

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
AIR PERMITS PROGRAM**

**TECHNICAL ANALYSIS REPORT**  
For Air Quality Control Minor Permit AQ0198MSS01

Alaska Soil Recycling (Division of Anchorage Sand and Gravel)  
Mobile Soil Remediation Unit

**MINOR PERMIT TO REPLACE OPERATING PERMIT**

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Date: Final – October 5, 2009

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## ABBREVIATIONS/ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASR	Alaska Soil Recycling
CEMS	Continuous Emission Monitoring System
C.F.R.	Code of Federal Regulations
PTE	Potential to Emit
SOB	Statement of Basis
SRU	Soil Remediation Unit
TAR	Technical Analysis Report
WC	Water Column

### Units and Measures

dscf	dry standard cubic foot
F	Fahrenheit
gr./dscf	grains per dry standard cubic foot (1 pound = 7,000 grains)
HP	Horse Power
kW	kiloWatts
kW-e	kilowatts electric <sup>1</sup>
lbs	pounds
MMBtu	million British Thermal Units
ppmv	parts per million by volume
psig	pounds per square inch
scfm	standard cubic feet per minute
tpy	tons per year

### Pollutants

CO	Carbon Monoxide
H <sub>2</sub> S	Hydrogen Sulfide
NO <sub>x</sub>	Oxides of Nitrogen
PM-10	Particulate Matter with an aerodynamic diameter less than 10 microns
S	Sulfur
SO <sub>2</sub>	Sulfur Dioxide
VOC	Volatile Organic Compound

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

## **1.0 Introduction**

This Technical Analysis Report (TAR) provides the Alaska Department of Environmental Conservation's (Department's) basis for issuing Air Quality Control Minor Permit AQ0198MSS01 to Alaska Soil Recycling (ASR) (a division of Alaska Sand and Gravel Co. Inc.) for the mobile Soil Remediation Unit (SRU). This minor permit replaces Operating Permit 198TVP01. This minor permit re-establishes conditions from Operating Permit AQ0198TVP01 originally established in Permit to Operate 9521-AA006.

### **1.1 Stationary Source Description<sup>2</sup>**

The SRU is owned and operated by ASR, a Division of Anchorage Sand and Gravel, Inc. This permit is for the operation of the mobile SRU only while located at 2301 Spar Avenue, Anchorage, Alaska.

The stationary source consists of a Thermotech Systems Model No. 625 mobile SRU with a design capacity/throughput of 25 tons per hour. The stationary source receives soil contaminated with petroleum products and stores them in covered storage piles until they are treated in the mobile SRU. Before treatment, the soil is screened and then loaded into the hopper, which feeds the SRU. The contaminated soil then enters a rotary drum dryer that operates at approximately 650°Fahrenheit (°F). Most of the volatile organic compounds (VOCs) in the petroleum products are evaporated in the dryer. The exhaust gas from the dryer enters a primary dust collector then a baghouse for particulate matter removal. The exhaust gas then enters a thermal oxidizer where VOCs and carbon monoxide (CO) are destroyed. The thermal oxidizer is operated at a temperature between approximately 1,600 and 1,700°F. The remediated soil from the dryer is conveyed to storage piles and then sold to customers.

### **1.2 Permit History**

The Department originally permitted the mobile SRU in June 1992 under Permit to Operate 9221-AA002. In May 1995 the Department issued Permit to Operate 9521-AA006 to renew the previous permit. On January 30, 2004, the Department issued Operating Permit 198TVP01. This operating permit incorporated all the terms and conditions of Permit 9521-AA006. The operating permit expired on February 28, 2009. ASR is currently (prior to AQ0198MSS01) operating the SRU under the expired operating permit 498TVP01 under an application shield.

### **1.3 Application Description**

ASR requested that the Department issue a minor permit to replace the operating permit. The Department sent a letter to ASR on March 12, 2009 to inform that ASR no longer needed an operating permit to operate the SRU. ASR submitted a permit application for a minor permit dated March 10, 2009 to replace the operating permit.

In the application, ASR has proposed to retain all of the stationary source specific requirements except to modify the description of the type of contaminated soils authorized to be treated in the SRU. ASR requested that the Department revise Condition 7 of Operating Permit 198TVP01. This condition was Condition 3 of Permit 9521-AA006 that was carried over to the operating permit. Condition 7 of Operating Permit 198TVP01 reads as follows:

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<sup>2</sup> As described in Operating Permit 198TVP01.

