

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**AIR QUALITY CONTROL MINOR PERMIT**

**Permit No.:** AQ0231MSS01

Date: Preliminary – October 1, 2009

Rescinds and Replaces Permit No. 231CP03, Revision 2

The Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit No. AQ0231MSS01 to the Permittee listed below.

**Owner and Operator:** **Trident Seafoods Corporation (Trident)**  
5303 Shilshole Avenue, NW  
Seattle, WA 98107-4000  
(206) 783-3818

**Permittee:** **Same as Owner and Operator**

**Stationary Source** **Akutan Seafood Processing Facility (Akutan)**

**Location:** Latitude 54° 08' 00'' North; Longitude 165° 47' 00'' West  
UTM Zone 3 - 448,591 m East; 5,998,283 m North

**Permit Contact:** Earl R. Hubbard (206) 783-3818

**Permit Action:** Revise Permit No. 231CP03

This permit action requires a permit under 18 AAC 50.508(6) to revise or rescind terms and conditions of a Title I permit. The permit satisfies the obligation of the Permittee to obtain a minor permit under 18 AAC 50.

The Department authorizes the Permittee to operate under the terms and conditions of this permit, and as described in the original permit application and subsequent supplements listed in Section 7, except as otherwise specified in this permit.

The Permittee may operate under the terms and conditions of this permit upon issuance the Title V permit that incorporates these terms and conditions.

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John F. Kuterbach, Manager  
Air Permits Program

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## Abbreviations/Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society of Testing and Materials
CEMS	Continuous Emission Monitoring System
C.F.R.	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
EMS	Environmental Management System
EPA	US Environmental Protection Agency
FITR	Fuel Injection Timing Retard
HHV	Higher heating value
MACT	Maximum Achievable Control Technology
NA	Not Applicable
NAICS	North American Industry Classification System
NESHAPS	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS	Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM	Reference Method
SCR	Selective Catalytic Reduction
SIC	Standard Industrial Classification
SN	Serial Number
TBD	To Be Determined

### Units and Measures

bhp	brake horsepower or boiler horsepower
gr./dscf	grains per dry standard cubic foot (1 pound = 7,000 grains)
dscf	Dry standard cubic foot
GPH	gallons per hour
kW	kilowatts <sup>1</sup>
MMBtu	Million British Thermal Units
ppm	Parts per million
ppmv	Parts per million by volume
TPH	Tons per hour
TPY	Tons per year
Wt%	weight percent

### Pollutants

CO	Carbon Monoxide
HAPS	Hazardous Air Pollutants [as defined in AS 46.14.990(14)]
H <sub>2</sub> S	Hydrogen Sulfide
NO <sub>x</sub>	Oxides of Nitrogen
NO <sub>2</sub>	Nitrogen Dioxide
NO	Nitric Oxide
PM-10	Particulate Matter [as defined in 18 AAC 50.990(70)]
SO <sub>2</sub>	Sulfur Dioxide
VOC	Volatile Organic Compound [as defined in 18 AAC 50.990(103)]

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<sup>1</sup> kW refers to rated generator electrical output rather than engine output

## **Section 1      *General Terms and Conditions***

1. The Permittee shall select one of the five phases (Phase 0 – Phase 4) described in this permit for operating the Akutan stationary source.
  - 1.1 The Permittee shall notify the Department within 30 days of permit issuance of the selected phase.
  - 1.2 The Permittee may switch phases at their discretion, but only to a numerically higher phase (e.g., from Phase 2 to Phase 3). The Permittee may not switch to a numerically lower phase (e.g., from Phase 4 to Phase 3).
  - 1.3 The Permittee shall notify the Department within 30 days of switching to another phase.
  - 1.4 When operating under a given phase, the Permittee shall comply with all applicable provisions of that phase.
  - 1.5 The Permittee shall disconnect emission units not authorized for the selected phase from fuel source and the fuel line(s) capped.
  - 1.6 The Permittee shall not operate in more than one phase at a given time.
2. **Environmental Management System.** The Permittee shall:
  - 2.1 Operate Akutan in accordance with the air quality control provisions of the Department-approved Environmental Management System (EMS).
  - 2.2 Update the EMS to include management of new and revised air quality control obligations as set out in this minor permit within 60 days after the operating permit is revised to incorporate terms and conditions of this minor permit.
3. Unless otherwise noted, the Permittee shall submit all notifications and reports as directed under Condition 49 of Operating Permit No. AQ0231TVP02.

## Section 2 Emission Unit Inventory

### Phase 0 Conditions

4. **During Phase 0**, the Permittee is authorized to operate the emission units described in Table 1, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 1 – Phase 0 Emission Unit Inventory**

Unit	Source Name	Source Description	Rating/size	Install Date
1	Pollock Generator #4	Caterpillar (Cat) Model D3516B Low NO <sub>x</sub> Diesel Electric Generator, Serial Number (SN) 7RN00229	1,655 kW	5/1/94
2a	Cod Generator #1	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00273	1,360 kW	1/24/98 Mod TBD
3a	Cod Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00274	1,360 kW	1/24/98 Mod TBD
4b	Pollock Generator #1	Cat Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 7RN01420	1,655 kW	12/03
5a	Pollock Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00514	1,360 kW	6/15/00 Mod TBD
6a	Pollock Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8EM00253	1,240 kW	11/1/99 Mod TBD
7b	Cod Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 1GZ01229	1,360 kW	11/03 Mod TBD
8	Pollock Boiler #1	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85166	16.74 MMBtu/hr	1/15/90
9	Pollock Boiler #2	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85165	16.74 MMBtu/hr	1/15/90
10	Cod Boiler #1	Johnston 516 AC Steam Boiler, SN 4756	5.11 MMBtu/hr	5/1/82
11	Cod Boiler #2	Johnston 516 AC Steam Boiler, SN 4757	5.11 MMBtu/hr	5/1/82
12	Fish Meal Drier	Pedar Halvorsen Furnace, SN#502511	34.6 MMBtu/hr	7/96
23a	Boiler	Cleaver Brooks Model 200-500-150 Steam Boiler, SN L52745	21 MMBtu/hr	10/96
24	Boiler	Falcon Boiler, SN M8616	1.02 MMBtu/hr	6/95
25 <sup>a</sup>	Sealand Engine	Detroit Diesel Series 60 Diesel Electric Generator, SN 06R0096733	350 kW	9/95
26	Compressor Engine	Cat Model 3508B Twin Turbo Compressor Engine, SN 6PN00401	2.69 MMBtu/hr	1/24/98
27	Freshwater Pump House Generator	Cat Model D3512A, Diesel Electric Generator, SN 24Z01359	1,135 kW	4/96
28 <sup>b</sup>	Cod Generator #4	Cat Model D379, Diesel Electric Generator, SN 34Z00770	420 kW	6/82
29 <sup>b</sup>	Cod Generator #5	Cat Model D379, Diesel Electric Generator, SN 34Z00771	420 kW	6/82
30	Trash Incinerator	Therm Tec Model G-50, SN 7916	750 lb trash/hr	2/02
31 <sup>a</sup>	Portable Generator #2	'Portable' Diesel Electric Generator	350 kW	TBD
32 <sup>a</sup>	Portable Generator #3	'Portable' Diesel Electric Generator	350 kW	TBD

Table 1 Notes:

<sup>a</sup> The Permittee may substitute Emission Units 25, 31 and/or 32 as described in Condition 20.

<sup>b</sup> The Permittee decommissioned Emission Units 28 and 29 on April 15, 2007 and removed them from Akutan on April 27, 2007.

## Phase 1 Conditions

5. **During Phase 1**, the Permittee is authorized to operate the emission units described in Table 2, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 2 – Phase 1 Emission Unit Inventory**

Unit	Source Name	Source Description	Rating/size	Install Date
1	Pollock Generator #4	Caterpillar (Cat) Model D3516B Low NO <sub>x</sub> Diesel Electric Generator, Serial Number (SN) 7RN00229	1,655 kW	5/1/94
2a	Cod Generator #1	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00273	1,360 kW	1/24/98 Mod TBD
3a	Cod Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00274	1,360 kW	1/24/98 Mod TBD
4c	Pollock Generator #1	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	12/03 Mod TBD
5b	Pollock Generator #2	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	Mod TBD
6b	Pollock Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,360 kW	11/1/1999 Mod TBD
7b	Cod Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 1GZ01229	1,360 kW	11/03 Mod TBD
8	Pollock Boiler #1	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85166	16.74 MMBtu/hr	1/15/90
9	Pollock Boiler #2	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85165	16.74 MMBtu/hr	1/15/90
10	Cod Boiler #1	Johnston 516 AC Steam Boiler, SN 4756	5.11 MMBtu/hr	5/1/82
11	Cod Boiler #2	Johnston 516 AC Steam Boiler, SN 4757	5.11 MMBtu/hr	5/1/82
12	Fish Meal Drier	Pedar Halvorsen Furnace, SN#502511	34.6 MMBtu/hr	7/96
23a	Boiler	Cleaver Brooks Model 200-500-150 Steam Boiler, SN L52745	21 MMBtu/hr	10/96
24	Boiler	Falcon Boiler, SN M8616	1.02 MMBtu/hr	6/95
25 <sup>a</sup>	Sealand Engine	Detroit Diesel Series 60 Diesel Electric Generator, SN 06R0096733	350 kW	9/95
26	Compressor Engine	Cat Model 3508B Twin Turbo Compressor Engine, SN 6PN00401	2.69 MMBtu/hr	1/24/98
27	Freshwater Pump House Generator	Cat Model D3512A, Diesel Electric Generator, SN 24Z01359	1,135 kW	4/96
28a	Cod Generator #4	Cat Model D3516B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
29 <sup>b</sup>	Cod Generator #5	Cat Model D379, Diesel Electric Generator, SN 34Z00771	420 kW	6/82
30	Trash Incinerator	Therm Tec Model G-50, SN 7916	750 lb trash/hr	2/02
31 <sup>a</sup>	Portable Generator #2	'Portable' Diesel Electric Generator	350 kW	TBD
32 <sup>a</sup>	Portable Generator #3	'Portable' Diesel Electric Generator	350 kW	TBD

Table 2 Notes:

<sup>a</sup> The Permittee may substitute Emission Units 25, 31 and/or 32 as described in Condition 20.

