



ENVIRONMENTAL ENGINEERING & INDUSTRIAL HYGIENE

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Site Assessment Report

Heating Oil Release and Tank Removal at Mason Property 10481 Ann Coleman Drive Juneau, Alaska

Contents

Site Assessment

Site Sketch

Vicinity Map

Photos

ADEC Correspondence

SGS Laboratory Report



UST removed from 10481 Ann Coleman Drive

Site Assessment

On May 11, 2007 Mr. Correa contacted the Alaska Department of Environmental Conservation (ADEC) regarding heating oil in the vicinity of his septic tank's leach field. On May 24 Scot Tiernan from ADEC inspected the property and determined that the likely source of the heating oil was the heating oil tank located at 10481 Ann Coleman Drive. On May 28, 2007 Jim Mason, homeowner of the property at 10481 Ann Coleman Drive, contacted **NORTECH** regarding a leak in the home's 550-gallon aboveground heating oil storage tank. Jason Ginter of **NORTECH** investigated the site on May 28 and observed heating oil present in soils around the back yard of the home, outside of the fenced area, and continuing through a poorly drained wetlands area located at the junction of the Mason property, the Correa property at Lot A-2, Tract A of USS 2390, and the Hendricks property at Lot B1, Block B of USS 1155.

On May 30, 2007 Mr. Mason removed the asphalt driveway from above the heating oil tank that supplied fuel for his home's furnace. He dug a test pit along the tank. Mr. Ginter with **NORTECH** was present during this excavation work to field screen the soils. We found heating oil contaminated soils present in the test trench dug along-side the 550 gallon steel underground storage tank beginning at about 42 inches below the driveway surface. Mr. Mason removed the tank from the excavation, we found the tank to have numerous corrosion holes along the end seam welds. Mr. Mason removed ten cubic yards of grossly contaminated soil located beneath the buried tank. This material was loaded directly into a dump truck and was later hauled to Bicknell's asphalt batch plant for remediation via asphalt inclusion.

NORTECH sampled the excavation area, and also used hand auger equipment to take samples from the suspected heating oil affected area in Mr. Mason's yard and neighboring properties. We found that the Mason property is built up using tree stumps and imported fill to a level of two to four feet higher than the surrounding ground. The water level in the tank excavation was roughly 66 inches below the ground surface. The water level on the Hendricks property just west of the Mason property was found at about two feet below the ground surface. A six inch lens of contaminated soil was present in this area. The affected area of the Correa property, just south of the Mason property is located on the top six inches on the wetlands mud and peat soils. Some free product was noted in this area, Mr. Mason used sorbent pads to collect the product.

Mr. Mason added 100 pounds of high nitrogen fertilizer to the tank excavation area. He placed a new tank in the same excavation, and backfilled with clean material. He also added 120 pounds of fertilizer to the other affected areas on his property and the neighboring properties to aid in bioremediation.

NORTECH sent five soil samples taken from the spill affected area to SGS Environmental Services' Laboratory in Anchorage via Alaska Airlines Goldstreak. SGS analyzed the samples for diesel range organics (DRO) by AK102. Sample results are listed in the table below. Sample locations are shown on Figure 1.

Soil Sample Results in ppm

Sample ID	Sample Depth*	Diesel range organics
CZ01	2'	8,440
CZ02	1'	47,300
CZ03	6'	4,550
CZ04	5'	3,800
CZ05	7.5'	nondetect

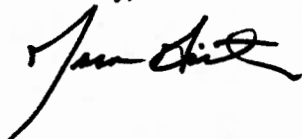
* Sample depth is relative to the ground surface

All quality control indicators are within range and all sample results are deemed valid.

Conclusions and Recommendations

The remediation efforts undertaken by Mr. Mason have eliminated the source of the contamination, Mr. Mason's use of sorbent pads were successful in removing free product from the standing water on the wetlands area of the affected properties. However, **NORTECH** estimates that about 150 cubic yards heating oil contaminated soil is present within the release affected area as shown on Figure 1. Mr. Mason has begun treatment of this area using high nitrogen fertilizer. **NORTECH** recommends that the treatment continue until field screening and laboratory sampling show that the contaminant levels have been reduced to meet ADEC cleanup standards of less than 200 parts per million DRO. **NORTECH** proposes to sample the affected area again in the spring of 2008 to assess the effectiveness of the treatment efforts.