*The Permittee shall treat soils which have only been contaminated with crude oil, natural gas condensate, fuel oil, or gasoline. No material that meets the definition of hazardous waste under 40 CFR 261, 18 AAC 62, or 18 AAC 75.410(a) may be processed.*

Because of the restriction to the petroleum hydrocarbons, ASR has stated that they cannot accept any soils contaminated with any other material that are not hazardous waste. Contaminated soils not authorized in the permit that are non-hazardous are transported to the lower 48 for remediation at a significant cost. ASR wants the Department to ensure they are not penalized for treating material that other soil remediation units in Alaska are allowed to treat. ASR made reference to Alaska Interstate Construction (AIC) Operating Permit AQ0244TVP02 and Organic Incinerator Technologies (OIT) Operating Permit AQ0325TVP01. These permits are not as restrictive as the permit for ASR. ASR has proposed the following language to replace Condition 7 of Permit 198TVP01:

*The Permittee shall treat soils which have only been contaminated with crude oil, petroleum distillates, fuel oil, hydraulic oil, natural gas condensate, solvent, ethylene glycol or pesticides/herbicides. No material that meets the definition of hazardous waste under 40 CFR 261, or 18 AAC 62 may be processed.*

On May 8, 2009, the Department sent an incompleteness letter to ASR. The SO<sub>2</sub> emissions calculated in the application were 219 tons per year (tpy) based on 10 percent diesel in the contaminated soil. The SO<sub>2</sub> emissions were more than the Title V avoidance limits. On May 15, 2009 ASR submitted a supplement to the original application with revisions to the emissions calculations.

The Department's findings regarding the application are in Section 1.5 of this TAR.

#### **1.4 Emissions Summary and Permit Applicability**

Table 1 shows the SRU's Potential to Emit (PTE) in tons per year (tpy) for the SRU without any restrictions and as submitted in the May 15, 2009 supplement to the permit application.

As shown in Table 1 the SRU does not need an operating permit because the unrestricted emissions are less than 100 tons for each regulated pollutant. ASR needs a minor permit under 18 AAC 50.502(b)(2) to operate a thermal soil remediation unit with rated capacity of at least five tons per hour of untreated material.

ASR's emissions calculations for the SRU (May 15, 2009 application supplement) made the following assumptions.

1. ASR will process up to 25 tons (design capacity) of contaminated soil per hour or 219,000 tons per year.
2. Contaminated soil consists of 6,390 ppm fuel oil.
3. Sulfur content of the fuel oil in the contaminated soil is 0.5 percent by weight.
4. The SRU may operate continuously.
5. Only fuel gas is burned in the SRU.
6. Emissions from the SRU calculated using AP-42 emission factors for NO<sub>x</sub>, CO, PM-10 and VOC of 100 lb/MMscf, 84 lb/MMscf, 1.9 lb/MMscf and 5.5 lb/MMscf, respectively.
7. SRU SO<sub>2</sub> emissions calculated by mass balance for fuel gas with 15 ppmv hydrogen sulfide (H<sub>2</sub>S)

**Table 1** shows the stationary source emissions as in the permit application.

**Table 1 – ASR Stationary Source Emissions (burning fuel gas) tpy in the application**

	Emissions in tpy				
	NO <sub>x</sub>	CO	PM-10	VOC	SO <sub>2</sub>
<b>Primary Burner: 25 MMBtu/hr and Secondary Burner: 17 MMBtu/hr</b>	18.4	15.5	0.3	1.0	0.26
<b>Soil Contaminant Combustion - 25 tons material per hour</b>	3.9	1.0	0.2	0.0	12.6
<b>Total</b>	22.3	16.5	0.5	1	12.86
<b>Assessable</b>	22	17	0	0	13

There are no changes to emissions in this permit action. However, there is a discrepancy in the PTE listed in Table A of the Statement of Basis (SOB) for Operating Permit 198TVP01 and the permit application. The emissions in Table of the SOB are 30 tpy NO<sub>x</sub>, 3 tpy CO, 1 tpy PM-10 and 2 tpy VOC . The emissions in Table A of the SOB and the emissions in the application (shown in **Table 1** of this TAR) are both based on burning fuel gas in the burners. However, the SO<sub>2</sub> PTE in the SOB is based on 60 ppmv fuel gas H<sub>2</sub>S content whereas the application used 15 ppmv. After reviewing the operating reports for the source, the Department finds that ASR burned pipeline natural gas with fuel gas H<sub>2</sub>S content less than 2.5 ppmv in 2007 and 2008. Therefore, the 15 ppmv assumed in the application is a conservative assumption.