<sup>b</sup> The Permittee decommissioned Emission Unit 29 on April 15, 2007 and removed it from Akutan on April 27, 2007.

## 6. Authorization to Install Emission Units 4c, 5b and 28a

- 6.1 The Permittee is authorized to install, but not operate, Emission Units 4c, 5b and 28a *prior to* Phase 1.

- 6.2 Prior to installing Emission Unit 4c, the Permittee shall
  - a. remove Emission Unit 28,
  - b. relocate Emission Unit 5a to the former location of Emission Unit 28, and rename to Emission Unit 28a, and
  - c. relocate Emission Unit 4b to the former location of Emission Unit 5a and rename to Emission Unit 5b.
- 6.3 The Permittee shall notify the Department of the installation of Emission Unit 4c, Emission Unit 5b, and Emission Unit 28a, in accordance with Condition 19.1.
7. **Authorization to Upgrade Pollock Generator #3**
  - 7.1 The Permittee is authorized to upgrade the Pollock Generator #3 (EU ID 6b) generator rating from 1,240 kW to 1,360 kW *prior to* Phase 1. However, the Permittee may *not* operate the upgraded emission unit *prior to* Phase 1.
  - 7.2 Upon upgrading the generator rating, the Permittee shall:
    - a. relabel the Pollock Generator #3 diesel-generator set from Emission Unit 6a to Emission Unit 6b; and
    - b. notify the Department in accordance with Condition 19.1.
8. **Initial Startup Requirements.** The Permittee shall notify the Department in accordance with Condition 19.2 upon initial startup of each of the following Emission Units: 4c, 5b, 6b and 28a.

## Phase 2 Conditions

9. **During Phase 2**, the Permittee is authorized to operate the emission units described in Table 3, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 3 – Phase 2 Emission Unit Inventory**

Unit	Source Name	Source Description	Rating/size	Install Date
1	Pollock Generator #4	Caterpillar (Cat) Model D3516B Low NO <sub>x</sub> Diesel Electric Generator, Serial Number (SN) 7RN00229	1,655 kW	5/1/94
2a	Cod Generator #1	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00273	1,360 kW	1/24/98 Mod TBD
3a	Cod Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00274	1,360 kW	1/24/98 Mod TBD
4c	Pollock Generator #1	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	12/03 Mod TBD
5b	Pollock Generator #2	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	Mod TBD
6c	Pollock Generator #3	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	11/1/99 Mod TBD
7b	Cod Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 1GZ01229	1,360 kW	11/03 Mod TBD
8	Pollock Boiler #1	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85166	16.74 MMBtu/hr	1/15/90
9	Pollock Boiler #2	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85165	16.74 MMBtu/hr	1/15/90
10	Cod Boiler #1	Johnston 516 AC Steam Boiler, SN 4756	5.11 MMBtu/hr	5/1/82
11	Cod Boiler #2	Johnston 516 AC Steam Boiler, SN 4757	5.11 MMBtu/hr	5/1/82
12	Fish Meal Drier	Pedar Halvorsen Furnace, SN#502511	34.6 MMBtu/hr	7/96
23a	Boiler	Cleaver Brooks Model 200-500-150 Steam Boiler, SN L52745	21 MMBtu/hr	10/96
24	Boiler	Falcon Boiler, SN M8616	1.02 MMBtu/hr	6/95
25 <sup>a</sup>	Sealand Engine	Detroit Diesel Series 60 Diesel Electric Generator, SN 06R0096733	350 kW	9/95
26	Compressor Engine	Cat Model 3508B Twin Turbo Compressor Engine, SN 6PN00401	2.69 MMBtu/hr	1/24/98
27	Freshwater Pump House Generator	Cat Model D3512A, Diesel Electric Generator, SN 24Z01359	1,135 kW	4/96
28a	Cod Generator #4	Cat Model D3516B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
29a	Cod Generator #5	Cat Model D3512B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
30	Trash Incinerator	Therm Tec Model G-50, SN 7916	750 lb trash/hr	2/02
31 <sup>a</sup>	Portable Generator #2	'Portable' Diesel Electric Generator	350 kW	TBD
32 <sup>a</sup>	Portable Generator #3	'Portable' Diesel Electric Generator	350 kW	TBD

Table 3 Notes:

<sup>a</sup> The Permittee may substitute Emission Units 25, 31 and/or 32 as described in Condition 20.

**10. Authorization to Install Emission Units 6c and 29a.**

10.1 The Permittee is authorized to install, but not operate, Emission Units 6c and 29a *prior to* Phase 2.

10.2 Before installing Emission Unit 6c, the Permittee shall:

- a. remove Emission Unit 29,
- b. relocate Emission Unit 6b to the former location of Emission Unit 29 and rename the relocated unit as Emission Unit 29a.

10.3 Upon installation of Emission Unit 29a, the Permittee shall modify its exhaust stack, as needed, to comply with Condition 30.3.

10.4 The Permittee shall notify the Department of the installation of Emission Unit 6c and of Emission Unit 29a in accordance with Condition 19.1.

10.5 When submitting the notification required under Condition 13.2 for Emission Unit 29a, the Permittee shall also include as-built drawings and a photograph that demonstrates the exhaust stack for Emission Unit 29a complies with Condition 30.3.

**11. Initial Startup of Emission Units 6c and 29a.** The Permittee shall notify the Department in accordance with Condition 19.2 upon initial startup of each of the following Emission Units: 6c and 29a.

### Phase 3 Conditions

12. **During Phase 3**, the Permittee is authorized to operate the emission units described in Table 4, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 4 – Phase 3 Emission Unit Inventory**

Unit	Source Name	Source Description	Rating/size	Install Date
1	Pollock Generator #4	Caterpillar (Cat) Model D3516B Low NO <sub>x</sub> Diesel Electric Generator, Serial Number (SN) 7RN00229	1,655 kW	5/1/94
2a	Cod Generator #1	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00273	1,360 kW	1/24/98 Mod TBD
3a	Cod Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00274	1,360 kW	1/24/98 Mod TBD
4c	Pollock Generator #1	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	12/03 Mod TBD
5b	Pollock Generator #2	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	Mod TBD
6c	Pollock Generator #3	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	11/1/99 Mod TBD
7b	Cod Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 1GZ01229	1,360 kW	11/03 Mod TBD
8	Pollock Boiler #1	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85166	16.74 MMBtu/hr	1/15/90
9	Pollock Boiler #2	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85165	16.74 MMBtu/hr	1/15/90
10	Cod Boiler #1	Johnston 516 AC Steam Boiler, SN 4756	5.11 MMBtu/hr	5/1/82
11	Cod Boiler #2	Johnston 516 AC Steam Boiler, SN 4757	5.11 MMBtu/hr	5/1/82
12	Fish Meal Drier	Pedar Halvorsen Furnace, SN#502511	34.6 MMBtu/hr	7/96
23a	Boiler	Cleaver Brooks Model 200-500-150 Steam Boiler, SN L52745	21 MMBtu/hr	10/96
24	Boiler	Falcon Boiler, SN M8616	1.02 MMBtu/hr	6/95
25 <sup>a</sup>	Sealand Engine	Detroit Diesel Series 60 Diesel Electric Generator, SN 06R0096733	350 kW	9/95
26	Compressor Engine	Cat Model 3508B Twin Turbo Compressor Engine, SN 6PN00401	2.69 MMBtu/hr	1/24/98
27	Freshwater Pump House Generator	Cat Model D3512A, Diesel Electric Generator, SN 24Z01359	1,135 kW	4/96
28a	Cod Generator #4	Cat Model D3516B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
29a	Cod Generator #5	Cat Model D3512B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
30	Trash Incinerator	Therm Tec Model G-50, SN 7916	750 lb trash/hr	2/02
31 <sup>a</sup>	Portable Generator #2	'Portable' Diesel Electric Generator	350 kW	TBD
32 <sup>a</sup>	Portable Generator #3	'Portable' Diesel Electric Generator	350 kW	TBD
33	Cod Generator #6	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN n/a	1,655 kW	TBD

Table 4 Notes:

<sup>a</sup> The Permittee may substitute Emission Units 25, 31 and/or 32 as described in Condition 20.

13. **Authorization to Install Emission Unit 33.**

13.1 The Permittee is authorized to install, but not operate, Emission Unit 33 *prior to* Phase 3.

13.2 The Permittee shall notify the Department of the installation of Emission Unit 33 in accordance with Condition 19.1.

