilized for numerous everyday products along with other specialty products used by select industries. The first step in mining borax is loosening earth and ore by blasting. Large power shovels and haul trucks remove clay and earth (overburden) that cover the deposit(s).

Two types of ore are mined – tincal and kernite. Tincal ore is used by primary processing plant, and kernite is used by boric acid plant (AA). Ore, removed with sploaders and trucks, is crushed (A) before use. Approximately half of the kernite ore is stacked, wetted, and thus hydrated (DD) into tincal ore. All ore is sent by belt to an ore stockpile (B), there to await use by either the primary processing plant or the boric acid plant. Tincal ore is removed from the stockpile by bucket wheel reclaimer, sized, and crushed before conveying to storage bins (E) to await processing.

A. PRIMARY PROCESS

Dissolving plant (wet process) is the first step in the primary process (F). Here, ore is mixed with a hot borax solution called liquor. Dissolving occurs in a series of turbo dissolvers where agitation and high temperatures aid dissolving of borax. Tyrock screens are used to separate rock, sand, and other solids from turbo discharge. These solids, called gangue, are stacked and removed by truck. Product of dissolving plant is saturated borax solution containing some fine, insoluble clays. Dissolver liquor is pumped to large, covered thickeners (P) where fine insolubles are separated from liquor.

Insoluble material is washed in a four-step, counter current decantation process involving all of the thickeners. As a final step, most of the remaining plant liquor is removed from insoluble material by a centrifugation plant (EE).

Tailings from thickeners are pumped to lined tailings and reclamation ponds. As water evaporated, borate crystals remain. When a tailings pond is full of crystals, the material can be recovered through pond reprocessing plant located northwest of the refinery. Pond material is dried, crushed, screened, and passed through magnetic separators to remove waste material. Resulting product is high enough quality to feed back into primary processing facility.

To produce 5-Mol and 10-Mol product, clear borax liquor is removed from thickeners and sent to granulating plant (Q and R), second step in the primary process. Here crystallizers (Q) cool liquid forming crystal of 5-Mol and 10-Mol borax. These crystals are removed by centrifugation (R). Five-Mol borax is dried in a gas fired rotary dryer. Ten-Mol borax crystals are formed at a lower crystallization temperature than 5-Mol borax crystals. These are dried in gas-fired Wyssmont dryers and then cooled in a rotary cooler. Excess 10-Mol product is re-dissolved and converted into 5-Mol product using a re-crystallization process. All products are stored in large concrete silos to await shipping in bulk form or as a packed product. Packaging is accomplished using a modern, automated packaging facility (X). Here, bags of borax are automatically filled and palletized. Bulk product is rapidly loaded into rail cars or trucks using a high-speed loadout system (HH). Product can be stored in two 20,000-ton capacity concrete domes that are located just to the south of the high-speed loadout station.

Anhydrous borax and anhydrous boric acid are fused products. They require an extra processing step where borax or boric acid is melted in a large gas-fired furnace (T and U). Molten product is then cooled to a glass, crushed, sized, and stored. Fused products are packed using a separate automated system (V).

B. BORIC ACID PLANT PROCESS

Boric acid, made in a separate processing plant using kernite ore, is dissolved in a mixture of sulfuric acid and plant liquor. This dissolving occurs in the plant's rotary dissolver. A rake classifier removes large insoluble rock and sand. Fine insolubles are settled out in covered thickeners. Resulting strong liquor is filtered before crystallization. Boric acid crystals are first removed by a vacuum filter, re-pulped, concentrated, and finally, removed by pusher centrifuge. Boric acid is then dried in a steam-heated rotary dryer. Each day's production is stored in day bins, later to be stored in large silos. Eventually, boric acid is shipped in bulk form or packed by an automated packaging system.

C. COGENERATION PLANT

The need for greater energy cost savings led to construction of a cogeneration plant (BB). Cogeneration Plant I consists of a gas turbine engine driving a 45 megawatt

generator. Boilers using waste heat from gas turbine engine produce steam used by the processing plant. The generators produce more electricity than is needed by Boron operations; excess electricity is sold to Southern California Edison (SCE) for public use.

D. MAINTENANCE OPERATIONS

An in-house maintenance group supplies plant maintenance services. The well-equipped shops (I and N) are capable of repairing most of the plant equipment. Heavy equipment is maintained in-house with a complex facility (D) maintaining the fleet of heavy equipment. A modern warehouse (M) provides spare parts to minimize repair time.

E. SOLID WASTE LANDFILL

The Boron refinery operates its own 60-acre landfill inside its property boundary of approximately 22,000 acres. The landfill received waste from the refinery consisting of heavy construction debris, lunchroom trash, broken pallets, bags, cardboard, and paper. Approximately 10 ton per day is disposed of at the site. Life expectancy is around 25 years.