ASR has never burned fuel oil in the past but the permit does not prevent ASR from burning fuel oil. Since PTE is defined as the maximum emissions a source is capable of emitting taking into consideration its physical and operational limitations, and since the SRU is not retrofitted to burn any other fuel besides fuel gas, the Department agrees with the applicant’s PTE estimates based on burning fuel gas only. However, if the applicant wants to burn fuel oil in the burners, they would have to apply for modification.

The applicant used 6,390 ppmv soil contamination in the calculations but did not provide an acceptable basis for the assumption. The applicant back calculated the emissions in Table A of the SOB of Permit 198TVP01 to arrive at 6,390 ppmv. The applicant stated that the actual soil fuel oil content is far less than 6,390 ppmv. They provided a copy of a source test report dated September 2008, for which the soil tested had diesel content of 800 mg/kg (i.e. 800 ppmv) and the residual organics content of 700 mg/kg (700 ppmv). The Department finds that the assumed soil fuel oil content is an acceptable assumption for PTE because it is eight times higher than the one sample tested **and** because PTE is only being used for estimation of assessable emissions in this case.

The treated soil is contaminated mostly with diesel fuel with small amounts of other contaminants per the applicant<sup>3</sup>. The applicant used the AP-42, Tables 1.3-1 and 1.3-2 emission factors for diesel fuel to calculate the emissions from the contaminated. ASR also assumed the diesel fuel in the soil has sulfur content of 0.5 percent in the calculation for SO<sub>2</sub> emissions. **Should the soil fuel oil content (or soil fuel oil sulfur content) ever increase to a level that**

would cause emissions to trigger permitting under Article 5 of 18 AAC 50, or Title V permitting, ASR is obligated to apply for the appropriate permits.

### 1.5 Department Findings

The Department made the following findings regarding ASR's application:

- (1) The Department issued Operating Permit 198TVP01 in January of 2004. At that time, this source required an operating permit under (former regulation) 18 AAC 50.325(c) because it was described as an "ambient air quality facility" under 18 AAC 50.300(b)(1)(A). The operating permit contained all terms and condition of Air Quality Control Permit-to-Operate 9521-AA006. Based on rule changes in October 2004, this source is no longer classified as needing an operating permit.
- (2) To operate the mobile SRU, ASR needs a minor permit under 18 AAC 50.502(b)(2) for having a thermal SRU with a rated capacity of at least five tons per hour of untreated material.
- (3) ASR<sup>4</sup> dropped the request to include pesticides/herbicides after the Department expressed concern to ASR about treating soil contaminated with pesticides. Burning pesticides can emit toxins (Department's independent research). Although the SRU is not an incinerator that burns the soil to ash, heating the soil to 1,600°F may dissipate toxins. Neither of the AIC and OIT permits that ASR referenced during the phone conversation<sup>5</sup> are authorized to treat soil contaminated with pesticides and herbicides. The Department also clarified with the applicant that '*solvents*' referenced in the proposed language is essentially volatile organic compounds<sup>6</sup>.

Additionally, 18 AAC 75.410(a) referenced in Condition 3 of Permit 9521-AA006 (the underlying basis for Condition 7 of Permit 198TVP01) no longer defines hazardous waste. In the current regulations in 18 AAC 75.410(a) refers to "*an application for approval of an oil discharge prevention and contingency plan*". As such the Department agreed to remove the reference to 18 AAC 75.410(a) as requested.

- (4) ASR requested the Department revise the Title V permit conditions. The Department is technically revising the underlying Title I condition in Permit 9521-AA006 (as the Title V permit just incorporates the Title I provisions). Therefore, the application is also classified under 18 AAC 50.508(6) to revise an existing Title 1 term or condition.
- (5) Condition 2 in Exhibit D of Permit 9521-AA006 (the underlying basis for Condition 3 of Permit 198TVP01) that requires ASR to monitor the diesel fuel, natural gas and propane burned in the SRU serves no purpose. This condition is also misleading

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<sup>4</sup> Phone conversation on August 7, 2009, with Brad Quade (ASR) and Zeena Siddeek. ASR agreed to remove the request to treat soil contaminated with pesticides and herbicides and clarified that the 'solvent' are essentially volatile organic compounds.