13.3 When submitting the notification required under Condition 16.2, the Permittee shall also include as-built drawings and a photograph that demonstrates the exhaust stack for Emission Unit 33 complies with Condition 30.3.

14. **Initial Startup of Emission Unit 33.** The Permittee shall notify the Department in accordance with Condition 19.2 of the initial startup of Emission Unit 33.

### Phase 4 Conditions

15. **During Phase 4**, the Permittee is authorized to operate the emission units described in Table 5, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 5 – Phase 4 Emission Unit Inventory**

Unit	Source Name	Source Description	Rating/size	Install Date
1	Pollock Generator #4	Caterpillar (Cat) Model D3516B Low NO <sub>x</sub> Diesel Electric Generator, Serial Number (SN) 7RN00229	1,655 kW	5/1/94
2a	Cod Generator #1	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00273	1,360 kW	1/24/98 Mod TBD
3a	Cod Generator #2	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 8RM00274	1,360 kW	1/24/98 Mod TBD
4c	Pollock Generator #1	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	12/03 Mod TBD
5b	Pollock Generator #2	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	Mod TBD
6c	Pollock Generator #3	Caterpillar Model C175-16 Diesel Electric Generator, SN TBD	2,250 kW	11/1/99 Mod TBD
7b	Cod Generator #3	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN 1GZ01229	1,360 kW	11/03 Mod TBD
8	Pollock Boiler #1	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85166	16.74_MMBtu/hr	1/15/90
9	Pollock Boiler #2	Cleaver Brooks Model NCB 100-400 Steam Boiler, SN 85165	16.74 MMBtu/hr	1/15/90
10	Cod Boiler #1	Johnston 516 AC Steam Boiler, SN 4756	5.11 MMBtu/hr	5/1/82
11	Cod Boiler #2	Johnston 516 AC Steam Boiler, SN 4757	5.11 MMBtu/hr	5/1/82
12	Fish Meal Drier	Pedar Halvorsen Furnace, SN#502511	34.6 MMBtu/hr	7/96
23a	Boiler	Cleaver Brooks Model 200-500-150 Steam Boiler, SN L52745	21 MMBtu/hr	10/96
24	Boiler	Falcon Boiler, SN M8616	1.02 MMBtu/hr	6/95
25 <sup>a</sup>	Sealand Engine	Detroit Diesel Series 60 Diesel Electric Generator, SN 06R0096733	350 kW	9/95
26	Compressor Engine	Cat Model 3508B Twin Turbo Compressor Engine, SN 6PN00401	2.69 MMBtu/hr	1/24/98
27	Freshwater Pump House Generator	Cat Model D3512A, Diesel Electric Generator, SN 24Z01359	1,135 kW	4/96
28a	Cod Generator #4	Cat Model D3516B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
29a	Cod Generator #5	Cat Model D3512B, Low NO <sub>x</sub> Diesel Electric Generator, SN TBD	1,655 kW	TBD
30	Trash Incinerator	Therm Tec Model G-50, SN 7916	750 lb trash/hr	2/02
31 <sup>a</sup>	Portable Generator #2	'Portable' Diesel Electric Generator	350 kW	TBD
32 <sup>a</sup>	Portable Generator #3	'Portable' Diesel Electric Generator	350 kW	TBD
33	Cod Generator #6	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN n/a	1,655 kW	TBD
34	Cod Generator #7	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator, SN n/a	1,655 kW	TBD

Table 5 Notes:

<sup>a</sup> The Permittee may substitute Emission Units 25, 31 and/or 32 as described in Condition 20.

**16. Authorization to Install Emission Unit 34.**

- 16.1 The Permittee is authorized to install, but not operate, Emission Unit 34 *prior to* Phase 4.
- 16.2 The Permittee shall notify the Department of Unit 34’s installation in accordance with Condition 19.1.
- 16.3 When submitting the notification required under Condition 16.2, the Permittee shall also include as-built drawings and a photograph that demonstrates the exhaust stack for Unit 34 complies with Condition 30.3.

**17. Initial Startup of Emission Unit 34.** The Permittee shall notify the Department in accordance with Condition 19.2 of the initial startup of Unit 34.

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- 18. The Permittee is authorized to operate the storage tanks described in Table 6, in accordance with the terms and conditions of this permit and the minor permit application.

**Table 6 – Storage Tank Inventory**

Unit	Unit Name	Unit Description	Size	Install Date
T1	Tank #1	Fish Oil	49,750 gallons	1991
T2	Tank #2	Diesel	372,320 gallons	1988
T3	Tank #3	Diesel	372,320 gallons	1988
T4	Tank #4	Diesel	372,320 gallons	1988
T5	Tank #5	Diesel	372,320 gallons	1988
T6	Tank #6	Diesel	216,000 gallons	1982

**19. Emission Unit notification requirements:**

- 19.1 The Permittee shall notify the Department within seven days of installing a new fuel-burning emission unit or modifying an existing fuel-burning emission unit. The notification shall identify the:
  - a. unit number of the new or modified emission unit;
  - b. unit number of the pre-modified or removed emission unit (if applicable);
  - c. make, model and rating of the new/modified emission unit;
  - d. make, model and rating of pre-modified/removed emission unit (if applicable)
  - e. unit serial number of all applicable emission units;
  - f. installation/modification date;
  - g. anticipated initial start-up date of new/modified emission unit; and
  - h. removal date of a replaced emission unit, if applicable.
- 19.2 The Permittee shall notify the Department within seven days after initial startup of a new or modified fuel-burning emission unit. The notification shall identify the:
  - a. unit number
  - b. make, model and rating;

- c. unit serial number; and
  - d. initial start-up date.
20. **Portable Generator Allowances.** The Permittee may replace the portable generators (Emission Units 25, 31, and 32) with substitute units. The Permittee may also increase the rating of a portable generator listed in Table 1, Table 2, Table 3, Table 4, or Table 5 by limiting the total number of portable generators used during the selected phase. In all cases, the combined capacity of all portable generators used during the selected phase shall not exceed 1,050 kW.
- 20.1 If the Permittee replaces any of the portable generators (Emission Units 25, 31 or 31) with substitute units, the Permittee shall, within seven days of installation:
- a. assign each substitute an ID using the existing ID and adding a letter starting with “a” (i.e. 31 replaced by 31a, replaced by 31b, etc.);
  - b. notify the Department in accordance with Condition 19 of the substitute unit make and model, unit number, serial number, anticipated initial start-up date, installation date, and removal date of the replaced unit;
  - c. include with the notification provided in Condition 20.1b which portable generators will not be operated during the selected phase (if applicable), along with the total capacity of the portable generators that will be operated during the selected phase; *and*
  - d. provide emission rate information showing that the substitute units’ emission rates in pounds per gallon at 100 percent load are equal to or less than the emission rates listed in Table 7 for CO, NO<sub>x</sub>, and PM-10.

**Table 7 – Portable Generator Emission Rates**

<b>Pollutant</b>	<b>Emission Factor (lb/gal)</b>
NO <sub>x</sub>	0.4
PM	0.0095
CO	0.115

- 20.2 Subsequent to installation of the substitute unit, track operating hours and fuel use separately from the replaced units.<sup>1</sup>
- 20.3 Report as an excess emission, as described in Section 9 of Operating Permit No. AQ0231TVP02, any time that the total capacity of the substitute portable generators (substitutes for Emission Units 25, 31 and/or 32) exceeds the 1,050 kW limit in Condition 20.

<sup>1</sup> The substitute units are subject to any applicable group limits for the existing units.

21. **Clarification Regarding Unit Descriptions.** Except as noted elsewhere in this permit, the information in Table 1, Table 2, Table 3, Table 4, and Table 5 is for information purposes only. The specific unit descriptions do not restrict the Permittee from replacing an emission unit identified in the tables. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement emission unit, including any applicable minor or construction permit requirements.
22. **Maintenance Requirements.** The Permittee shall maintain the fuel-burning emission units authorized by this permit in accordance with manufacturer’s or operator’s maintenance procedures.
23. **Selective Catalytic Reduction (SCR) Installation Authorization.** The Permittee is authorized to install and operate SCR units listed in Table 8 as needed. The Permittee is authorized to install additional SCR units at their discretion.

**Table 8 – SCR Installation Authorizations<sup>a</sup>**

Unit <sup>b</sup>	SCR ID	Source Name	Source Description	Install Date
1	A	167249/32	SINOX System 2000	12/02
4b, 4c	B	167580/105	SINOX System 2000	6/03
2, 2a	C	167580/106	SINOX System 2000	6/03
5, 5a	D	167370/17	SINOX System 2000	9/04
3a	E	167370/15	SINOX System 2000	9/04
6a, 6b,6c	F	167370/12	SINOX System 2000	10/04

Table 8 Notes:

<sup>a</sup> Except as noted elsewhere in this permit, the information in this table is for identification purposes only.

<sup>b</sup> The emission unit in this column reflects the Emissions Unit/SCR ID configuration as of permit issuance. The Permittee is not restricted to the Emissions Unit/SCR ID configurations shown in this table.

