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**Travis/Peterson  
Environmental Consulting, Inc.**

September 4, 2009  
1080-35

NANA Regional Corporation, Inc.  
P.O. Box 49  
Kotzebue, Alaska 99508

**Attention: Abraham Snyder  
New Lands Acquisition Manager**

Re: 2009 Drum Characterization Sample Results

Dear Mr. Snyder:

Travis/Peterson Environmental Consulting, Inc. (TPECI) is pleased to provide you with this report summarizing the drum sample characterization results from samples collected on June 30, 2009 at the Utica Mine Camp near Deering, Alaska (Figure 1).

TPECI personnel collected characterization samples from five of the 11 drums that were consolidated at the site in 2008. The drums were found in various places throughout the camp during the 2008 site cleanup and rounded up and placed in one location next to the machinist shop. TPECI personnel used clear Coliwasa sampling tubes to collect liquid samples from each drum, visually characterize the liquids and sample a percentage of the total number of drums on site. The sample results are summarized in the attached table.

TPECI recommends that a waste oil burner be brought to the site in 2010 during the next course of field work and TPECI personnel will oversee the disposal by burning of the liquid wastes. None of the liquids tested contained any hazardous materials above the U.S. EPA oil burn specifications.

Please contact me at your convenience if you have questions or comments regarding the above information.

Sincerely,

Melissa S. Shippey  
Staff Scientist

cc: Jacquie Luke, NANA Regional Corporation, Inc.  
Marie Greene, NANA Regional Corporation, Inc.  
Paul Glavinovich, NANA Regional Corporation, Inc.

**2009 DRUM CHARACTERIZATION RESULTS**

SAMPLE ID	Drum Contents-Description	Arsenic mg/kg (ppm)	Cadmium mg/kg (ppm)	Lead mg/kg (ppm)	Chromium mg/kg (ppm)	Ignitability (Degrees Farenheit)	Total Halogens mg/kg
EPA Used oil specifications		5.0 ppm	2.0 ppm	100 ppm	10 ppm	100°F	4,000 ppm
Drum 12	Brown, hydraulic oil, 14 inches	ND	0.52	ND	ND	> 230	1,700
Drum 5	5 to 6 inches water over 2 to 3 inches oily diesel – opaque/brown	ND	ND	ND	ND	200	ND
Drum 2	15 inches of light brown clear liquid. Smells like diesel fuel. Drum placed into an over pack.	ND	ND	8.4	ND	150	1,500
Drum 7	2 to 3 inches clear/brown rusty water; 2 to 3 inches diesel fuel	ND	ND	ND	ND	120	840
Drum 4	4 inches water; 1 to 2 inches black, opaque used motor oil	ND	ND	14.2	ND	160	ND
Drum 3	Water and rust	NS	NS	NS	NS	NS	NS
Drum 1	Black, sludgy oil. 0 to 1 inch	NS	NS	NS	NS	NS	NS
Drum 13	Full drum. Black opaque; tar.	NS	NS	NS	NS	NS	NS
Drum 11	Water; 8 to 10 inches	NS	NS	NS	NS	NS	NS
Drum 10	Trace amount of fuel.	NS	NS	NS	NS	NS	NS
Drum 9	12 inches water	NS	NS	NS	NS	NS	NS
Drum 8	2 to 3 inches water; 2 to 3 inches brown oil likely diesel fuel.	NS	NS	NS	NS	NS	NS

Drum 6	5 to 6 inches rusty water; 2 inches brownish clear oil – likely diesel.	NS	NS	NS	NS	NS	NS
NOTES:  ND – Analyte not detected NS – Analysis not performed ppm – parts per million mg/kg – milligrams per kilogram (parts per million measure)							



Pace Analytical Services, Inc.  
940 South Harney  
Seattle, WA 98108  
Phone: (206)767-5060  
Fax: (206)767-5063

Client: Alaska Analytical Laboratory

Project Name: Oil Burning Spec

SDG Number: OBS090701

Date Received: 7/17/2009 6:39:00AM

Date Reported: 07/31/2009

Enclosed are the analytical results for the sample(s) received by the laboratory on July 17, 2009. The results relate only to the samples included in this report. Unless otherwise instructed all samples with the exception of samples which are consumed during the analysis, such as microbiological samples, will be disposed of on or after November 2, 2009. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

If you have any question concerning the report, please feel free to contact me.

Respectfully submitted,  
Pace Analytical Services, Inc.

A handwritten signature in black ink that reads "Hugh S. Prentice". The signature is written in a cursive style with a large, looped 'H' and 'P'.

Hugh S. Prentice



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**Sample Summary**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	

**Sample Identification:**

Sample Description	Lab Sample ID	Collection Date/Time	Type
Drum 12	OBS090701-001	06/30/2009 14:20	Oil
Drum 5	OBS090701-002	06/30/2009 13:52	Oil
Drum 2	OBS090701-003	06/30/2009 13:20	Oil
Drum 7	OBS090701-004	06/30/2009 14:10	Oil
Drum 4	OBS090701-005	06/30/2009 13:45	Oil

**Comments:**

Flashpoint was subcontracted to Amtest. Results are attached.