Sincerely,



NORTECH by
Jason Ginter,
Senior Associate
4 September 2007

Ann Coleman Drive

Mason Property
Lot A-3, Tract A
Seaver Spring Subdivision
USS 2390

Fitz Cove Road

Hendricks Property
Lot 7, Block B
Hughes Subdivision
USS 1155

CZ03
6' bgs
4,550 ppm DRO

CZ04
5' bgs
3,800 ppm DRO

former tank location

CZ05
7.5' bgs
nondetect

fenced yard

10481 Ann Coleman Drive

CZ01
2' bgs
8,440 ppm DRO

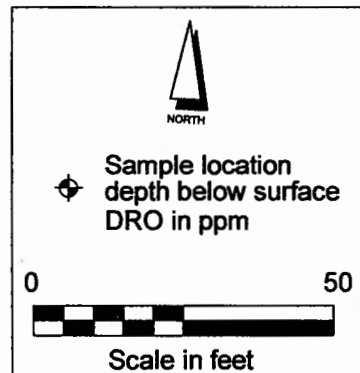
fence

CZ02
1' bgs
47,300 ppm DRO

Heating oil affected area

Hendricks Property
Lot B1, Block B
Hughes Subdivision
USS 1155

Correa Property
Lot A-2, Tract A
Seaver Spring Subdivision
USS 2390



ENVIRONMENTAL & ENGINEERING CONSULTANTS
2400 College Road, Fairbanks, Alaska 99709
(907) 452-5688 FAX: (907) 452-5694

Site Sketch:
Heating oil spill at Mason Residence
10481 Ann Coleman Drive
Juneau, Alaska

FIGURE
1

DATE: 29 May 2007

DESIGN: J. Ginter

DRAWN: A. Randolph

PROJECT NO: 07-1088

DWG: Version 3

SCALE: Graphic

ENVIRONMENTAL & ENGINEERING CONSULTANTS
2400 College Road, Fairbanks, Alaska 99709
(907) 452-5688
FAX: (907) 452-5694



Vicinity Map
10481 Ann Coleman Drive
Juneau, Alaska

FIGURE
2

SCALE: Graphic

DWG:

PROJECT NO: 07-1068

DRAWN: A. Randolph

DESIGN:

DATE: 29 May 2007



10481 Ann Coleman Drive



UST excavation



Affected wetlands area adjacent Mason property





UST excavation area




Affected wetlands area adjacent Mason property



**SGS Environmental Services
Alaska Division
Level II Laboratory Data Report**

Project: Mason
Client: Nortech
SGS Work Order: 1072567

Released by:  Stephen C. Ede
Alaska Division Technical Director
2007.06.25
08:56:05 -08'00'

Contents:

Cover Page
Case Narrative
Final Report Pages
Quality Control Summary Forms
Chain of Custody/Sample Receipt Forms

Note:

Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.



Case Narrative

Client NORTECH
Workerorder 1072567
Client Sample ID
Printed Date/Time 6/25/2007 8:05

Refer to the sample receipt form for information on sample condition.

1072567001 PS CZ01 DRO - Unknown hydrocarbon with several peaks is present.

1072567002 PS CZ02 DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference.
DRO - The pattern is consistent with a middle distillate.

1072567003 PS CZ03 DRO - The pattern is consistent with a middle distillate.

1072567004 PS CZ04 DRO - Surrogate recovery is outside controls due to dilution.
DRO - The pattern is consistent with a middle distillate.



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.us.sgs.com>

Jason Ginter
Nortech
119 Seward St #10
Juneau, AK 99801

Work Order:	1072567	Client:	Mason Nortech	Report Date:	June 25, 2007	Released by:	Stephen C. Ede <i>Stephen C. Ede</i>
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Alaska Division Technical Director

2007.06.25
08:56:23 -08'00'

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and 001582 for NELAP (RCRA methods: 1010/1020, 1311, 6000/7000, 9040/9045, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

If you have any questions regarding this report or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL	Practical Quantitation Limit (reporting limit).
U	Indicates the analyte was analyzed for but not detected.
F	Indicates value that is greater than or equal to the MDL.
J	The quantitation is an estimation.
ND	Indicates the analyte is not detected.
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
D	The analyte concentration is the result of a dilution.
LT	Less Than
i	Surrogate out of control limits.
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
IL	The analyte was positively identified, but the quantitation is a low estimation.
E	The analyte result is above the calibrated range.