<sup>5</sup> See footnote 4

<sup>6</sup> Phone conversation on August 12, 2009 with Brad Quade (ASR) and Zeena Siddeek. ASR stated that the soil contamination is predominantly diesel fuel.

because it implies that ASR is burning diesel and propane. The applicant has informed the Department that the burners are not capable of burning any other fuel besides fuel gas. In order to burn other fuels ASR would need to construct storage tanks. At the applicant's request<sup>7</sup> the Department removed the requirement to monitor the quantity of diesel fuel and propane burned in the unit.

- (6) Permit 198TVP01 expired on February 28, 2009. Therefore the Department is re-establishing all Title I conditions of the pre-1997 Permit-to-Operate 9521-AA006 in Minor Permit AQ0198MSS01 (not just the ones that are revised in this permit action).
- (7) The mobile SRU is located in the Municipality of Anchorage in the South Central coastal district. This project is consistent with the Alaska Coastal Management Program (ACMP) through AS 46.40.040(b)(1). The Department did not notify the local district and resource agencies of the permit action to request additional ACMP review because this permit is on the list of permit changes that are not subject to review under 11 AAC 110.820(k).

## 2.0 Permit Conditions

### 2.1 Requirements for all Minor Permits.

As described in 18 AAC 50.544(a), each minor permit issued under 18 AAC 50.542 must identify the stationary source, the project, the Permittee, and contact information, and the requirement to pay fees.

The permit cover page identifies the stationary source, the project, the Permittee, and contact information as required in 18 AAC 50.544(a)(1). The permit contains a requirement to pay fees as required in 18 AAC 50.544(a)(2). The assessable emissions for the mobile SRU are 42 tpy, as shown in **Table 1**. The Department notes that only the NO<sub>x</sub>, CO and SO<sub>2</sub> emissions are above ten tons per year, so the PM-10 and VOC emissions will not count towards the stationary source assessable emissions. There are no conditions established under 18 AAC 50.201 included in the minor permit under 18 AAC 50.544(a)(3). Similarly, there are no owner requested limits under 18 AAC 50.225 included under 18 AAC 50.544(a)(4). The Department has included the Standard permit conditions for minor permit in 18 AAC 50.345, as required under 18 AAC 50.344(5). These standard permit conditions are in Sections 5, 6 and 7 of the permit.

### 2.2 Requirements for a Minor Permit under 18 AAC 50.502(b)

As required under 18 AAC 50.544(b), each minor permit classified under 18 AAC 50.502(b) must contain terms and conditions as necessary to ensure that the stationary source will include

- (1) conditions for installation, use, and maintenance of monitoring equipment, sampling emissions, providing source test reports, keeping records and making periodic reports; and
- (2) permit conditions regarding maintenance and recordkeeping.

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<sup>7</sup> Phone conversation on August 12, 2009 with Brad Quad (ASR) and Zeena Siddeek. ASR request to remove the fuel consumption monitoring requirement after finding that the information served no purpose.

The permit contains monitoring equipment requirements to measure baghouse temperature, process feed rates, and baghouse pressure drop. These are listed in Section 4 of the permit. The permit also contains a requirement to install and operate a continuous emissions monitoring system (CEMs) to measure the exhaust stack CO emissions. These are all requirements that were carried over from Permit 9521-AA006. The Department has revised these conditions for readability and clarity, but there are no substantive changes to these monitoring requirements in this permit action.