24. **Used Oil Authorization.<sup>1</sup>** The Permittee may burn a fuel oil/used oil blend or a fuel oil/fish oil/used oil blend in heaters and boilers as follows:
  - 24.1 Comply with the fuel sulfur requirement for the applicable phase, as described in Conditions 32, 33, 34.1, 35.1, and 36.
  - 24.2 Comply with the state PM standard listed in Operating Permit AQ0231TVP02 by blending the used oil with fuel oil (or fuel oil/fish oil blend) using a metering system or other reproducible method accurate to plus or minus two percent at a ratio of one gallon of used oil to at least six gallons of fuel oil (or fuel oil/fuel blend). Record the date, the quantity of used oil blended (gallons), and the quantity of fuel oil (or fuel oil/fish oil) blended (gallons).
  - 24.3 Submit the information required under Condition 24.2 for the reporting period, with the operating report described in Section 9 of Operating Permit No. AQ0231TVP02.
25. **Fish Oil Authorization.** The Permittee may burn a fuel oil/fish oil blend in an engine, only upon written Department approval. Monitor, record, and report as follows.

<sup>1</sup> CAUTION! Although this condition should ensure compliance with the applicable emission standards of 18 AAC 50, this permit does NOT ensure compliance with other applicable state or federal laws concerning management, use, or disposal of used oil.

- 25.1 Comply with fuel sulfur requirement for the applicable phase, as described in Conditions 32, 33, 34.1, 35.1, and 36.
- 25.2 Comply with NO<sub>x</sub> PSD avoidance limits in condition 26 as follows:
- a. Conduct NO<sub>x</sub> emission source testing using procedures set out in Section 8 of Operating Permit AQ0231TVP02 within ten operating days after initial conversion to blended fish oil/fuel oil, and as follows to obtain Department approval, except as set out in Condition 25.3.
    - (i) Test each unit at no less than three loads (high, mid, and low) within the normal operating range of the unit. If the Permittee certifies that units have identical configuration, the Department will allow one unit to be tested within that group.
    - (ii) During each performance test run, monitor and record opacity in accordance with Sections 12 and 13 of Operating Permit No. AQ0231TVP02.
    - (iii) At each performance test load, perform the test at the desired fish oil/fuel oil blend(s) and at 100 percent diesel fuel.
    - (iv) During each performance test, monitor and record the unit's average load, electric generation rate, and blended fuel consumption rate.
    - (v) Determine the fuel-specific higher heating value (gross heat value) for each fuel or fuel blend used during performance testing, by obtaining a vendor certification or by analyzing a representative sample of the fuel or blend in accordance with ASTM D 240, 4809 or 2382.
    - (vi) Determine load-specific NO<sub>x</sub> emission factors (pounds per gallon and pound per hour) expressed as NO<sub>2</sub>, based on EPA Reference Method 19.
    - (vii) Include the information obtained in Conditions 25.2a(ii) through 25.2a(vi) in the source test report required in Section 8 of Operating Permit No. AQ0231TVP02.
  - b. After Department approval of the source test, if results show different engine-specific and fuel-specific NO<sub>x</sub> emission factors for blended fuels than that demonstrated for fuel oil, use the blended fuel oil/fish oil emission factors to calculate the emission unit's 12 consecutive month total emissions in Condition 26 during any period during which the emission unit combusts blended fuel oil/fish oil retroactive to date of test.
- 25.3 Obtain Department approval in writing before using fish oil blend in any emission unit equipped with SCR.
- a. Obtain from the vendor a demonstration that the fish oil/fuel oil blend will not cause or contribute to an accelerated decrease of SCR performance.
  - b. Submit to the Department:
    - (i) the SCR vendor demonstration that include compatibility of SCR reagent and fish oil;

- (ii) the estimated emission reduction compared to diesel fuel;
    - (iii) the recommended changes of dosing and concentration of reagent in SCR (remapped to engine if needed); and
    - (iv) the recommended increase in SCR maintenance and inspection intervals.
  - c. If the Department approves the use of fish oil blend, comply with the requirements of Conditions 25.1 and 25.2.
- 25.4 Blend the fish oil with fuel oil using a metering system accurate to plus or minus five percent. Blend at a ratio not to exceed that for which the Permittee has conducted emission source tests under Condition 25.2a to verify site-specific NO<sub>x</sub> emission factors.
- a. Record the date, volume of fish oil (gallons), volume of fuel oil (gallons) in the blend, and the blend ratio.
  - b. Report as excess emissions as described in Section 9 of Operating Permit No. AQ0231TVP02, if the blend ratio exceeds the ratio for which Trident has conducted emission source tests under Condition 25.2a.
  - c. Include in the operating report described in Section 9 of Operating Permit No. AQ0231TVP02, the information required under Condition 25.4a for the reporting period.

### **Section 3      Owner Requested Limits to Avoid PSD-Major Classification**

26. **Limit to Avoid Classification as PSD-Major for NO<sub>x</sub>.** The Permittee shall limit Akutan's NO<sub>x</sub> emissions to no more than 240 tons in any twelve consecutive months. Trident may use aqueous urea-based Selective Catalytic Reduction (SCR) as described in Condition 27 to actively reduce NO<sub>x</sub> emissions in addition to operational restrictions. Monitor, record, and report as follows:

26.1 **Fuel Consumption (Fuel Oil, Fish Oil, and Used Oil) and Operating Hour Monitoring.**

Install and operate a dedicated continuous monitoring system for recording fuel consumption that is accurate to within five percent on each engine authorized to operate for the selected phase.

- a. Monitor and record monthly and SCR interval fuel consumption (*TC* and *CC*) in gallons for each unit (SCR interval as defined in Condition 27.3).
- b. Monitor and record monthly and SCR interval operating hours for each unit (SCR interval as defined in Condition 27.3).
- c. For any period during which the fuel consumption monitoring system is out-of-bounds or not operational, then for purposes of calculating NO<sub>x</sub> emission in Condition 26.3, determine the monthly or SCR interval fuel consumption based on the hours recorded in Condition 26.1b, and the design fuel consumption rate in Exhibit A.

26.2 **Engine Load Requirements.**

- a. Limit Unit 26 to loads no greater than 79 percent by limiting the monthly fuel consumption rate to 62.6 gallons per hour. Calculate and record monthly fuel consumption rate by dividing the total fuel consumed in the month by the total hours of operation for the month.
- b. For all engines not equipped with SCR, calculate and record monthly percent load by dividing the monthly fuel consumption (gallons) by the hours operated in the month, then dividing that number by the design fuel consumption rate in gallons per hour from Exhibit A, and multiplying by 100.
- c. For engines equipped with SCR
  - (i) Calculate and record the SCR interval percent load by dividing the SCR interval fuel consumption (gallons) by the hours operated during the interval, then dividing that number by the design fuel consumption rate in gallons per hour from Exhibit A, and multiplying by 100 (SCR interval as defined in Condition 27.3).
  - (ii) Calculate and record percent load for the remainder of the month by dividing the monthly uncontrolled fuel consumption (gallons) by the hours operated in the month without SCR, then dividing that number by the design fuel consumption rate in gallons per hour from Exhibit A, and multiplying by 100.

26.3 By the 15<sup>th</sup> of each month, calculate the the previous month’s total NO<sub>x</sub> emissions as follows:

a. **Engines.**

- (i) For each engine that **did not** use SCR for any part of the month, calculate and record the monthly NO<sub>x</sub> emissions using Equation 1; as an alternative, for any specific engine, use the PTE for the engine listed in Exhibit A as monthly NO<sub>x</sub> emissions.

**Equation 1**       $NO_x = TC \times EF \times \frac{1 \text{ ton}}{2000 \text{ lb}}$

Where:       $NO_x$       =      NO<sub>x</sub> emissions in tons per month;  
                  $TC$         =      Fuel consumption in gallons per month for each unit that **did not** use SCR during the month (measured or calculated in accordance with Condition 26.1a); and  
                  $EF$         =      NO<sub>x</sub> uncontrolled emission factor in lb per gallon from Exhibit A, based on the monthly average load recorded under Condition 26.2b for each unit, except as indicated in Condition 25.2b for fish oil combustion.

- (ii) For each engine that **did** use SCR for any part of the month, calculate and record emissions using Conditions 26.3a(ii)(A) and 26.3a(ii)(B); as an alternative, for any specific engine, use the PTE for the engine listed in Exhibit A as monthly NO<sub>x</sub> emissions.

(A) Calculate the monthly NO<sub>x</sub> emissions **while using SCR**, for each interval using Equation 2.

**Equation 2**       $NO_x = \left[ \sum_{i=1}^n (ineff_i \times CC_i) \times EF_i \right] \times \frac{1 \text{ ton}}{2000 \text{ lb}}$

Where:       $NO_x$       =      NO<sub>x</sub> emissions in tons per month;  
                  $n$             =      Number of intervals during the month for which a given engine used SCR  
                  $CC$         =      Controlled fuel consumption in gallons for each interval  $i$  (measured or calculated in accordance with Condition 26.1a);  
                  $ineff$       =      The SCR ineffectiveness for interval  $i$  (measured or calculated in accordance with Condition 27.3)  
                  $EF$         =      NO<sub>x</sub> uncontrolled emission factor in lb per gallon from Exhibit A based on the load recorded under Condition 26.2c(i) for interval  $i$ , except as indicated in Condition 25.2b for fish oil combustion.