Note: Soil samples are reported on a dry weight basis unless otherwise specified.



SGS Ref.# 1072567001
Client Name Nortech
Project Name/# Mason
Client Sample ID CZ01
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 06/25/2007 8:05
Collected Date/Time 05/31/2007 12:50
Received Date/Time 06/06/2007 8:25
Technical Director Stephen C. Ede

Sample Remarks:

DRO - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	8440	504	mg/Kg	AK102	A		06/09/07	06/16/07	JE
<u>Surrogates</u>									
5a Androstane <sur>	146		%	AK102	A	50-150	06/09/07	06/16/07	JE
<u>Solids</u>									
Total Solids	15.9		%	SM20 2540G	A			06/08/07	IWM



SGS Ref.# 1072567002
Client Name Nortech
Project Name/# Mason
Client Sample ID CZ02
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 06/25/2007 8:05
Collected Date/Time 05/31/2007 13:20
Received Date/Time 06/06/2007 8:25
Technical Director Stephen C. Ede

Sample Remarks:

DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference.
DRO - The pattern is consistent with a middle distillate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	47300	2930	mg/Kg	AK102	A		06/09/07	06/16/07	JE
<u>Surrogates</u>									
5a Androstane <sur>	234	!	%	AK102	A	50-150	06/09/07	06/16/07	JE
<u>Solids</u>									
Total Solids	13.6		%	SM20 2540G	A			06/08/07	IWM



SGS Ref.# 1072567003
Client Name Nortech
Project Name/# Mason
Client Sample ID CZ03
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 06/25/2007 8:05
Collected Date/Time 05/31/2007 13:55
Received Date/Time 06/06/2007 8:25
Technical Director Stephen C. Ede

Sample Remarks:

DRO - The pattern is consistent with a middle distillate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	4550	189	mg/Kg	AK102	A		06/09/07	06/21/07	JE
<u>Surrogates</u>									
5a Androstane <sur>	139		%	AK102	A	50-150	06/09/07	06/21/07	JE
<u>Solids</u>									
Total Solids	52.5		%	SM20 2540G	A			06/08/07	IWM



SGS Ref.# 1072567004
Client Name Nortech
Project Name/# Mason
Client Sample ID CZ04
Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
Printed Date/Time 06/25/2007 8:05
Collected Date/Time 05/31/2007 14:00
Received Date/Time 06/06/2007 8:25
Technical Director Stephen C. Ede

Sample Remarks:

DRO - Surrogate recovery is outside controls due to dilution.
DRO - The pattern is consistent with a middle distillate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	3800	118	mg/Kg	AK102	A		06/09/07	06/14/07	JE
<u>Surrogates</u>									
5a Androstane <surr>	185	!	%	AK102	A	50-150	06/09/07	06/14/07	JE
<u>Solids</u>									
Total Solids	67.5		%	SM20 2540G	A			06/08/07	IWM



SGS Ref# 1072567005
 Client Name Nortech
 Project Name/# Mason
 Client Sample ID CZ05
 Matrix Soil/Solid

All Dates/Times are Alaska Standard Time
 Printed Date/Time 06/25/2007 8:05
 Collected Date/Time 05/31/2007 14:15
 Received Date/Time 06/06/2007 8:25
 Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	POL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
-----------	---------	-----	-------	--------	--------------	------------------	-----------	---------------	------

Semi-volatile Organic Fuels Department

Diesel Range Organics	7.59 J	24.4	mg/Kg	AK102	A		06/09/07	06/14/07	JE
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Surrogates

5a Androstane <sur>	86		%	AK102	A	50-150	06/09/07	06/14/07	JE
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Solids

Total Solids	81.4		%	SM20 2540G	A				06/08/07 IWM
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SGS Ref# 768647 Method Blank

Client Name Nortech

Project Name# Mason

Matrix Soil/Solid

QC results affect the following production samples:

1072567001, 1072567002, 1072567003, 1072567004, 1072567005

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
-----------	---------	-------------------------	-----	-------	---------------