The minor permit includes requirements for ASR to perform regular maintenance for the CEMS. These requirements are carried over from Permit 9521-AA006 to Permit 198TVP01 and to this minor permit. Permit 198TVP01 omitted the requirement for the operator to inspect every component of the control device, not move or remove process monitors without approval from the Department and report maintenance work which improved the emissions (Conditions 5(b), (c) and Exhibit D, Condition 6 of Permit 9521-AA006). The SOB of Permit 198TVP01 did not provide an explanation for the omission. The good air pollution practice requirements in the operating permit is not synonymous with the specific requirements for EU ID 1 in Permit 9521-AA006. Therefore, the Department carried over Conditions 5(b) and (c) of Permit 9521-AA006 to this minor permit. The Department replaced the reporting requirement in Exhibit D, Condition 6 of Permit 9521-AA006 with the recordkeeping requirement of the good air pollution practice standard language. These requirements are in Section 4 of the minor permit. The Department also added the requirement to perform regular maintenance considering the manufacturer's procedures, keep records of any maintenance that effect emissions and keep a copy of the manufacturer's or the operator's maintenance procedures under 18 AAC 50.544(b)(2) for EU ID 1.

Additionally, the Department is requiring that ASR conduct source tests for CO and PM emissions at least once every five years. This monitoring requirement is carried over from the Operating Permit 198TVP01.

The Department is requiring ASR to conduct source testing for CO and PM at least once every five years. The source testing requirement was a onetime requirement in Permit 9521-AA006. The operating permit included periodic testing requirement. Because ASR will not have an operating permit after this minor permit is issued, the Department is carrying over the periodic source testing requirement to ensure that the SRU will not operate at a higher capacity than the source test shows compliance for CO and PM limits. ASR is required to conduct periodic accuracy testing for CEMS for CO monitoring. The addition of PM source test periodically will not include an added burden for ASR.

The Department carried over all of the conditions of Permit 9521-AA006 except the revisions described in Section 1.5 (Department Finding) of this TAR that are specific to the source. The Department updated the monitoring requirements with the Department's most recent standard permit language. The Department found it necessary to retain most of the monitoring requirements in Permit 198TVP01 because the SRU has the potential to exceed the air quality standards if not adequately monitored. Absent an operating permit for an SRU, the Department wants to ensure that none of the air quality standards are compromised.

### **2.3 Requirements for a Minor Permit under 18 AAC 50.508(6)**

As required under 18 AAC 50.544(i), each minor permit classified under 18 AAC 50.508(6) that revises a term or condition of a Title 1 permit must contain terms and conditions as necessary to ensure that permittee will construct and operate the source in accordance with 18 AAC 50. If the limit avoided a preconstruction review or Title V permitting, the revised limit should continue to avoid the applicability.

The conditions carried over from Permit 9521-AA006 to Permit 198TVP01 were maintained in their original content except for modifications to the format for clarification and update references to regulations made in the original permit. The Operating Permit 198TVP01 added or revised the monitoring, recordkeeping, reporting requirements where these requirements were deficient in Permit 9521-AA006. The Operating Permit 198TVP01 also deleted the option to relocate the SRU (Condition 4, 28 and 29 of Permit 9521-AA006) and the 0.5% diesel fuel sulfur limit (Condition 7 of Permit 9521-AA006). The Department is carrying over these Title 1 conditions that originated in Permit 9521-AA006 as revised in Permit 198TVP01 into Minor Permit AQ0198MSS01 with additional revisions.

In Minor Permit AQ0198MSS01 the Department revised Condition 3 of Permit 9521-AA006 (Condition 7 of Permit 198TVP01) to allow soils contaminated with other hydrocarbons not previously listed in the permit. The Department also deleted the fuel use monitoring requirement in Exhibit D of Permit 9521-AA006 (Condition 6 of Permit 198TVP01) because fuel use records have no use. The minor permit also revised and updated the monitoring, recordkeeping and reporting requirements with the most recent standard permit language and for readability and clarity, but there are no substantive changes to these monitoring requirements in this permit action.

The stationary source as originally permitted did not contain any limits to avoid preconstruction review.

The stationary source does not require any limits to avoid a Title V permitting. Unrestricted emissions are less than the Title V permitting threshold.

### **2.4 Requirements for a Minor Permit not Subject to Title V Permitting**

As required under 18 AAC 50.544(d), each minor permit not subject to Title V permitting, must include the requirement for a periodic affirmation, in accordance with 18 AAC 50.205. This provision is included in Section 6 of the minor permit.

### **2.5 Recordkeeping and Reporting Requirements**

All air quality control permits must contain procedures for recordkeeping, and reporting that are specifically required under 18 AAC 50.200. These provisions are in Section 6 of the permit.