IV. FACILITY LOCATION

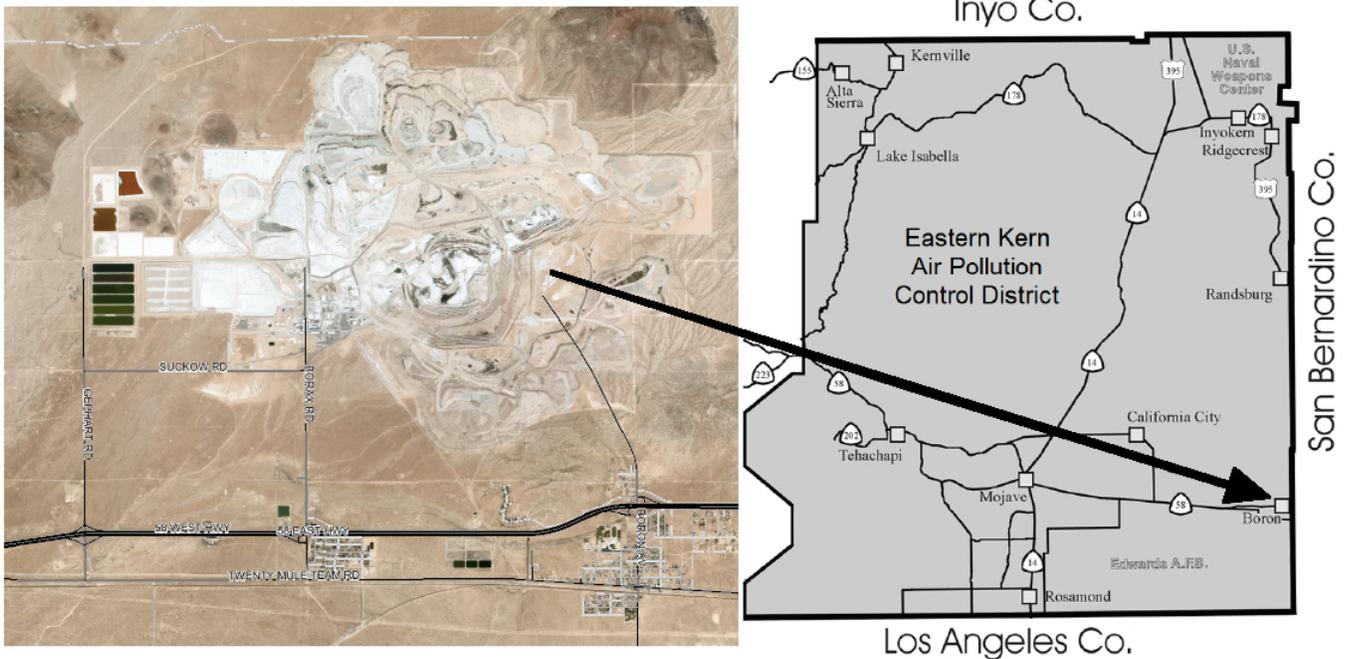


Figure 1: General Location of U.S. Borax Plant

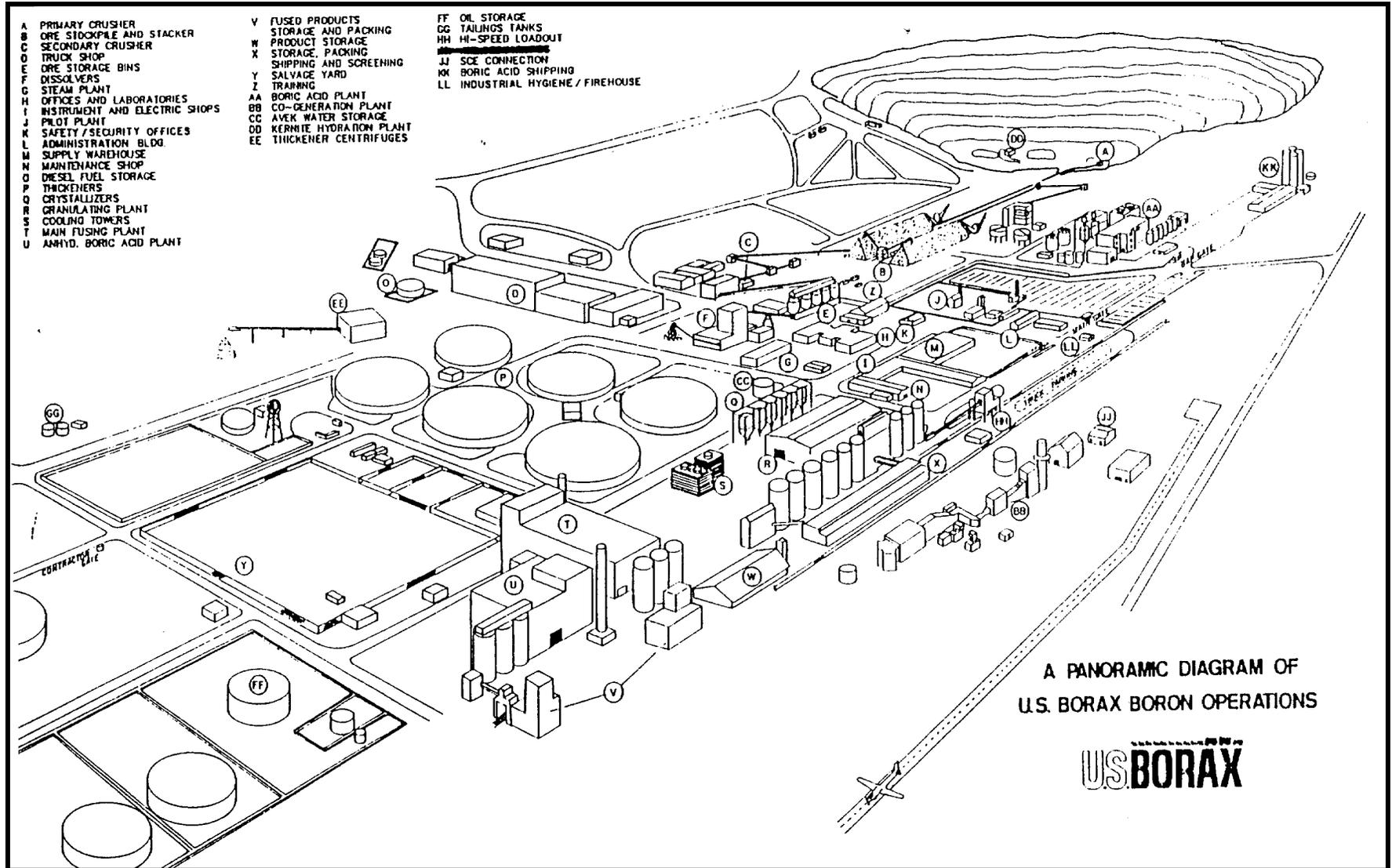


Figure 2: Plot Plan of U.S. Borax Plant

V. POTENTIAL EMISSIONS

Tables 1 and 2 below list US Borax’s plant-wide stationary source emissions.

Table 1

Criteria Pollutant Emissions (tons per year)					
Pollutant:	PM ₁₀	SO _x	NO _x	VOC	CO
Potential Emissions:	3315.93	1959.01	1368.66	40.08	2119.73

Table 2

Greenhouse Gas Emissions (tons per year)							
Pollutants:	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Total
Emissions (tpy):	310,230.21	5.26	0.49	N/A	N/A	0.034	
*GWP:	1	21	310	**	**	23,900	
CO ₂ e (tpy):	310,230.2	110.4	150.4	N/A	N/A	811.4	311,302.4

Reported for year 2009

Greenhouse Gases:

Carbon dioxide (CO₂), Nitrous oxide (N₂O), Methane (CH₄), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride (SF₆).

*Global Warming Potential (GWP): The capacity to heat the atmosphere, calculated as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram (kg) of a substance relative to that of 1 kg of CO₂. GWP shall be calculated according to the factors for a 100-year time horizon, as stated in 40 CFR Part 98 Subpart A Table A-1 (Global Warming Potentials).

**GWP varies based on each pollutant.

VI. EQUIPMENT LISTING

Unit No. Description of Source

001	Primary Crusher & Ore Stacking Operation
002	Secondary Screening & Crushing Operation
003	Fluid Bed Dryer/Conveying System
005	Neobor Rotary Drying Operation
006	5 Mol Screening
007	5 Mol High Speed Conveying
008	5 Mol Railcar Loadout
009	5 Mol Packing Operation
010	5 Mol Furnace Feed
012	10 Mol Dryer #2
013	10 Mol Dryer #3
014	10 Mol Dryer #4

<u>Unit No.</u>	<u>Description of Source</u>
015	10 Mol Dryer #5
016	10 Mol Crushing/Screening Operation
017	10 Mol Railcar Loadout
018	10 Mol Packing Operation
019	10 Mol Furnace Feed
027	Line 7 Fusing
028	Line 7 Cooling/Milling/Screening
029	Anhydrous Borax Loadout Operation
030	Anhydrous Borax Screening/Loadout West
031	Anhydrous Borax Packing
032	Fusing & Anhydrous Boric Acid Plants
033	Anhydrous Boric Acid Cooling/Milling/Screening/Storage Bag Loadout Operation
035	Anhydrous Boric Acid Loadout
040	Boiler #5
041	Boiler #6
047	Research Pilot Plant
048	Anhydrous Boric Acid Packing
049	Soda Ash Receiving/Storage/Handling
050	5 Mol Fines Receiving/Storage/Handling
053	5 Mol/R46 Truck Loadout Operation
056	Boiler #7
058	Boric Acid Ore Reclaim Operation
059	Boric Acid Rotary Reactor Scrubber
060	Boric Acid #1 Drying/Screening/Milling/Storage Operation
061	Boric Acid #2 Operation
062	Boric Acid #3 Drying Operation
063	Boric Acid Screening/Milling/Conveying & Truck Loadout Operation
064	Boric Acid Pneumatic Conveying to Storage Operation
065	Boric Acid Off-Specification Recycle Operation
066	Boric Acid Conveying to Railcar Loadout & Packaging Bins
067	Boric Acid Off-Specification Packing & Railcar Loadout Operation
068	Boric Acid "Bulk Pak" Loading Operation
069	Sulfuric Acid Receiving & Storage Operation
070	Sulfuric Acid Day Tank & Feed Operation
071	5 Mol/R46 Truck Loadout Operation
073	Diatomaceous Earth Receiving & Storage Operation
077	Co-Generation Facility I
084	Kernite Hydration Operation
085	Bulk Container Pneumatic Loading Operation
089	Gasoline Storage & Dispensing System
104	Cooling Tower (Cells 1-5)
105	Cooling Tower (2 Cells)
110	Anhydrous Borax Bulk Container End Loading Conveyor
164	Piston Engine with Pump
168	Piston Engine with Fire Pump