- (B) Calculate the monthly NO<sub>x</sub> emissions **while not using SCR** using Equation 3.

$$\text{Equation 3} \quad NO_x = UC \times EF \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

- Where:
- $NO_x$  = NO<sub>x</sub> emissions in tons per month;
  - $UC$  = Uncontrolled fuel consumption in gallons for each engine ( $UC = TC - (CCI + CC2, \text{ etc})$ ,  $TC$  and  $CC$  (measured or calculated in accordance with Condition 26.1a);
  - $EF$  = NO<sub>x</sub> uncontrolled emission factor in lb per gallon from Exhibit A based on the load recorded under Condition 26.2c(ii) for each unit, except as indicated in Condition 25.2b for fish oil combustion.

- b. **Non-Engines (except incinerator).** For each non-engine (except incinerator) calculate and record the NO<sub>x</sub> emissions using Equation 4; as an alternative, for any specific unit, use the PTE for the unit listed in Exhibit A as monthly NO<sub>x</sub> emissions.

$$\text{Equation 4} \quad NO_x = TC \times EF \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

- Where:
- $NO_x$  = NO<sub>x</sub> emissions in tons per month;
  - $TC$  = Fuel consumption in gallons per month (measured or calculated in accordance with Condition 26.1a); and
  - $EF$  = NO<sub>x</sub> uncontrolled emission factor in lb per gallon from Exhibit A, except as indicated in Condition 25.2b for fish oil combustion. Note that load does not affect the emission factors from non-engines.

- c. **Incinerator** Charge no greater than 146 tons of refuse each month (equivalent to 400 lb/hour continuous capacity). Monitor, record, and report as follows:
- (i) Weigh and record weight of each batch of waste charged in the incinerator. Calculate and record the total quantity of waste burned each month in tons.
  - (ii) Calculate and record actual NO<sub>x</sub> emissions from the incinerator using Equation 5; as an alternative, use a PTE of 1.4 tpm for the incinerator.

$$\text{Equation 5} \quad NO_x = [(TC \times 0.2) + (TW \times 2.6)] \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

- Where:
- $NO_x$  = NO<sub>x</sub> emissions in tons per month for Unit 30;
  - $TC$  = Fuel consumption in gallons per month (measured or calculated in accordance with Condition 26.1a);
  - 0.2 = diesel fuel combustion emission factor (lb/gallon);
  - $TW$  = monthly waste incinerated (tons); and

2.6 = waste combustion emission factor (lb/ton)

- 26.4 By the 15<sup>th</sup> of each month, add the monthly NO<sub>x</sub> emission for all units calculated under Condition 26.3 to obtain the stationary source monthly total. Add the monthly stationary source total to the stationary source total for the previous 11 months to determine the 12 consecutive month total for the stationary source.
- 26.5 If the NO<sub>x</sub> emissions calculated under Condition 26.4 exceed 235 tons per 12 consecutive months, conduct a NO<sub>x</sub> emission source test on each engine authorized to operate under the selected phase, except for Units 25, 27 through 29, 31, and 32 (or the letter-designated variants thereof, as applicable), within 90 days, unless a source test has been conducted within the previous 12 months. Conduct the source tests at no less than three loads within the normal operating range of the emission unit using procedures set out in Section 8 of Operating Permit No. AQ0231TVP02, and as follows.
- a. For units equipped with SCR, simultaneously conduct a test upstream and downstream of the SCR unit.
    - (i) For each run, conduct a simultaneous instrument accuracy verification test using the Engine Exhaust NO<sub>x</sub> Analyzer described in Condition 28 to collect one representative sample. Obtain readings from directly upstream and directly downstream of the SCR according to regular operational procedures in Conditions 28.2, 28.3b, and the Department-approved Quality Assurance/Quality Control (QA/QC) Plan developed under item 30 of the consent decree dated December 5, 2002, as modified.
    - (ii) For each test, determine the load curve, the urea reagent concentration, the urea flow rate, and the ammonia slip.
  - b. During each test, monitor and record the unit's average load, electric generation rate, and fuel consumption rate.
  - c. For each test, analyze a representative fuel sample to determine its higher heating value and specific gravity using ASTM methods incorporated by reference in ASTM 396-62, Specifications for Fuel Oil.
  - d. Determine the load-specific NO<sub>x</sub> emission rate (pounds per gallon and pounds per hour), based on EPA Method 19.
  - e. Include the information obtained in Conditions 26.5a through 26.5d in the source test report required in Section 8 of Operating Permit No. AQ231TVP02.
- 26.6 After Department approval of the source tests conducted under Condition 26.5, use the source test emission factors to calculate the unit's emissions in Condition 26.3. If the emission factor in pounds per gallon for any given load differs from the values listed in Exhibit A, recalculate 12 consecutive month total emission, starting six months prior to the source test, and submit an updated operating report for those periods as needed.

- 26.7 Report as excess emissions as described in Section 9 of Operating Permit No. AQ0231TVP02 any time the  $NO_x$  emissions calculated under Condition 26.4 or 26.6 exceeds 240 tons per 12 consecutive months.
- 26.8 Include in the operating report described in Section 9 of Operating Permit No. AQ0231TVP02:
- the monthly total fuel use and operating hours for each unit, under Condition 26.1a or 26.1c;
  - the engine loads (monthly average, SCR interval) recorded Conditions 26.2;
  - the monthly total waste incinerated recorded under Condition 26.3c(ii); and
  - the monthly and 12 consecutive month total  $NO_x$  emissions for the stationary source under Condition 26.4 or 26.6.
27. **Selective Catalytic Reduction (SCR) Requirements.** For each SCR system, install and operate SCR units in accordance with the Department-approved Quality Assurance/Quality Control Plan (QA/QC) Plan developed under item 30 of the consent decree dated December 5, 2002, as modified, and as follows.
- 27.1 Maintain on-site a spare catalyst bed in new condition for each group of compatible SCR units, except if the spare catalyst bed is compatible with all SCR units, the Permittee may maintain on-site only one catalyst bed in new condition for all units.
- 27.2 Maintain on-site necessary vendor-recommended spare parts (spray nozzles, lance, pumps, seals, and solenoids).
- 27.3 **SCR  $NO_x$  Removal Effectiveness.** Determine SCR effectiveness for each interval<sup>1</sup> of SCR use as follows.
- Measure total parts per million (ppm) nitrogen oxide (NO) concentration of exhaust stream before and after SCR treatment using a gas analyzer that meets the performance specifications set out in Condition 28.
  - Calculate nitrogen dioxide ( $NO_2$ ) concentration of exhaust stream both before and after the SCR unit as five percent of the total  $NO_x$  in the exhaust stream as shown in Equation 6.
  - Calculate the total  $NO_x$  of exhaust stream both before and after the SCR unit by summing the measured NO concentration and the calculated  $NO_2$  concentration as shown in Equation 7.
  - Calculate the effectiveness using Equation 8, upon initiating a period of SCR controlled operations for a specific engine; and, except as indicated in Condition 27.3e, at least every seven operating days for the duration of continuous SCR emission controls of that engine.

$$\text{Equation 6} \quad NO_2 = NO * \frac{0.05}{0.95}$$

$$\text{Equation 7} \quad NO_x = NO + NO_2$$

<sup>1</sup> An SCR interval is any period between SCR Effectiveness tests, while the unit is using SCR.

**Equation 8** 
$$eff = \frac{NO_x(in) - NO_x(out)}{NO_x(in)} \times 100$$

Where:

- $eff$  = SCR effectiveness in percent
- $NO_{xin}$  = NO<sub>x</sub> concentration in ppm before SCR
- $NO_{xout}$  = NO<sub>x</sub> concentration in ppm after SCR

- e. If the NO<sub>x</sub> emissions calculated under Condition 26.4 exceed 230 tons per 12 consecutive months, measure SCR effectiveness daily starting on the 15<sup>th</sup> of the month following the month that resulted in greater than 230 tpy NO<sub>x</sub> emissions, and continuing until the 12 consecutive month NO<sub>x</sub> emissions are shown to be below 230 tons per 12 consecutive months.
  - f. Record the effectiveness for each SCR interval. (The effectiveness for each interval is the **lowest** effectiveness measured for the tests that bound that interval. (For instance, interval 1 is bounded by 80 percent and 85 percent. The effectiveness for interval 1,  $eff1$ , is 80 percent.)
- 27.4 In case of SCR malfunction, contact the SCR vendor or certified technician and implement their prescribed corrective actions, and record:
- a. a complete description of the corrective action;
  - b. the date the corrective action was completed;
  - c. the technician's contact information (if the corrective action was prescribed by an SCR manufacturer or certified technician); and
  - d. if applicable, a description of how any corrective actions completed differed from what was prescribed by the SCR manufacturer or certified technician, and the basis for the difference.
- 27.5 Keep records of
- a. all SCR system repairs, maintenance, and SCR control system adjustments, including time and date;
  - b. the dates and times each time that SCR controls are started up and shut down. Start-up means that the catalyst bed temperature is within the manufacturer's recommended temperature set points for optimal NO<sub>x</sub> removal and reagent injection is at a rate consistent with the programable logic controller setting for the operating engine's load setting. Shut down means that the engine is no longer running or one of the above parameters is out of bounds;
  - c. hourly records of injection rate of SCR reagent in gal/hr and records of the concentration of SCR reagent in lb/gal for each batch prepared;
  - d. receipts for all urea purchases (with dates and quantities);
  - e. system alarm logs including time, date of occurrence; and
  - f. date and time of every effectiveness test conducted under Condition 27.3, and results.