Semi-volatile Organic Fuels Department

Diesel Range Organics ND 19.8 1.98 mg/Kg 06/14/07

Surrogates

5a Androstane <sur> 89.7 60-120 % 06/14/07

Batch XFC7427

Method AK102

Instrument HP 5890 Series II FID SV D F



SGS Ref.# 768756 Method Blank

Client Name Nortech

Project Name# Mason

Matrix Soil/Solid

QC results affect the following production samples:

1072567001, 1072567002, 1072567003, 1072567004, 1072567005

Parameter Reporting/Control Limit Results MDL Units Analysis Date

Solids

Total Solids

Batch SPT7239

Method SM20 2540G

Instrument

100

%

06/08/07

Printed Date/Time 06/25/2007 8:05

Prep Batch Method

Date

Analysis Date



06/25/2007 8:05

Printed Date/Time

Prep Batch

Method

Date

SGS Ref#

768757

Duplicate

Client Name

Nortech

Project Name#

Mason

Original

1072476003

Matrix

Soil/Solid

QC results affect the following production samples:

1072567001, 1072567002, 1072567003, 1072567004, 1072567005

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
-----------	-----------------	-----------	-------	-----	------------	---------------

Solids

Total Solids

98.6

98.7 %

0

(< 5)

06/08/2007

Batch Method Instrument

SPT7239 SM20 2540G



SGS Ref.# 768648 Lab Control Sample

768649 Lab Control Sample Duplicate

Client Name Nortech

Project Name/# Mason

Matrix Soil/Solid

QC results affect the following production samples:

1072567001, 1072567002, 1072567003, 1072567004, 1072567005

Parameter	QC	Pct	Recov	Limits	LCS/LCSD	RPD	RPD	Spiked	Amount	Analysis	Date
-----------	----	-----	-------	--------	----------	-----	-----	--------	--------	----------	------

Semivolatile Organic Fuels Department

Diesel Range Organics

LCS 32.9

100

(75-125)

0

(< 20)

33 mg/Kg

06/14/2007

Surrogates

5a Androstane <sur>

LCS

90

(60-120)

0

06/14/2007

Batch

XF07427

Method

AK102

Instrument

HP 5890 Series II FID SV D F



CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

1072567



64770

1 CLIENT: **NORTECH**

CONTACT: **Jason Grinter** PHONE NO: **(919) 586 6815**

PROJECT: **Moson** SITE/PWSID#: _____

REPORTS TO: **Jason Grinter** FAX NO: ()

INVOICE TO: **NORTECH** QUOTE # _____ P.O. NUMBER _____

SGS Reference: _____

PAGE 1 OF 1

REMARKS

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	CONTAINERS	PRESERVATIVE USED	ANALYSIS REQUIRED	SPECIAL INSTRUCTIONS						
								INTACT	BROKEN	ABSENT				
DA	C201	5-31-07	1256	Soil	1	X								
2	C202	5-31-07	1320	Soil	1	X								
3	C203	5-31-07	1355	Soil	1	X								
4	C204	5-31-07	1400	Soil	1	X								
5	C205	5-31-07	1415	Soil	1	X								
Collected/Relinquished By: (1)		Date	Time	Received By:										
<i>[Signature]</i>		5/31/07	1806	<i>[Signature]</i>										
Relinquished By: (2)		Date	Time	Received By:										
<i>[Signature]</i>														
Relinquished By: (3)		Date	Time	Received By:										
<i>[Signature]</i>														
Relinquished By: (4)		Date	Time	Received By:										
<i>[Signature]</i>		6/6/07	0825	<i>[Signature]</i>										

Drop by AKI-2

Shipping Carrier: _____
Shipping Ticket No: _____
Special Deliverable Requirements: _____
Requested Turnaround Time and Special Instructions: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Normal TAT.
Will email with Nortech Project #

SAMPLE RECEIPT FORM

SGS WO#:



1072567

Are samples RUSH, priority, or w/in 72 hrs. of hold time? Yes No NA

If you have done e-mail notification? Yes No NA

Are samples within 24 hrs. of hold time or due date? Yes No NA

If yes, have you spoken with Supervisor? Yes No NA

Archiving bottles - if req., are they properly marked? Yes No NA

Are there any problems? PM Notified? Yes No NA

Were samples preserved correctly and pH verified? Yes No NA

If this is for PWS, provide PWSID. Yes No NA

Will courier charges apply? Yes No NA

Method of payment? Yes No NA

Data package required? (Level: 1 / 2 / 3 / 4) Yes No NA

Notes: Yes No NA

Is this a DoD project? (USACE, Navy, AFCEE) Yes No NA

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Is received temperature $4 \pm 2^\circ\text{C}$? Yes No