<u>Unit No.</u>	<u>Description of Source</u>
177	Paint Spray Booth
178	Paint Spray Booth
179	Paint Spray Booth
180	Sandblasting Operation
182	Bulk Storage Facility (Dome #1 West)
183	Bulk Storage Facility (Dome #2 East)
185	Industrial Vacuum System
186	Industrial Vacuum System
187	Industrial Vacuum System
188	Industrial Vacuum System
189	Industrial Vacuum System
190	Industrial Vacuum System
191	Industrial Vacuum System
192	Industrial Vacuum System
194	Truck-Mounted Vacuum
196	Sweeper
198	Sweeper
205	Flocculent Feed Tank with Bin Vent Dust Collector
206	Ore/Borax Pond Reprocessing Facility
207	Borates Tailings Ponds Reclamation
208	On-Site Landfill Operation
210	Piston Engine with Mobile Ore Screening Unit
211	Ammonium Nitrate Storage Unloading Operation #1
212	Ammonium Nitrate Storage Unloading Operation #2
213	Ammonium Nitrate Storage Unloading Operation #3
214	Ammonium Nitrate Storage Unloading Operation #4
222	Boric Acid Dryer
223	Granubor II Production Operation
228	Power Prime Pump
229	Power Prime Pump
233	Sweeper (Unit 9856)
267	Stand-By Secondary Crushing Unit
268	Bag Rejecter
273	Portable Compressor
275	Emergency Generator
276	Emergency Generator with Diesel Piston Engine
277	Emergency Generator with Diesel Piston Engine
278	Boiler
279	Outdoor Abrasive Blasting Operation
282	Air Compressor
283	Emergency Generator

VII. APPLICABLE FEDERAL REQUIREMENTS

Sources are subject to the most recently Board approved version of an adopted rule. Most of the rules this facility is subject to are part of the State Implementation Plan (SIP) and a few are considered "local only" meaning that it is not part of the SIP. In some instances a current rule will differ from those in the SIP due to a revision. This is called a SIP gap and happens when EPA has not yet acted on a SIP submittal.

Enforcement of a rule awaiting SIP approval should guarantee compliance with its SIP approved counterpart. This is because the pending rule will be at least as stringent as the SIP rule. The table below lists all rules and regulations this facility is subject to. SIP approved rules list their approval date along with current revision date (if applicable), thus making them federally enforceable.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 107	<u>Inspections</u> Inspections shall be made by the enforcement agency for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations, including authority to require record keeping and to make inspections and conduct tests of air pollution sources.
Rule 108 SIP Approved 2004	<u>Stack Monitoring</u> Upon the request of and as directed by the Control Officer, the owner shall provide, install, and operate continuous monitoring equipment on such operations as directed. The owner shall maintain, calibrate, and repair the equipment and shall keep the equipment operating at design capabilities
Rule 108.1 SIP Approved 2001	<u>Source Sampling</u> Upon the request of the Control Officer and as directed by him the owner of any source operation which emits or may emit air contaminants, for which emission limits have been established, shall provide the necessary and proper facilities for source sampling. The applicable test method, if not specified in the rule, shall be conducted in accordance with Title 40 CFR, Subpart 60, Appendix A - Reference Methods, except particulate matter (PM ₁₀) for compliance with Rule 210.1 requirements shall be conducted in accordance with Title 40 CFR, Subpart 51, Appendix M, Method 201 or 201A. Where no test method exists in the preceding references for a source type source sampling shall be conducted in accordance with California Air Resources Board (CARB) approved methods.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 111 SIP Approved (1980) Revised 1996	<u>Equipment Breakdown</u> An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24-hours, whichever is sooner (except for continuous monitoring equipment, for which the period shall be ninety-six (96) hours), shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and Regulations; however, no enforcement action may be taken provided the owner or operator demonstrates to the Control Officer that a breakdown condition exists and the proper requirements are met.
Rule 114 SIP Approved 1999	<u>Severability</u> If any provision, clause, sentence, paragraph, section or part of these Regulations or application thereof to any person or circumstance shall for any reason be adjudged by a court of competent jurisdiction to be unconstitutional or invalid, such judgment shall not affect or invalidate the remainder of this Regulation and the application of such provision to other persons or circumstances, but shall be confined in its operation to the provision, clause, sentence, paragraph, section or part thereof directly involved in the controversy in which such judgment shall have been rendered and to the person or circumstance involved, and it is hereby declared to be the intent of the Eastern Kern Air Pollution Control Board that these Regulations would have been issued in any case had such invalid provision or provisions not been included.
Rule 201.1 Title V Rule Revised 2012	<u>Applicability of Federally Enforceable Conditions</u> Federally Enforceable Conditions <u>do not apply</u> to the following permit sections: Equipment Descriptions, and any Design Conditions, Operational Conditions, Special Conditions, or Compliance Testing Requirements designated as District only. Federally Enforceable Conditions <u>shall apply</u> to Design Conditions, Operational Conditions, Special Conditions, Compliance Testing Requirements, and Emission Limits except as noted above.
Rule 201.1	<u>Permit Life</u> The life of this permit shall be five years from the date of issuance.
Rule 201.1	<u>Administrative Permit Amendment and Minor Permit Modification</u> Administrative Permit Amendment and Minor Permit Modification are those actions taken by the District as defined in Rule 201.1.

Rule No.
Rule 201.1

Rule Title and Description Conditions
Compliance with Permit Conditions

- A. U.S. Borax shall comply with all permit conditions;
- B. Permit does not convey any property rights or any exclusive privilege;
- C. Non-compliance with any permit condition shall be grounds for permit termination, revocation and reissuance, modification, enforcement action or denial of permit renewal;
- D. U.S. Borax shall not use “need to halt or reduce a permitted activity in order to maintain compliance” as a defense for non-compliance with any permit condition;
- E. Pending permit action or notification of anticipated non-compliance does not stay any permit condition; and
- F. Within a reasonable time period, U.S. Borax shall furnish any information requested by the APCO, in writing, for purpose of determining: 1) compliance with the permit, or 2) whether or not cause exists for a permit or enforcement action

Rule 201.1

Emergency Provisions

- A. U.S. Borax shall comply with the requirements of Rule 111 and the emergency provisions contained in all permit streamlining requirements imposed in accordance with Subsection VI.J. all District-only rules which apply in accordance with Subsection VI.K.1. and all applicable federal requirements not subsumed by such permit streamlining requirement(s) or District-only rules;
- B. Within two weeks of an emergency event, an owner or operator of the source shall submit to the District a properly signed, contemporaneous log or other relevant evidence which demonstrates that:
 - 1) An emergency occurred;
 - 2) The permittee can identify the cause(s) of the emergency;
 - 3) The facility was being properly operated at the time of the emergency;
 - 4) All steps were taken to minimize the emissions resulting from the emergency; and
 - 5) Within two working days of the emergency event, the permittee provided the District with a description of the emergency and any mitigating or corrective actions taken;
- C. In any enforcement proceeding, the permittee has the burden of proof for establishing that an emergency occurred.