- 27.6 Include in the operating report described in Section 9 of Operating Permit No. AQ0231TVP02, all records required under Condition 27, except for the records required under Condition 27.5c. Maintain the records required under Condition 27.5c on-site for five years from the date of the record.
28. **Engine Exhaust NO<sub>x</sub> Analyzer.** The Permittee shall maintain two (primary and secondary) exhaust gas NO<sub>x</sub> analyzers onsite that are capable of measuring nitric oxide (NO) concentrations of one to 1,000 ppmv and that is accurate to five percent in accordance with the QA/QC Plan developed under item 30 of consent decree dated December 5, 2002, as modified. Comply with the following for analyzers required under this condition.
- 28.1 Install on the stacks of units capable of operating with SCR:
- sampling ports that comport with 40 C.F.R. 60, Appendix B, Performance Specification 2, and a stack or duct free of cyclonic flow at the port location during the applicable test methods and procedures;
  - safe sampling platforms;
  - safe access to sampling platforms; and
  - utilities for emission sampling and testing equipment.
- 28.2 Develop an analyzer exhaust traverse for each sampling port of no less than three points to ensure representative sampling.
- 28.3 Relative Accuracy Requirements.
- Keep calibration gas available onsite at all times.
  - Before each SCR effectiveness test required by Condition 27.3, test the analyzer's relative accuracy using NO<sub>x</sub> calibration gas as follows:
    - Measure and record the:
      - date;
      - certified NO<sub>x</sub> concentration of the calibration gas ( $NO_{x\text{certified}}$ ); and
      - measured NO<sub>x</sub> concentration of the calibration gas ( $NO_{x\text{measured}}$ ).
    - Calculate and record the relative accuracy using Equation 9.
- Equation 9** 
$$RA = \left| \frac{NO_{x\text{certified}} - NO_{x\text{measured}}}{NO_{x\text{certified}}} \right|$$
- Where:  $RA$  = Relative Accuracy
- Recalibrate or repair the primary analyzer if relative accuracy exceeds five percent, and no less than once each year. The recalibration must be performed by the manufacturer or a trained technician.
  - Keep records of each relative accuracy test. Notify the Department within seven days of the audit date if any analyzer's relative accuracy calculation

conducted under Condition 28.3b results in a relative accuracy greater than five percent.

- e. Include with the operating report described in Section 9 of Operating Permit AQ0231TVP02:
  - (i) a copy of the receipt for any recalibration following return of the recalibrated analyzer required under Condition 28.3c; and
  - (ii) a copy of any records and notifications required under Condition 28.3d.

28.4 When the primary analyzer requires recalibrations or repairs under Condition 28.3c, use the secondary analyzer for all measurements required under this permit. Follow all requirements listed in Condition 28.3.

29. **Limit to Avoid Classification as PSD-Major for SO<sub>2</sub>.** The Permittee shall limit Akutan's SO<sub>2</sub> emissions to less than 250 tons in any 12 consecutive months. Monitor, record, and report as follows.

29.1 By the 15<sup>th</sup> of each month, calculate the previous months monthly total SO<sub>2</sub> emissions for each unit authorized to operate during the selected phase(s) for that month as follows:

- a. Except as indicated in Condition 29.1b, calculate and record the monthly SO<sub>2</sub> emissions using Equation 10.

**Equation 10**      $SO_2 = TC \times EF \times \frac{1 \text{ ton}}{2000 \text{ lb}}$

Where:      $SO_2$      =     SO<sub>2</sub> emissions in tons per month;  
                $TC$        =     Fuel consumption in gallons per month for each unit (measured or calculated in accordance with Condition 26.1a); and  
                $EF$        =     SO<sub>2</sub> emission factor in pounds per gallon, using an appropriate emission factor based on the fuel sulfur limit described in Conditions 32, 33, 34.1, 35.1, and 36 (as applicable for the selected phase).

- b. For any specific unit, the Permittee may use the PTE for the unit listed in Exhibit B as monthly SO<sub>2</sub> emissions.

29.2 Add the monthly SO<sub>2</sub> emission for all units calculated under Condition 29.1 to obtain the stationary source monthly total. Add the monthly stationary source total to the stationary source total for the previous 11 months to determine the 12 consecutive month total for the stationary source.

29.3 Report as excess emissions as described in Section 9 of Operating Permit No. AQ0231TVP02 if the SO<sub>2</sub> emissions calculated under Condition 29.2 exceed 250 tpy.

- 29.4 Include in the operating report described in Section 9 of Operating Permit No. AQ0231TVP02 monthly and 12-consecutive month total SO<sub>2</sub> emissions for the stationary source under Condition 29.2.

## **Section 4     *Ambient Air Quality Requirements***

### **General Provisions – All Phases**

30. In order to protect the ambient air quality standards and increments for nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM-10), the Permittee shall:
  - 30.1 Maintain the ambient air boundary illustrated in Figure 1 using the provisions of the July 29, 2003 Public Access Control Plan.
    - a. The ambient air boundary shall be completely within the Lease Boudnary established with each surface owner of lands and waters.
    - b. The Permittee may not contract the ambient air boundary outside of a permit application process. The permit application must include a revised ambient air quality analysis demonstrating compliance with the air quality standards and increments for nitrogen dioxide, sulfur dioxide, and particulate matter.
    - c. The Permittee may not revise the Public Access Control Plan without first obtaining written Department approval. To obtain Department approval, the Permittee shall submit their proposed revisions to the Department’s compliance assurance group, and provide a courtesy copy to the Department construction permit group.
    - d. The Permittee must immediately cease operating if the holder of the road easement across the lease area demands or exercises access to that easement. Once this occurs, the Permittee may not restart operations prior to obtaining a new air quality control permit. The application for a new permit must describe the revised ambient air boundary, and include an air quality demonstration for that revised boundary per Paragraph b.
  - 30.2 Within 60-days of permit issuance, increase the stack height for Emission Unit 27 to 9.1 meters above grade. Submit a stack height compliance demonstration consisting of as-built drawings and a photograph, with the next operating report required under Operating Permit AQ0231TVP02.
  - 30.3 Construct and maintain:
    - a. Exhaust stacks that meet the minimum stack height requirements listed in Table 9. Except as noted in Condition 30.2, compliance with the minimum stack height is required prior to initial startup of the associated emission unit. Submit the initial compliance demonstration described in Condition 30.4 for all stack changes.
    - b. Vertical, uncapped exhaust stacks for all fuel-burning emission units listed in the permit. This condition does not preclude the use of flapper valve rain covers, or other similar designs, that do not hinder the vertical momentum of the exhaust plume.
  - 30.4 In addition to the stack demonstrations specifically listed in this permit, demonstrate compliance with the stack requirements in Condition 30.3 upon Department request. Demonstrations shall include as-built drawings and photographs.

**Table 9 – Minimum Stack Height Requirements<sup>a</sup>**

Permit ID	Unit		Minimum Stack Height Above Grade (m)
	Name	Description	
1	Pollock Generator #4	Cat D3516B	20.6
2a	Cod Generator #1	Cat D3512B	21.5
3a	Cod Generator #2	Cat D3512B	21.5
4b	Pollock Generator #1	Cat D3516B	20.6
4c	Pollock Generator #1	Cat C175-16	20.6
5a	Pollock Generator #2	Cat D3512B	20.6
5b	Pollock Generator #2	Cat D3516B	20.6
6a	Pollock Generator #3	Cat D3512B – 1,240 ekW	20.6
6b	Pollock Generator #3	Cat D3512B – 1,360 ekW	20.6
6c	Pollock Generator #3	Cat C175-16	20.6
7b	Cod Generator #3	Cat D3512B	21.5
8	Pollock Boiler #1	CB NCB 100-400	27.5
9	Pollock Boiler #2	CB NCB 100-400	27.5
10	Cod Boiler #1	Johnston 516 AC	21.5
11	Cod Boiler #2	Johnston 516 AC	21.5
12	Fish Meal Dryer	Pedar Halvorsen Furnace	27.5
23a	Boiler	CB 200-500-150	19.0
24	Boiler	Falcon Boiler	11.2
25	Sealand Engine	Detroit Series 60	7.6
26	Compressor Engine	Cat 3508B	20.6
27	Freshwater Pump House Gen	Cat D3512A	9.1
28a	Cod Generator #4	Cat D3512B	21.5
29a	Cod Generator #5	Cat D3516B	21.5
30	Trash Incinerator	Therm Tec G-50	8.3
31	Portable Generator	Detroit Diesel 60	7.6
32	Portable Generator	Detroit Diesel 60	7.6
33	Cod Generator #6	Cat D3516B	21.5
34	Cod Generator #7	Cat D3516B	21.5

<sup>a</sup> Table 9 lists emission units that may exist during any of the 5 phases. A required stack height is only applicable when the associated emission unit is present (i.e., the stack height requirement is not applicable prior to installation, or upon removal, of the associated emission unit).

31. In order to protect the NO<sub>2</sub> air quality standard and increment, comply with the NO<sub>x</sub> PSD-avoidance limit in Condition 26.