Exceptions: Samples/Analyses Affected: _____

Rad Screen performed? Result: _____

Was there an airbill? (Note # above in the right hand column) Yes No

Was cooler sealed with custody seals? Yes No

/ where: _____

Were seal(s) intact upon arrival? Yes No

Was there a COC with cooler? Yes No

Was COC sealed in plastic bag & taped inside lid of cooler? Yes No

Was the COC filled out properly? Yes No

Did the COC indicate COB / AFCEB / Navy project? Yes No

Did the COC and samples correspond? Yes No

Were all sample packed to prevent breakage? Yes No

Packing material: _____

Were all samples unbroken and clearly labeled? Yes No

Were all samples sealed in separate plastic bags? Yes No

Were all VOCs free of headspace and/or MeOH preserved? Yes No

Were correct container / sample sizes submitted? Yes No

Is sample condition good? Yes No

Was copy of COC, SRF, and custody seals given to PM to fax? Yes No

Notes:

Completed by (sign): _____

(print): _____

Login proof (check one): waived required

performed by: _____

This section must be filled if problems are found.

Yes No

Was client notified of problems? Yes No

Individual contacted: _____

Via: Phone / Fax / Email (circle one) _____

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes No

SGS Contact: _____

Additional Sample Remarks: (✓ if applicable) _____

Extra Sample Volume? Yes No

Limited Sample Volume? Yes No

Field preserved for volatiles? Yes No

Field-filtered for dissolved? Yes No

Lab-filtered for dissolved? Yes No

Ref Lab required? Yes No

Foreign Soil? Yes No

Airbill # 3562 5833

Delivery method (circle all that apply): Client / Alert Courier / UPS / FedEx / USPS / AA Goldstreak / NAC / ERA / PenAir / Carlie Lyden / SGS / Other: _____

Temperature readings include thermometer correction factors

Cooler ID	Temp Blank	Cooler Temp
1	5.5	4.5
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Thermometer ID: 702

Due Date: 6-19-07

Received Date: 6-6-07

Received Time: 0835

Is date/time conversion necessary? N

of hours to AK Local Time: _____

Shipper's Name and Address NORTECH 2400 COLLEGE RD FAIRBANKS, AK 99709-3754 USA Tel: 907 662-2343		Shipper's Account Number 27442126076 Customer's ID Number 10588 Issued By Air Waybill Not Negotiable		Consignee's Name and Address Sgs laboratory 200 west potter dr Anchorage, AK 99518 USA Tel: 907 662-2343 Issuing Carrier's Agent and City		Accounting Information GoldStreak 1072567 Account No.		Agents IATA Code Account No.		Airport of Departure (Addr. of First Carrier) and Requested Routing Juneau		To By First Carrier ANC Alaska Airlines Flight/Date AS 067/05 Flight/Date XXX		Handling Information 562-2343 SCI	
Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo. Signature of Shipper or his Agent FOR: NORTECH		THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS		Total Other Charges Due Agent Total Other Charges Due Carrier		Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.		Total Prepaid AS AGREED		Total Collect AS AGREED		Executed On (Date) 05 Jun 2007 19:26 at (Place) Juneau Signature of Issuing Carrier or its Agent Alaska Airlines			
No of Places 1		Gross Weight 25.0		Commodity Item No. N		Changeable Weight 30.0		Rate / Charge AS AGREED		Nature and Quantity of Goods (incl. Dimensions or Volume) SOIL SAMPLES Volume: 0.000 GSX		Prepaid AS AGREED Weight Charge AS AGREED Valuation Charge AS AGREED Tax Other Charges MYC 2.00			

Alert Expeditors Inc.
DBA/Petroleum Courier Service

Citywide Delivery
272-0349 • 440-3351

8421 Flamingo Drive • Anchorage, Alaska 99502

179945

Date 6 June 57

From Alaska

To SG

Collect

Prepay
Account

Advance Charges

Job #

PO#

1 each

QTY # 3542 573

1072567



Shipped Signature

Total Charge

Received By: _____