Rule No.
Rule 201.1

Rule Title and Description Conditions
Record Keeping

- A. Recording of maintenance of all monitoring and support information associated with all permit streamlining requirements imposed in accordance with Rule 201.1, Subsection VI.J., all District-only rules which apply in accordance with Rule 201.1, Subsection VI.K.1., and all applicable federal requirements not submitted by such permit streamlining requirement(s) or District-only rules, including:
 - 1) Date, place, and time of sampling;
 - 2) Operating conditions at time of sampling;
 - 3) Date, place, and method of analysis; and
 - 4) Results of analysis;
- B. Retention of records of all required monitoring data and support information for a period of at least five years from the date of sample collection, measurement, report, or application; and
- C. Any other record keeping deemed necessary by the APCO to ensure compliance with all permit streamlining requirements imposed in accordance with Rule 201.1, Subsection VI.J., all District-only rules which apply in accordance with Rule 201.1, Subsection VI.K.1., and all applicable federal requirements not subsumed by such permit streamlining requirement(s) or District-only rules.

Rule 201.1

Referencing of District and Applicable Requirements

Pursuant to Rule 201.1.VII.C. District hereby references the following documents which are clearly identified and available to the District and to the public:

- A. Plant modernization project; and
- B. Each Authority to Construct file for new equipment and each Authority to Construct file to modify existing equipment.

These files contain title, document number, applicant, and date received. Also included in these files are rule citations, engineering evaluations, and final documents all related to the existing permit conditions and emissions limits set forth in this permit.

Rule No.
Rule 201.1

Rule Title and Description Conditions
Reporting

- A. Any non-conformance with permit requirements, including any attributable to emergency conditions (as defined in Rule 201.1) shall be promptly reported to the APCO and in accordance with Rule 111;
- B. Monitoring report shall be submitted at least every six months identifying any non-conformance with permit requirements, including any previously reported to the APCO;
- C. All reports of non-conformance with permit requirements shall include probable cause of non-conformance and any preventative or corrective action taken;
- D. Progress report shall be made on a compliance schedule at least semi-annually and including:
 - 1) Date when compliance will be achieved,
 - 2) Explanation of why compliance was not, or will not be achieved by the scheduled date, and
 - 3) Log of any preventative or corrective action taken; and
- E. Each monitoring report shall be accompanied by a written statement from the responsible official certifying the truth, accuracy, and completeness of the report.

Rule 201.1

Right of Entry

U.S. Borax shall allow entry of District, CARB, or U.S. EPA officials for purpose of inspection and sampling, including:

- A. Inspection of the stationary source, including equipment, work practices, operations, and emission-related activity;
- B. Inspection and duplication of records required by the permit to operate; and
- C. Source sampling or other monitoring activities.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 201.1	<u>Periodic Monitoring</u>

Non-Point

U.S. Borax shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all active non-point sources. This testing will be the basis for determining compliance with the visible emission standard in District Rule 401. If no emissions are observed utilizing Method 22, the non-point source shall be deemed to be in compliance with the visible emission standard. If emissions are observed from any non-point source and that source is not operating under breakdown condition as defined in and allowed for in District Rule 111, U.S. Borax shall conduct testing on that non-point source within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with the visible emission standard.

NOTE: This requirement does not apply to fugitive emissions resulting from activities not covered by a permit to operate unless the source is subject to District Rule 210.1 (NSR) requirements.

Point

U.S. Borax shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all active/in use point sources. This testing will be the basis for determining compliance with the visible emission standard in District Rule 401. If no emissions are observed utilizing Method 22, the point source shall be deemed to be in compliance with the visible emission standard. If emissions are observed from any point source and that point source is not operating under breakdown condition as defined in and allowed for in District Rule 111, U.S. Borax shall conduct testing on that point source:

- A. Within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with the visible emission standard. If compliance is not documented:
- B. Within 30 days of the Method 9 testing in accordance with EPA Method 5 or 5D to verify compliance with the requirements of District Rules 404.1, 405, 406 and/or 210.1.

Rule No.
Rule 201.1

Rule Title and Description Conditions
Additional Monitoring

Diesel standby and emergency piston engines do not require opacity monitoring if utilizing California diesel or other low-sulfur, low aromatic fuel. Fuel records shall be kept for verification purposes and an operational log for hours of operation.

All control equipment shall be inspected annually for proper operation. U.S. Borax shall maintain all records of control equipment maintenance for a period of five years.

Monitoring shall be the responsibility of the source; however, a visible emissions inspection or Method 9 conducted by a District inspector may be counted as meeting the requirement for the source to conduct same if the information and records generated by the inspector meets the requirements of the permit and a copy of the records are maintained by the source for a period of five years.

Record keeping provisions associated with all monitoring requirements shall include the following information:

- A. Identification of stack or emission point being monitored;
- B. Operational conditions at the time of monitoring;
- C. Records of any monitoring conducted, including records of emission or operational parameter values and the date, place and time of sampling or measurement; and
- D. Where corrective action is triggered, description of the corrective action and the date, time and results of any corrective action.

Scrubbers: Weekly records of pressure drop and scrubber liquid flowrate shall be kept.

Testing

U. S. Borax shall conduct stack testing annually and at other times as specified by U.S. EPA or the District, in accordance with the methodology outlined in EPA Method 5 or equivalent, to verify compliance with emission limits and the accuracy of any continuous in-stack monitors. The District and U.S. EPA shall be notified at least 30 days in advance of the testing to allow an observer to be present and the report of results shall be transmitted to the District as soon as they are available. (PSD Permit #SE78-02 and District Rule 210.1)

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 201.1	<u>Monitoring, Testing, Record Keeping Requirements</u> (GDF Phase I) Applies to EU 089.

All data necessary to demonstrate qualifications for the exemptions allowed in District Rule 412 shall be maintained on the premise at all times and shall be submitted for District review upon request. Such records shall include exemption status and volume delivered to each stationary storage container serviced.

- A. Compliance with the vapor recovery requirements of District Rule 412 shall be demonstrated using California Air Resources Board (CARB) Method 202;
- B. True vapor pressure shall be determined using Reid vapor pressure ASTM Method No. D-323-82 at storage temperature; and
- C. The test method to determine vapor tightness of delivery vessels shall be EPA Method 27.

Rules 201.1 and 412	<u>Monitoring, Testing, Record Keeping Requirements</u> (GDF Phase II) Applies to EU 089.
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Verification that each CARB-certified Phase II Vapor Recovery System meets or exceeds the requirements of tests specified in District Rule 412.1, Subsection V.C. shall be maintained. These test results shall be dated and shall contain the names, addresses, and telephone numbers of person(s) responsible for system installation and testing.

Facility shall be pressure tested to determine proper installation and function before startup, and thereafter as directed by the Control Officer if not consistently operated leak-free or a major modification is implemented.

Tests shall be conducted in accordance with test procedures found in CARB's "Test Procedures for Determination of the Efficiency of Gasoline Vapor Recovery Systems at Service Stations".