**Additional Ambient Air Provisions During Phase 0**

32. During Phase 0, the Permittee shall limit the fuel sulfur content to no greater than 0.29 percent, by weight.

### **Additional Ambient Air Provisions During Phase 1**

33. During Phase 1, the Permittee shall limit the fuel sulfur content to no greater than 0.27 percent, by weight.

### **Additional Ambient Air Provisions During Phase 2**

34. During Phase 2, the Permittee shall:
- 34.1 Limit the fuel sulfur content to no greater than 0.26 percent, by weight;
  - 34.2 Not concurrently operate Emission Unit 11 and Emission Unit 27;
    - a. Record the date and time of startup/shutdown for Emission Unit 11;
    - b. Record the date and time of startup/shutdown for Emission Unit 27; and
    - c. Report as an excess emission as described in Section 9 of Operating Permit No. AQ0231TVP02 any time that Emission Unit 11 and Emission Unit 27 are concurrently operating.

### **Additional Ambient Air Provisions During Phase 3**

35. During Phase 3, the Permittee:
- 35.1 Shall limit the fuel sulfur content to no greater than 0.22 percent, by weight;
  - 35.2 *May* concurrently operate Emission Unit 11 and Emission Unit 27.

### **Additional Ambient Air Provisions During Phase 4**

36. During Phase 4, the Permittee shall limit the fuel sulfur content to no greater than 0.20 percent, by weight.

### **Fuel Monitoring Provisions**

37. The Permittee shall monitor fuel sulfur as follows:
- 37.1 Obtain a statement or receipt from the fuel supplier certifying the maximum sulfur content of the fuel for each shipment of fuel delivered to the Plant. If a certified statement or receipt is not available from the supplier, analyze a representative sample of any fuel added to any tank at the plant in accordance with Condition 37.2.
  - 37.2 If required under this permit to determine the sulfur content of fuel oil, used oil, or fish oil, use ASTM method D129-00, D1266-98, D1552-95, D2622-98, D4294-98, D4045-99, D-4294 or an alternative method approved by the Department.
  - 37.3 Except as indicated in Condition 37.3a, calculate and record the sulfur content, by weight, of the fuel in each tank (Tanks 1 through 6), after each time fuel is added to a tank, using Equation 11.

**Equation 11**     
$$S_T = \frac{(Q_{F1} \times S_{F1}) + (Q_{F2} \times S_{F2}) + (Q_{F3} \times S_{F3})}{100}$$

Where:  $Q_{F1}$  = Quantity of Fuel 1 (delivered fuel), percent of total fuel, by weight  
 $S_{F1}$  = Sulfur content of Fuel 1, percent sulfur by weight  
 $Q_{F2}$  = Quantity of Fuel 2 (fuel in tank before delivery), percent of total fuel, by weight  
 $S_{F2}$  = Sulfur content of Fuel 2, percent sulfur by weight  
 $Q_{F3}$  = Quantity of Fuel 3 (lower sulfur fuel as needed to meet applicable sulfur limit), percent of total fuel, by weight  
 $S_{F3}$  = Sulfur content of Fuel 3, percent sulfur by weight  
 $S_T$  = Sulfur content of blended fuel in the tank, percent sulfur by weight

- a. If the sulfur content of any diesel fuel delivery is less than the applicable limit specified in Condition 32, 33, 34.1, 35.1, or 36 (as applicable for the selected phase), then Trident may elect to assume the fuel in all tanks to which that fuel is added is the same as the maximum of any fuel added to that tank in the previous 12 months, and may forego fuel sulfur calculations in Condition 37.3.
  - b. Keep records of statements or receipts from the fuel supplier showing sulfur content and quantity of each shipment of fuel under Condition 37.1, results of each sulfur measurement required under Condition 37.2, and each fuel sulfur calculation for each tank conducted under Condition 37.3.
38. Monitor the fuel consumption rate for Emission Unit 30 (incinerator) as follows:
- 38.1 Record the calendar day fuel consumption measured by the fuel meter required in Condition 26.1, and the daily hour of operation on the incinerator.
  - 38.2 Calculate and record the daily average fuel consumption rate in gph.
39. Report as excess emissions as described in Section 9 of Operating Permit No. AQ0231TVP02,
- 39.1 any time the fuel sulfur content calculated under Condition 37 of any fuel consumed at the Plant exceeds an applicable limit listed in Conditions 32, 33, 34.1, 35.1, and 36 (as applicable for the selected phase); and
  - 39.2 any time the calendar day average fuel consumption rate for Unit 30 calculated under Condition 38.2 exceeds 19.0 gph.
40. Include in the operating report described in Section 9 of Operating Permit No. AQ0231TVP02:
- 40.1 the records required under Condition 34.2.
  - 40.2 the records required under Condition 37;
  - 40.3 a monthly summary of the records required under Condition 38.2; and
  - 40.4 a list of the notifications submitted during the reporting period.

## **Section 5 State Emission Standards**

41. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding water vapor, emitted from the new and modified emission units authorized by this minor permit to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.
  - 41.1 Conduct an initial visible emission surveillance for each new and modified emission unit within 30 days of modification or installation, following 40 C.F.R. 60, appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a). Conduct observations for 18 minutes to obtain 72 consecutive 15-second opacity observations, and use the Visible Emissions Field Data Sheet and Visible Emissions Observation Record included in the attachments. Include copies of the observation records in the next operating report described in Operating Permit AQ0231TVP02, Revision 2.
  - 41.2 Include copies of the source test results in the next operating report described in Operating Permit AQ0231TVP02, Revision 2.
42. **Industrial Process and Fuel-Burning Equipment Particulate Matter.** The permittee shall not cause or allow PM emissions from new and modified emission units authorized by this minor permit to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.
  - 42.1 Conduct an initial PM test for each new and modified emission unit within 30 days of modification or installation, following 40 C.F.R. 60, Appendix A-4, Method 5, adopted by reference in 18 AAC 50.040(a).
43. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub> from new and modified emission units authorized by this minor permit to exceed 500 ppm corrected to standard conditions and averaged over three hours.

## **Section 6      *Terms to Make Permit Enforceable***

44. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for
  - 44.1 an enforcement action; or
  - 44.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
45. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
46. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
47. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
48. The permit does not convey any property rights of any sort, nor any exclusive privilege.

## **Section 7      *Permit Documentation***

December 20, 2002	Operating Permit No. 231TVP01, Revision 2
December 5, 2002	Consent Decree between Trident and the Department, regarding Akutan
May 2, 2003	Operating and Construction Permit Application for Trident Akutan.
July 31, 2003	Operating and Construction Permit Application, Revision 1 for Trident Akutan.
December 5, 2003	Construction Permit 231CP02 for Trident Akutan
December 26, 2003	Application Supplement – correction to summary tables for source tests conducted in October 2003.
March 2004	Operating and Construction Permit Application, Revision 2. Supercedes all previous applications.
June 3, 2004	Email from Tom Gibbons (Steigers) to Sally Ryan (ADEC) containing excerpts from May 2002 source test report.
June 9, 2004	Email from Tom Gibbons (Steigers) to Sally Ryan (ADEC) containing supplemental application information.
June 14, 2004	Email from Tom Gibbons (Steigers) to Sally Ryan (ADEC) containing supplemental application information.
June 18, 2004	Email from Tom Gibbons (Steigers) to Jim Baumgartner (ADEC) regarding incinerator VOC emissions.
June 21, 2004	Email from Tom Gibbons (Steigers) to Sally Ryan (ADEC) regarding Akutan Harbor vessel information.
June 22, 2004	Email from Tom Gibbons (Steigers) to Jim Baumgartner (ADEC) regarding Caterpillar D3516B Generator Engine Rating.
September 13, 2004	Email from John Steigers (Steigers) to Jeanette Brena (ADEC) regarding new SCR installations.
October 8, 2004	Email from Earl Hubbard (Trident) to Jeanette Brena (ADEC) and Alan Schuler (ADEC) regarding the Akutan Construction Permit.
December 22, 2004	Email from Thomas Gibbons (Steigers) to Sally Ryan (ADEC) containing new lease area and also the entire ambient air boundary.
January 7, 2005	Lease Agreement.
March, 2007	Minor Permit Application and Request for Permit Coordination.
May 29, 2007	Email from Tom Gibbons (Trident) to Sally Ryan (ADEC), applicaton supplement.
July 12, 2007	Letter to Sally Ryan (ADEC) from Earl Hubbard (Trident) Amendment of Minor Permit Application.
August 10, 2007	Letter to Sally Ryan (ADEC) from Earl Hubbard (Trident), Amendment of Minor Permit Application.