### **2.6 State Emission Standards**

The SRU is subject to 18 AAC 50.055(a) for visible emissions, 18 AAC 50.055(b) for particulate matter emissions and 18 AAC 50.055(c) for sulfur compound emissions. Since there will not be an operating permit and since SRUs have the potential to exceed the standards, the Department is

including ongoing monitoring, recordkeeping, and reporting (MR&R) to ensure continued compliance with the state emissions standards. These requirements are in Section 3 of the minor permit.

### **State Emission Standards for Visible Emissions**

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 CFR 60, Method-9). The other option requires the Permittee to momentarily observe the exhaust for presence or absence of smoke. This latter option is to allow for difficulty and expense of getting certified readers to remote locations in Alaska.

Under the latter option, all sources are initially observed for the presence or absence of smoke in the exhaust for each of the first 30 operating days. Smoke is presumed to be absent if the exhaust exhibits less than five percent opacity. The Department believes the initial 30 days is sufficient to capture all operating modes and to assure that the monitoring determines if the source complies with the visible emission standard. If smoke is absent during any 30 day operating period, the monitoring frequency is relaxed to one observation for every 30 days of source operation. The Department believes monthly checks are sufficient to monitor for the presence of increased visible emissions that may result from degradation.

If the Permittee observes smoke in the exhaust, the Permittee may switch to the Method-9 opacity reading plan. Otherwise, Permittee must take action to eliminate visible emissions from the source within 24 hours of the observation. After completing the action, the Permittee continues to observe the exhaust for the presence or absence of smoke for 30 operating days. If smoke is observed during this 30-day period, the Permittee must take Method-9 opacity readings using the state reference test method within seven days after the visible emissions are observed.

The recordkeeping requirements consist of keeping records of the results of all visible emission observations and records of any actions taken to reduce visible emissions. The Permittee must report copies of the results of all observations done using the state reference test method with the facility operating reports. The Permittee must report emissions in excess of the state visible emission standard.

### **State Emission Standards for Particulate Matter**

The requirement to test for PM to determine compliance with the standard is triggered by the results of observations conducted in accordance with the state reference test method. The Permittee is required to conduct tests if the results of an observation show noncompliance with the visible emission standard or the average opacity indicates noncompliance with the PM standard.

The Department has uncovered test data and literature that supports a statement that heaters will meet the 0.05 grain loading standard when the average opacity is less than 12 percent, provided that the exhaust outlet diameter (path length for opacity observations) exceeds 21 inches. Testing conducted at both an Alaskan power plant and a Hawaiian utility confirm that compliance with the 20 percent opacity standard will insure compliance with the 0.05 gr./dscf particulate standard, provided that the exhaust outlet is 21 inches or larger. This test data closely agrees with values obtained using the smoke density calculator at

<http://www.dieselnet.com/calculator/index.html>. The calculator is based on the report, Particulate Matter Measurements, DieselNet Technology Guide, Revision 1997.12. Based on this new information, the Department is requiring testing if the Permittee observes visible emissions greater than 12 percent, expressed as a six-minute average and the stack diameter of the unit is less than 21 inches. The Department is also requiring the Permittee to measure visible emissions during a source test and to calculate the average opacity during the test.

The Permittee must report copies of all source test reports and emissions in excess of the particulate matter standard.

### **State Emission Standards for Sulfur Dioxide**

Fuel gas sulfur is measured as hydrogen sulfide, i.e. H<sub>2</sub>S concentration in ppm by volume. Calculations show that fuel gas containing no more than 4,000 ppm H<sub>2</sub>S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. Equations to calculate the exhaust gas SO<sub>2</sub> concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H<sub>2</sub>S concentration of even 10% of 4,000 ppm is currently not available in Alaska and is not projected to be available during foreseeable future. The heaters in the SRU burns fuel gas. The fuel gas available to the source is pipeline quality gas with an H<sub>2</sub>S content of 60 ppmv, this H<sub>2</sub>S level ensures compliance with the 500 ppm SO<sub>2</sub> exhaust emission standard.

### **3.0 Permit Administration**

Minor Permit AQ0198MSS01 replaces Operating Permit 198TVP01. The operating permit expired on February 28, 2009 but ASR continued to operate under the expired operating permit through an application shield until this minor permit (AQ0198MSS01) is issued to ASR. Therefore, ASR is authorized to operate the SRU under this Minor Permit AQ198MSS01 upon issuance.