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 209 SIP Approved (1972) Revised 1995	<u>Conditional Approval</u> The Control Officer shall issue an Authority to Construct or a Permit to Operate, subject to conditions to insure compliance of the operation of any article, machine, equipment or other contrivance within the standards of Rule 208 and 208.1, in which case the conditions shall be specified in writing. Commencing work under such Authority to Construct or operation under such Permit to Operate shall be deemed acceptance of all conditions so specified. The Control Officer shall issue an Authority to Construct or Permit to Operate with revised conditions upon receipt of a new application, if the applicant demonstrates the article, machine, equipment or other contrivance can be operated within the standards of Rule 208 and 208.1 under the revised conditions.
Rule 210.1 SIP Approved (1981) Revised 2000	<u>Standards for Authority to Construct</u> A. U.S. Borax may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if: 1) The Permittee has obtained all permits and approvals required by District Rules 201 and 210.1 (unless the change is exempt under District Rule 202); 2) The change is not subject to any requirements under Title IV of the Clean Air Act; 3) The change is not a Title I modification; and 4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of this permit. B. For a change that qualified under this section, the Permittee shall provide contemporaneous written notice to the District and the U.S. EPA (except for a change that is exempt under District Rule 202). This written notice shall describe the change, including the date it was made, and shall contain other information as required to determine new applicable requirements of the Clean Air Act that apply as a result of the change; C. Upon satisfying the requirements of paragraph B above, the Permittee may make the proposed change; D. Changes that qualify under this section are not subject to the requirements for Part 70 revisions; E. The Permittee shall include each off-permit change made under this section in the application for renewal of this Part 70 permit; and F. The permit shield(s) provided in this permit do not apply to off-permit changes made under this section.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 210.4 SIP Approved 2013	<u>Prevention of Significant Deterioration (PSD)</u> U.S. Borax may be subject to District Rule 210.4, Prevention of Significant Deterioration (PSD) if it undergoes major modification(s).
Rule 301 and 201.1	<u>Permit Fees</u> Every applicant for an Authority to Construct or a Permit to Operate shall pay a filing fee. For issuance of an Authority to Construct, or an initial Permit to Operate, the applicant shall pay fees as prescribed in Rule 301. For issuance of an Authority to Construct, application processing fees shall also be paid as prescribed in Rule 303. The applicant shall receive credit for filing fees paid. Annually on the anniversary of issuance of a Permit to Operate, the permittee shall pay a renewal fee as prescribed in Rule 301. Fees collected pursuant to Rule 201.1, Section VIII.B. shall supplement applicable Rules 301 and 301.3 fee requirements. <u>Payment of Supplemental Fee</u> An owner or operator, or his designee, shall pay an annual supplemental fee for a permit to operate pursuant to Rule 201.1 as determined by the calculation method in Subsection VIII.B.3., to provide a District-wide fee rate of \$25 per ton of fee-based emissions (CPI-adjusted) for all facilities subject to Rule 201.1, unless Rule 201.1 VIII.B.2. applies.
Rule 301.4	<u>Greenhouse Gas Fee</u> Any stationary source that has actual GHG emissions, in the prior calendar year, greater than or equal to 100,000 tons of CO ₂ e, as calculated in accordance with 40 CFR Part 98, shall pay a Consumer Price Index (CPI) adjusted GHG fee per ton of CO ₂ e being emitted. Sources subject to this Rule shall submit an annual report of GHG emissions to the District no later than the thirty-first day of March.
Rule 401 SIP Approved 2001	<u>Visible Emissions</u> Unless otherwise stated in equipment specific permits, the following limits apply: A person shall not discharge into the atmosphere, from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is: A. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 404.1 SIP Approved 2008	<u>Particulate Matter Concentration - Desert Basin</u> A. A person shall not discharge into the atmosphere from any single source operation, in service on the date this Rule is adopted, particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions. B. A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this Rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.
Rule 405 SIP Approved 1984 Revised 1997	<u>Particulate Matter - Emission Rate</u> A person shall not discharge into the atmosphere from any source operation, particulate matter in excess of the limits set forth in the allowable particle emissions based on process weight rate table included in Rule 405.
Rule 407 SIP Approved 1972	<u>Sulfur Compounds</u> A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 percent by volume calculated as sulfur dioxide (SO ₂).
Rule 409 SIP Approved 1999	<u>Fuel Burning Equipment - Combustion Contaminants</u> A. Fuel burning equipment, the construction or modification of which is commenced after August 17, 1971, shall not discharge into the atmosphere particulate matter, sulfur dioxide or nitrogen oxides in excess of the Environmental Protection Agency Standard of Performance. B. A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge: 0.1 grain per cubic foot of gas calculated to 12 percent of carbon dioxide (CO ₂) at standard conditions.
Rule 410 SIP Approved (1977) Revised 1979	<u>Organic Solvents</u> A person shall not discharge into the atmosphere more organic materials in any one day from any article, machine, equipment or other contrivance in which any organic solvent or any material containing organic solvent is utilized unless the emissions are controlled or reduced as outlined in the organic solvent rule (410).

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 410.2 SIP Approved 1972	<u>Disposal and Evaporation of Solvents</u> A person shall not during any one day disposed of a total of more than 1½ gallons of any photochemically reactive solvent as defined in Rule 410.2, or of any material containing more than 1½ gallons of any such photochemically reactive solvent into the atmosphere.
Rule 410.3 SIP Approved 1999	<u>Organic Solvent Degreasing Operation</u> A person shall not operate any organic solvent degreasing operation unless the equipment utilized complies with all applicable requirements of Rule 410.3.
Rule 410.4 SIP Approved 2000 Revised 2014	<u>Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations</u> U.S. Borax may be subject to provisions of Rule 410.4 that apply to surface coating of metal parts or products, large appliances parts or products, metal furniture, and plastic parts or products including automotive, transportation, and business machine, and pleasure crafts, and to the cleaning, storage, and disposal of all organic solvents and waste solvent materials associated with such coating operations.
Rule 410.4A SIP Approved 1998 Revised 2014	<u>Motor Vehicle and Mobile Equipment Refinishing Operations</u> U.S. Borax may be subject to provisions of Rule 410.4A that apply to the use or application of any automotive coating or associated solvent within the District.
Rule 411 SIP Approved 1998	<u>Storage of Organic Liquids</u> A person shall not use equipment to store organic liquids and petroleum distillates with a true vapor pressure greater than 1.5 psia unless provisions are made for controlling organic vapors.
Rule 412 SIP Approved 1995	<u>Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants</u> A person shall not transfer gasoline into storage or delivery vessels unless provisions are made to recover 95% of the displaced vapors.
Rule 412.1 SIP Approved 1996	<u>Transfer of Gasoline into Vehicle Fuel Tanks</u> No person shall transfer gasoline into vehicle fuel tanks unless CARB-Certified Phase II dispensing equipment is utilized and maintained in correct working order.

Rule No.
Rule 416
SIP Approved
1999

Rule Title and Description Conditions

Open Burning

Applicability

This Rule shall apply to all burning activities not confined to an incinerator which meets requirements of Rule 418 (Incinerators), but shall not apply to combustion of fuels in a device designed to produce useful energy and which meets all applicable parts of Regulation IV.

Prohibition

No person shall burn any refuse or other material in an open outdoor fire within the boundaries of the District, unless any of the exceptions in Rule 416 apply. Burning of Federal facility materials must comply with applicable requirements of Section V of Rule 416.

Rule 419
SIP Approved
1972

Nuisance

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 422
SIP Approved
1977

Federal New Source Performance Standards (NSPS)

Provisions of Part 60, Chapter 1, Title 40, Code of Federal Regulations, in effect September 5, 1996, are hereby adopted by reference and made a part hereof. All new and modified sources shall comply with standards, criteria and requirements set forth therein.