## **EXHIBITS AND FIGURES**

**Exhibit A – Uncontrolled NO<sub>x</sub> Emission Factors and Monthly Potential to Emit<sup>a</sup>**

Unit	Source Description	Uncontrolled NO <sub>x</sub> Emission Factor (EF) (lb/gal), based on percent load							Design Fuel Consumption @ 100% load (gph)	NO <sub>x</sub> PTE (tpm)
		≤50	51 – 70	70	71 - 84	85	86 - 99	100		
1, 4b, 5b, 28a, 29a, 33, 34	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,655 kW)	0.516	0.516	0.513	0.540	0.540	0.540	0.474	108.9	21.5
2, 3, 5, 7a	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,135 kW)	0.352	0.352	0.317	0.317	0.269	0.278	0.278	78.3	7.9
2a, 3a, 5a, 6b, 7b, 28b	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,360 kW)	0.516	0.518	0.518	0.518	0.490	0.490	0.422	91.5	17.3
6	Caterpillar Model D3512B Twin Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,240 kW)	0.155	0.176	0.176	0.200	0.200	0.219	0.219	85.8	6.9
6a	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,240 kW)	0.252	0.252	0.217	0.217	0.205	0.205	0.203	88.4	6.5
8, 9	Cleaver Brooks Model 400 Steam Boiler	n/a	n/a	n/a	n/a	n/a	n/a	0.0200	122.2	0.9
10, 11	Johnston Steam Boiler	n/a	n/a	n/a	n/a	n/a	n/a	0.0200	37.3	0.3
12	Pedar Halvorsen Furnace	n/a	n/a	n/a	n/a	n/a	n/a	0.0200	252.6	1.8
23a	Cleaver Brooks Model 500 Steam Boiler	n/a	n/a	n/a	n/a	n/a	n/a	0.0200	153.3	1.1
24	Falcon Boiler	n/a	n/a	n/a	n/a	n/a	n/a	0.0200	7.4	0.1
25, 31, 32 (& replacements)	Portable Diesel Electric Generator	n/a	n/a	n/a	n/a	n/a	n/a	0.400	18.7	27
26	Caterpillar Model D3508B Twin Turbo Compressor Engine	0.203	0.203	0.203	0.203	n/a	n/a	n/a	62.6 (79% load)	4.6
27	Caterpillar D3512A	0.335	0.373	0.373	0.373	0.356	0.356	0.305	85.7	9.5
28, 29	Caterpillar D379	n/a	n/a	n/a	n/a	n/a	n/a	0.222	31.0	2.5
4c	Caterpillar C175-6 Diesel Electric Generator (2,250 kW)									

Table Notes

<sup>a</sup> NO<sub>x</sub> Emission Factors and PTE may change upon Department approval of source tests.

$$\frac{\text{gal}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{\text{yr}}{12 \text{ mo}} \times 0.0497 \frac{\text{lb SO}_2}{\text{gal}} \times \frac{\text{ton}}{2000 \text{ lb}}$$

**Exhibit B – SO<sub>2</sub> Emission Factors and Monthly Potential to Emit**

<b>Emission Unit</b>	<b>Unit Description</b>	<b>Design Fuel Con. @ 100% load (gph)</b>	<b>SO<sub>2</sub> Potential to Emit (tons/month), based on 0.35 wt% S fuel sulfur content<sup>a</sup></b>
1, 4b, 5b, 28a, 29a, 33, 34	Caterpillar Model D3516B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,655 kW)	108.9	TBD
2, 3, 5, 7a	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,135 kW)	78.3	1.4
2a, 3a, 5b, 6b, 7b, 28b	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,360 kW)	91.5	TBD
6	Caterpillar Model D3512B Twin Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,240 kW)	85.8	1.6
6a	Caterpillar Model D3512B Quad Turbo Low NO <sub>x</sub> Diesel Electric Generator (1,240 kW)	88.4	1.6
08, 09	Cleaver Brooks Model 400 Steam Boiler	122.2	2.2
10, 11	Johnston Steam Boiler	37.3	0.7
12	Pedar Halvorsen Furnace	252.6	4.6
23	Cleaver Brooks Model 500 Steam Boiler	153.3	2.8
24	Falcon Boiler	7.4	0.1
25, 31, 32 (& replacements)	Portable Diesel Electric Generator	18.7	0.3
26	Caterpillar Model D3508B Twin Turbo Compressor Engine	62.6 (79% load)	1.1
27	Caterpillar D3512A	85.7	1.6
28, 29	Caterpillar D379	31.0	0.6
4c	Caterpillar C175-6 Diesel Electric Generator (2,250 kW)		

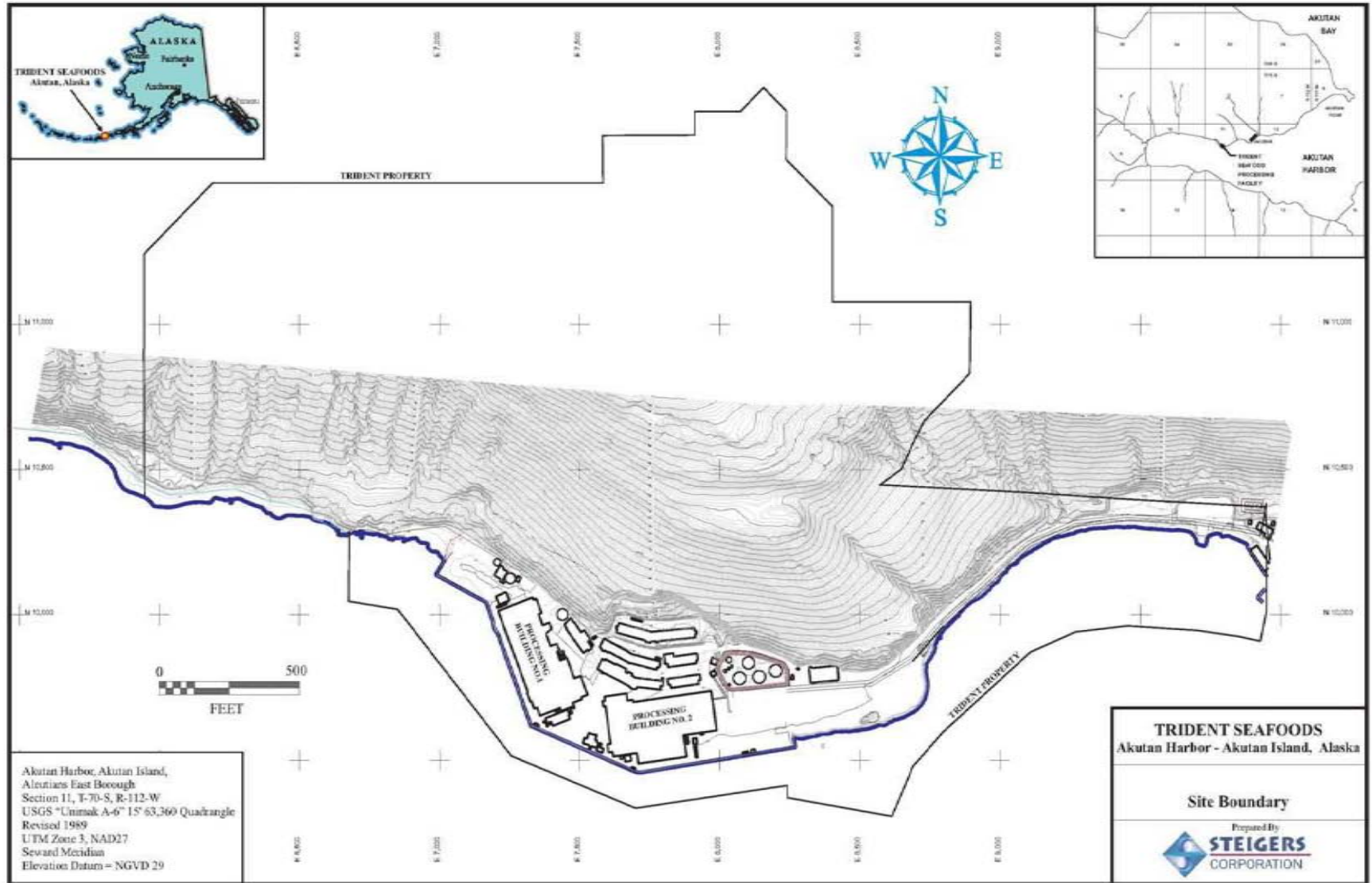
Table Notes

<sup>a</sup> Sulfur Emission Factor (EF) is 0.0497 lb SO<sub>2</sub> per gallon of fuel, assuming fuel density is 7.1 pounds of fuel per gallon. (SO<sub>2</sub> PTE will change if fuel sulfur content is different from 0.35 wt% S, or if the fuel density is different than 7.1 lb/gal.) The Department calculated SO<sub>2</sub> monthly PTE in this table as follows:

### Figure 1 – Ambient Air Boundary at Akutan Seafoods

*The western, northern, and eastern portion of the ambient air boundary coincides with the “Trident Property” line.  
The southern portion runs along the shoreline or in places where there is a dock, along the face of the dock.*

Attachment A



### Visible Emissions Field Data Sheet

Certified Observer: \_\_\_\_\_

Company &  
 Stationary  
 Source: \_\_\_\_\_

Location: \_\_\_\_\_

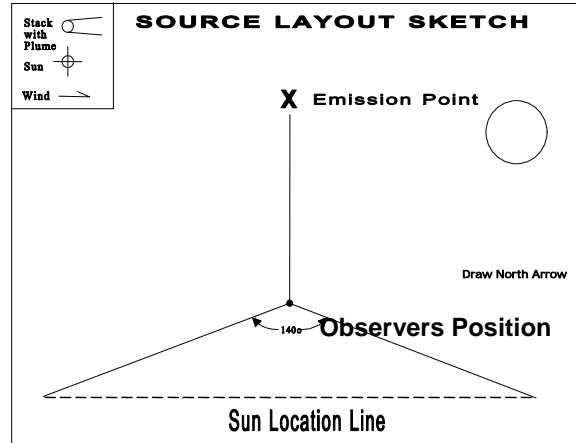
Test No.: \_\_\_\_\_ Date: \_\_\_\_\_

Emission Unit: \_\_\_\_\_

Production Rate/Operating  
 Rate: \_\_\_\_\_

Unit Operating Hours: \_\_\_\_\_

Hrs. of observation: \_\_\_\_\_



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