Revised
2011

All applicable requirements of 40 CFR Part 60, Subparts A (General Requirements), Dc (Small Industrial-Commercial-Institutional Steam Generating Units), GG (Stationary Gas Turbine Engines), OOO (Nonmetallic Mineral Processing Plants), and IIII (Compression Ignition Internal Combustion Engines) apply to this facility.

<u>Rule No.</u>	<u>Rule Title and Description Conditions</u>
Rule 423 SIP Approved 1977 Revised 2011	<u>National Emission Standards for Hazardous Air Pollutants and Source Categories (NESHAPS)</u> Provisions of Title 40, Chapter 1, Parts 61 and 63, Code of Federal Regulations, in effect November 7, 2002, are hereby adopted by reference and made a part hereof. All sources of hazardous air pollution shall comply with applicable standards, criteria and requirements set forth herein. All applicable requirements of 40 CFR Part 61, Subpart M (Asbestos) and 40 CFR Part 63, Subparts A (General Provisions), AAAA (Municipal Solid Waste Landfills), ZZZZ (RICE), and CCCCCC (Gasoline Dispensing Facilities) apply to this facility.
Rule 425.2 SIP Approved 1999	<u>Boilers, Steam Generators, and Process Heaters (Oxides of Nitrogen)</u> An owner/operator of any emission unit with annual heat input of 90,000 therms or more during one or more of the three preceding years of operation shall comply with applicable NOx emission limit(s) listed in Section V, Requirements of Rule 425.2.
Federal Rule No. CAA Section 112(r)(7)	<u>Rule Title and Description Conditions</u> <u>Clean Air Act</u> Should this stationary source, as defined in 40 C.F.R. section 68.3, become subject to the accidental release prevention regulations in part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in section 68.10 and shall certify compliance with the requirements of part 68 as part of the annual compliance certification as required by 40 C.F.R. part 70 or 71.
40 CFR 68	<u>Risk Management Plan</u> Should this stationary source, as defined in 40 CFR section 68.3, become subject to the accidental release prevention regulations in part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in section 68.10 and shall certify compliance with the requirements of part 68 as part of the annual compliance certification as required by 40 CFR part 70 or 71.

Federal Rule

40 CFR
70.5d

Rule Title and Description Conditions

Compliance Certification

The owner/operator shall comply with the following procedures for compliance certification:

- A. Submittal of a compliance certification by the owner or operator to the U.S. EPA and copy to the APCO within 60 days after end of compliance certification period;
- B. Compliance certification period shall begin March 28 of each year and end March 27 of the following year;
- C. Such compliance certification shall identify the basis for each permit term or condition, e.g., specify the emissions limitation, standard or work practice, and a means of monitoring compliance with the term or condition;
- D. Such compliance certification shall include compliance status and method(s) used to determine compliance for the current time period and over entire reporting period; and
- E. Such compliance certification shall include any additional inspection, monitoring or entry requirement promulgated pursuant to Sections 114(a) and 504(b) of the CAA.

Any application form, report, or compliance certification submitted pursuant to these regulations shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

U.S. EPA's Mailing Address:

Director, Air Division
75 Hawthorne Street
AIR-3
San Francisco, CA 94105

<u>Federal Rule</u>	<u>Rule Title and Description Conditions</u>
40 CFR 82	<u>Protection of Stratospheric Ozone</u>

Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR §82.156. Equipment used during maintenance, service, repair, or disposal of appliances must meet the standards for recycling and recovery equipment in accordance with 40 CFR §82.158. Persons performing maintenance, service, repair or disposal of appliances must be certified by a certified technician pursuant to 40 CFR §82.161.

PSD Permit Conditions	<u>PSD Permit #78-02</u>
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PSD Permit #78-02 in Appendix A of the Title V permit apply to the Boric Acid Plant of this facility.

PSD Permit #79-01 in Appendix A of the Title V permit apply to the D.E. Silo of this facility.

PSD Permit #82-02 in Appendix A of the Title V permit apply to the Cogeneration Plant of this facility.

VIII. NEW AND MODIFIED EQUIPMENT UNITS

Several Equipment Units have been modified and several new equipment units have been added to the US Borax facility since the issuance of the initial renewal Title V permit (March 2005). All equipment units added and modified were minor modifications or minor emission units; therefore, all public noticing of each minor modification was not required. Summary of the modified and new emissions units are below.

A. Modified Units

<u>Emissions Unit</u>	<u>Modification</u>
002	<u>Secondary Crusher</u> was modified to act as stand-by unit.
005	<u>Neobor Rotary Drying Operation</u> was modified to replace fabric collector add two lump breakers and two diverter valves.
011	<u>10 MOL DRYER #1</u> was removed and Permit Cancelled.
029	<u>Anhydrous Borax Loadout</u> was modified to add dust collection point.
032	<u>Fusing and Anhydrous Boric Acid Plant</u> was modified to replacement of scrubber fan and motor.

<u>Emissions Unit</u>	<u>Modification</u>
036	<u>40 Million Btu/hr fuel oil API 32 boiler #1</u> Permit Cancelled
037	<u>40 Million Btu/hr fuel oil API 32 boiler #2</u> Permit Cancelled
047	<u>Pilot Plant</u> was modified to add of nara paddle dryer.
050	<u>5 Mol Fines Receiving/Storage/Handling Operation</u> was modified to replace bin vent fabric collector.
056	<u>170-MMBtu/hr Boiler</u> was modified to replace use of bunker fuel with CARB diesel
058	<u>Boric Acid Reclaimer</u> was modified to add equipment changes and operational conditions changes.
063	<u>Boric Acid Screening Operation</u> was modified to replace fabric collector with functionally identical unit and add equipment and operational conditions changes.
068	<u>Bulk Packing Operation</u> was modified to add of bulk pack bagger to existing fabric collector and add equipment and operational conditions changes.
077	<u>Cogeneration Facility</u> was modified to develop conditions in concurrence with PSD Permit and modify emission limits.
089	<u>Gasoline Dispensing Facility</u> was modified to upgrade Phase II system without ISD and replace existing dispenser with Gasboy model.
152	<u>80 bhp four-cylinder diesel piston engine powering a pump</u> Permit Cancelled.
162	<u>175 bhp diesel piston engine powering a generator</u> Permit Cancelled.
168	<u>Firewater Pump</u> was modified to correct equipment description.
171	<u>230-Bhp diesel fueled piston engine powering light plant</u> Permit Cancelled.
180	<u>Abrasive Blasting Unit</u> was modified to with functionally identical unit.

<u>Emissions Unit</u>	<u>Modification</u>
181	<u>Portable sandblasting unit including one 6-ton portable feed tank</u> Permit Cancelled.
197	<u>Sweeper driven with 50-Bhp diesel fueled piston engine</u> Permit Cancelled.
222	<u>Boric Acid Dryer</u> was modified to add equipment and operational conditions changes.
223	<u>Modification of Granubor II Manufacturing Operation</u> was modified to add of product conditioner.
224	<u>Engine driver with 450-Bhp diesel fueled piston engine</u> Permit Cancelled.
231	<u>Sweeper driven with 50-Bhp diesel fueled piston engine</u> Permit Cancelled.
232	<u>Sweeper driven with 100-Bhp gasoline fueled piston engine</u> Permit Cancelled.
250	<u>Welder driven with 58-Bhp diesel fueled piston engine</u> Permit Cancelled.
252	<u>Portable vacuum driven with 115-Bhp diesel fueled piston engine</u> Permit Cancelled.
268	<u>Boric Acid Bag Rejecter System</u> was modified to remove luxme dust collector and utilize system for multiple products.

B. New Units

<u>Emissions Unit</u>	<u>New Unit Description</u>
252	Hi-Vac Vacuum Trailer
267	Stand-By Secondary Crushing Unit
268	Bag Rejecter System
269	Portable Fabric Collector

<u>Emissions Unit</u>	<u>New Unit Description</u>
273	195-cfm Air Compressor Powered by a 60-Bhp Diesel Piston Engine
274	185-cfm Air Compressor Powered by a 60-Bhp Diesel Piston Engine
275	250-kW Generator Driven by 389-bhp Diesel Piston Engine Replacing 1004162
276	125-kW Generator Driven by 181-bhp Diesel Piston Engine Replacing 1004171
277	2700-CFM Compressor Driven by 450-bhp Diesel Piston Engine Replacing 1004224
278	93-MMBtu/hr Boiler Serving as Temporary Replacement Unit for 221-MMBtu/hr Duct Burner
282	Air compressor driven with, Tier 3, 440-bhp, 12.5L diesel piston engine.
283	50-kW emergency generator, driven by 85-bhp, diesel fueled piston engine

IX. COMPLIANCE:

A summary of Violations filed against US Borax because on non-compliance and Variances filed by US Borax to maintain compliance are summarized below.

A. Notice of Violations (NOV)

2006 Violations

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
8/07/06	8/08/06	Visible Emissions from BAP Dryer # 4. Corrective action taken within 30 days.	80706/MK

2007 Violations

None

2008 Violations

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
7/7/08	7/8/08	Cogeneration Unit exceeding Permit to Operate NOx limit. Corrective action taken within 30 days.	072108/GB
7/12/08	7/12/08	Cogeneration Unit exceeding Permit to Operate NOx limit. Corrective action taken within 30 days.	072308/GB

2009 Violations

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
10/17/08	11/6/08	Failure to maintain dust collector within permitted particulate matter limit. Failed source test.	12809A/GB
2/2/09	12/22/08	Failure to maintain Cogeneration unit within permitted NOx limits. NOx exceedance.	20209/GB
3/3/09	4/28/09	Failure to transfer ownership with District of 60-bhp diesel engine within 30-days of ownership change.	42809/GB2
01/01/09	4/29/2009	Failure for engines to be in compliance with California Air Toxic Control Measure for Stationary Compression Engines by 1/1/2009	42909/GB
6/18/09	6/18/09	Operation of equipment contrary to Permit to Operate (Condition 12 if PTO 1004059C). Liquid supply line operating below minimum flow rate of 25-gal/min.	70609/GB

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
9/25/09	9/25/09	Failure to use dust control measures per dust control plan while loading pond ore. Drop points too high and water truck not utilized.	92509/GB

2010 Violations

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
4/26/10 & 7/14/10	7/15/10	Fuel limit exceedance per PTO condition No. 4 of PTO 1004077L (Cogeneration unit).	81610/GB
10/27/10	10/27/10	Cogeneration Unit exceeding Permit to Operate NOx limit.	112910/GB

2011 Violations

<u>Violation Date</u>	<u>Compliance Date</u>	<u>Violation Description</u>	<u>NOV Number</u>
11/10/11	11/10/11	Failure to cancel and re-notify of Boiler #5 Source Test	121411/GB

B. Variances

2006 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
2/7/06	3/8/06	Secondary Crusher	06-06(E)
8/9/06	9/05/06	Boric Acid Plant (BAP) Dryer #4 excess visible emissions	06-23(E)
9/05/06	10/16/06	Boric Acid Plant (BAP) Dryer #4 excess visible emissions	06-25(I)

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
10/16/06	11/15/07	Boric Acid Plant (BAP) Dryer #4 excess visible emissions	06-25(R)

2007 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
2/21/07	4/21/07	Baghouse fan with excess visible emissions	06-07(E)

2008 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
1/02/08	2/01/08	Excess NOx emissions from Cogeneration facility	08-01(E)
1/28/08	4/28/08	Excess NOx emissions from Cogeneration facility	08-03(I)
2/12/08	5/12/08	Excess NOx emissions from Cogeneration facility	08-03(S)
10/17/08	11/16/08	PERP equipment to replace regular PTO Equipment	08-08(E)
12/23/08	1/22/09	Excess NOx emissions from Cogeneration facility	08-11(E)

2009 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
1/22/09	4/22/09	Excess NOx emissions from Cogeneration facility	09-02(I)

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
3/04/09	10/30/09	Excess NOx emissions from Cogeneration facility	09-02(R)
10/30/09	1/01/2010	Excess NOx emissions from Cogeneration facility	09-02(M)

2010 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
7/02/10	8/18/10	Operation of an emergency compressor (to be replaced)	10-02(I)
8/18/10	12/31/10	Operation of an emergency compressor (to be replaced)	10-02(R)

2011 Variances

<u>Hearing Date</u>	<u>Completion Date</u>	<u>Operation Requiring Variance</u>	<u>Variance Number</u>
11/30/11	12/29/11	Special operation for unit in "Island Mode"	11-04(S)

C. Breakdowns

2006 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
1/23/06	Primary Crushing System	1004001
3/01/06	48 MW Co Generation Facility	1004077H
8/8/06	Boric Acid Dryer	1004222
9/8/06	Dust Collector BLK-DC-109	1004005H
10/31/06	Cogen Unit CEM	1004077

2007 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
2/15/07	Dust Collector	1004063C
12/30/07	Gas Turbine Engine	1004077

2008 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
1/7/08	Insertable Dust collector	1004058

2009 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
3/08/09	NOX Spike	1004077
6/19/09	Rotary Reactor Scrubber	1004159C

2010 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
2/18/10	Nox Sensor or Circuit Board Nonop	1004077
8/26/10	Co Generation, excess Nox due to pwr	1004077

2011 Occurrences

<u>Date</u>	<u>Equipment Involved</u>	<u>Permit #</u>
3/19/11	NOx in excess of 4ppm	1004077
4/02/11	Thermocouple alarm	1004077

X. MONITORING AND RECORDKEEPING REQUIREMENTS:

A. Monitoring And Recordkeeping Requirements

US Borax shall conduct routine inspections on all required control equipment. The following monitoring procedures shall be used.

1. Non-Point

U. S. Borax shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all non-point sources. This testing will be the basis for determining compliance with the visible emission standard in District Rule 401. If no emissions are observed utilizing Method 22, the non-point source shall be deemed to be in compliance with the visible emission standard. If emissions are observed from any non-point source and that source is not operating under breakdown condition as defined in and allowed for in District Rule 111, U. S. Borax shall conduct testing on that non-point source within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with the visible emission standard.

NOTE: This requirement does not apply to fugitive emissions resulting from activities not covered by a permit to operate unless the source is subject to District Rule 210.1 (NSR) requirements.

2. Point

U. S. Borax shall conduct testing semi-annually, in accordance with the methodology contained in EPA Method 22 for all point sources. This testing will be the basis for determining compliance with the visible emission standard in District Rule 401. If no emissions are observed utilizing Method 22, the point source shall be deemed to be in compliance with the visible emission standard. If emissions are observed from any point source and that point source is not operating under breakdown condition as defined in and allowed for in District Rule 111, U. S. Borax shall conduct testing on that point source:

- a. Within 24 hours of the Method 22 testing in accordance with EPA Method 9 to verify compliance with the visible emission standard. If compliance is not documented:
- b. Within 30 days of the Method 9 testing in accordance with EPA Method 5 or 5D to verify compliance with the requirements of District Rules 404.1, 405, 406 and/or 210.1.

Diesel standby and emergency piston engines do not require opacity monitoring if utilizing California diesel or other low-sulfur, low aromatic fuel. Fuel records shall be kept for verification purposes and an operational log for hours of operation.

All control equipment shall be inspected annually for proper operation. U. S. Borax shall maintain all records of control equipment maintenance for a period of five years.

Monitoring shall be the responsibility of the source; however, a visible emissions inspection or Method 9 conducted by a District inspector may be counted as meeting the requirement for the source to conduct same if the information and records generated by the inspector meets the requirements of the permit and a copy of the records are maintained by the source for a period of five years.

Recordkeeping provisions associated with all monitoring requirements shall include the following information:

- b. Identification of stack or emission point being monitored;
- c. Operational conditions at the time of monitoring;
- d. Records of any monitoring conducted, including records of emission or operational parameter values and the date, place and time of sampling or measurement; and
- f. Where corrective action is triggered, description of the corrective action and the date, time and results of any corrective action.

Scrubbers: Weekly records of pressure drop and scrubber liquid flowrate shall be kept.

3. Gasoline Storage - Phase I (Permit 1004089)

- a. Compliance with the vapor recovery requirements of District Rule 412 shall be demonstrated using California Air Resources Board (CARB) Method 201.1 or 201.1a upon installation and as directed by the Air Pollution Control Officer;
- b. True vapor pressure shall be determined using Reid vapor pressure ASTM Method No. D-323-82 at storage temperature; and
- c. The test method to determine vapor tightness of delivery vessels shall be EPA Method 27.

Verification that each CARB-certified Phase II Vapor Recovery System meets or exceeds the requirements of tests specified in District Rule 412.1, Subsection V.C. shall be maintained. These test results shall be dated and shall contain the names, addresses, and telephone numbers of person(s) responsible for system installation and testing.

Facility shall be pressure tested to determine proper installation and function before startup, and thereafter as directed by the Control Officer if not consistently operated leak-free or a major modification is implemented.

Tests shall be conducted in accordance with test procedures found in CARB's "Test Procedures for Determination of the Efficiency of Gasoline Vapor Recovery Systems at Service Stations".

4. Coating of Metallic Parts (Permits 1004177, '178, and '179)

U. S. Borax shall maintain and have available during an inspection:

- a. A current list of VOC containing products in use containing all data necessary to evaluate compliance, including the following information, as applicable:
 - i) Material name and manufacturer's identification;
 - ii) Application method;
 - iii) Material type and specific use instructions;
 - iv) Specific mixing instructions;
 - v) Maximum VOC content of coating as applied, including thinning solvents, hardeners, etc., excluding water and exempt compounds; and
 - vi) Coating composition and density.
- b. Daily coating and solvent use records, including the following information for each:
 - i) Volume used of each component and mix ratio;
 - ii) VOC content in grams/liter (or pounds/gallon) as applied/used; and
 - iii) Volume in liters (or gallons) applied/used.
- c. Capture and control equipment operating records, including:
 - i) Periods of operation corresponding to use records showing control equipment was used as necessary;
 - ii) Key system operating parameters showing operation as required to comply and as intended by manufacturer; and
 - iii) Date performed, and description of all control system maintenance.

Facilities exempt by District Rule 410.4, Subsection III.A. may maintain records on an extended basis provided such records show emissions are less than 15 pounds for the entire extended period.

All records shall be retained and made available for inspection by the Control Officer for at least five years.

5. Motor Vehicle & Mobile Equipment Coating (Permits 1004177, '178, and '179)

U. S. Borax shall maintain and have available during an inspection:

- a. A current list of VOC containing products in use containing all data necessary to evaluate compliance, including the following information, as applicable:
 - i) Material name and manufacturer's identification;
 - ii.) Application method;
 - iii) Material type and specific use instructions, for example, "Group I single stage topcoat or precoat shall be applied to bare metal and followed with compliant primer";
 - iv) Specific mixing instructions;
 - v) Maximum VOC content of coating as applied, including thinning solvents, hardeners, etc., excluding water and exempt compounds; and
 - vi.) Coating composition and density.

- b. Daily job and coating and solvent use records, including the following information:
 - i) Each type of vehicle, equipment, part or component coated. Vehicle types are the following:
 - a) Group I Vehicle;
 - b) Group I Vehicle with lacquer;
 - c) Group II Vehicle and Mobile Equipment with color match; or
 - d) Group II Vehicle and Mobile Equipment with no color match.
 - ii) Specific coatings used on each job, e.g. pretreatment wash primer, precoat, topcoat;
 - iii) Volume in liters (or gallons) of each component and mix ratio;
 - iv) VOC content in grams/liter (or pounds/gallon) as applied/used;
 - v) Specific solvents used;
 - vi) Volume of each solvent used in liters (or gallons); and
 - vii) Primers and primer surfacers mixed for use on multiple vehicles may be recorded as single line item including all information required in District Rule 410.4A, Subsections V.2.c. through V.2.f.
- c. Capture and control equipment operating records, if applicable, including:
 - i) Periods of operation corresponding to use records kept showing control equipment was used as necessary;
 - ii) Key system operating parameters showing operation as required to comply with this requirement and as intended by manufacturer; and
 - iii) Date performed, and description of all control system maintenance.
- d. Purchase records showing date, type, and amount of VOC containing material.

All records shall be maintained for five years and made available for inspection by the Control Officer upon request

B. Additional Recordkeeping Requirements

1. Recording of maintenance of all monitoring and support information associated with all permit streamlining requirements imposed in accordance with Rule 201.1, Subsection V.J., all District-only rules which apply in accordance with Rule 201.1, Subsection V.K.1., and all applicable federal requirement not submitted by such permit streamlining requirement(s) or District-only rules, including:
 - a. Date, place, and time of sampling;
 - b. Operating conditions at time of sampling;
 - c. Date, place, and method of analysis; and
 - d. Results of analysis;
2. Retention of records of all required monitoring data and support information for a period of at least five years from the date of sample collection, measurement, report, or application; and

3. Any other recordkeeping deemed necessary by the APCO to ensure compliance with all permit streamlining requirements imposed in accordance with Rule 201.1, Subsection V.J., all District-only rules which apply in accordance with Rule 201.1, Subsection V.K.1., and all applicable federal requirements not subsumed by such permit streamlining requirement(s) or District-only rules.

XI. REPORTING REQUIREMENTS

- A. Any non-conformance with permit requirements, including any attributable to emergency conditions (as defined in Rule 201.1) shall be promptly reported to the APCO and in accordance with Rule 111;
- B. Monitoring report shall be submitted at least every six months identifying any non-conformance with permit requirements, including any previously reported to the APCO;
- C. All reports of non-conformance with permit requirements shall include probable cause of non-conformance and any preventative or corrective action taken;
- C. Progress report shall be made on a compliance schedule at least semi-annually and including:
 1. Date when compliance will be achieved,
 2. Explanation of why compliance was not, or will not be achieved by the scheduled date, and
 3. Log of any preventative or corrective action taken; and
- E. Each monitoring report shall be accompanied by a written statement from the responsible official certifying the truth, accuracy, and completeness of the report.

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