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**Test Request Summary**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Pace Project No.:		Project Manager:	

Samples	Methods						
	D808 1	D93 2	6010B 3				
Client Sample ID							
Drum 12	X	X	X				
Drum 5	X	X	X				
Drum 2	X	X	X				
Drum 7	X	X	X				
Drum 4	X	X	X				

**Determinations:**

- 1 = D808 Total Halogens on solids
- 2 = D93 Flash Point, Pensky Martin Closed Cup
- 3 = 6010B Metals in Oil



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**Analytical Results**

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Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	
Client Sample ID:	<b>Drum 12</b>	Matrix:	Oil
Collected On:	6/30/09 14:20	Lab Sample ID:	OBS090701-001
Received On:	7/17/09 6:39		

Analyte	Result	Units	DF	Detection Limit Threshold	Reporting Limit	QC Batch Group	Prepared	Analyzed	Qualifiers
<b>Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry</b>				<b>Methods (Preparation   Analysis): 3050B   6010B</b>					
Arsenic	ND	mg/Kg	1		0.96	Q40748	07/29/2009	07/29/2009	
Cadmium	0.52	mg/Kg	1		0.48	Q40748	07/29/2009	07/29/2009	
Chromium	ND	mg/Kg	1		2.4	Q40748	07/29/2009	07/29/2009	
Lead	ND	mg/Kg	1		4.8	Q40748	07/29/2009	07/29/2009	R,N
<b>Total Halogens</b>				<b>Methods (Preparation   Analysis): NONE   D808</b>					
Halogens, Total	1700	mg/Kg	1		500	Q40722	07/23/2009	07/23/2009	



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**Analytical Results**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	
Client Sample ID:	<b>Drum 5</b>	Matrix:	Oil
Collected On:	6/30/09 13:52	Lab Sample ID:	OBS090701-002
Received On:	7/17/09 6:39		

Analyte	Result	Units	DF	Detection Limit Threshold	Reporting Limit	QC Batch Group	Prepared	Analyzed	Qualifiers
<b>Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry</b>				Methods (Preparation   Analysis): <b>3050B   6010B</b>					
Arsenic	ND	mg/Kg	1		0.98	Q40748	07/29/2009	07/29/2009	
Cadmium	ND	mg/Kg	1		0.49	Q40748	07/29/2009	07/29/2009	
Chromium	ND	mg/Kg	1		2.5	Q40748	07/29/2009	07/29/2009	
Lead	ND	mg/Kg	1		4.9	Q40748	07/29/2009	07/29/2009	R,N
<b>Total Halogens</b>				Methods (Preparation   Analysis): <b>NONE   D808</b>					
Halogens, Total	ND	mg/Kg	1		500	Q40722	07/23/2009	07/23/2009	





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**Analytical Results**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	

Client Sample ID:	<b>Drum 2</b>	Matrix:	Oil
Collected On:	6/30/09 13:20	Lab Sample ID:	OBS090701-003
Received On:	7/17/09 6:39		

Analyte	Result	Units	DF	Detection Limit Threshold	Reporting Limit	QC Batch Group	Prepared	Analyzed	Qualifiers
<b>Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry</b>				<b>Methods (Preparation   Analysis): 3050B   6010B</b>					
Arsenic	ND	mg/Kg	1		0.99	Q40748	07/29/2009	07/29/2009	
Cadmium	ND	mg/Kg	1		0.50	Q40748	07/29/2009	07/29/2009	
Chromium	ND	mg/Kg	1		2.5	Q40748	07/29/2009	07/29/2009	
Lead	8.4	mg/Kg	1		5.0	Q40748	07/29/2009	07/29/2009	R,N
<b>Total Halogens</b>				<b>Methods (Preparation   Analysis): NONE   D808</b>					
Halogens, Total	1500	mg/Kg	1		500	Q40722	07/23/2009	07/23/2009	



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**Analytical Results**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	
Client Sample ID:	<b>Drum 7</b>	Matrix:	Oil
Collected On:	6/30/09 14:10	Lab Sample ID:	OBS090701-004
Received On:	7/17/09 6:39		

Analyte	Result	Units	DF	Detection Limit Threshold	Reporting Limit	QC Batch Group	Prepared	Analyzed	Qualifiers
<b>Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry</b>				Methods (Preparation   Analysis): <b>3050B   6010B</b>					
Arsenic	ND	mg/Kg	1		0.98	Q40748	07/29/2009	07/29/2009	
Cadmium	ND	mg/Kg	1		0.49	Q40748	07/29/2009	07/29/2009	
Chromium	ND	mg/Kg	1		2.5	Q40748	07/29/2009	07/29/2009	
Lead	ND	mg/Kg	1		4.9	Q40748	07/29/2009	07/29/2009	R,N
<b>Total Halogens</b>				Methods (Preparation   Analysis): <b>NONE   D808</b>					
Halogens, Total	840	mg/Kg	1		500	Q40722	07/23/2009	07/23/2009	



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**Analytical Results**

Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	
Client Sample ID:	<b>Drum 4</b>	Matrix:	Oil
Collected On:	6/30/09 13:45	Lab Sample ID:	OBS090701-005
Received On:	7/17/09 6:39		

Analyte	Result	Units	DF	Detection Limit Threshold	Reporting Limit	QC Batch Group	Prepared	Analyzed	Qualifiers
<b>Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry</b>				Methods (Preparation   Analysis): <b>3050B   6010B</b>					
Arsenic	ND	mg/Kg	1		0.99	Q40748	07/29/2009	07/29/2009	
Cadmium	ND	mg/Kg	1		0.50	Q40748	07/29/2009	07/29/2009	
Chromium	ND	mg/Kg	1		2.5	Q40748	07/29/2009	07/29/2009	
Lead	14.2	mg/Kg	1		5.0	Q40748	07/29/2009	07/29/2009	R,N
<b>Total Halogens</b>				Methods (Preparation   Analysis): <b>NONE   D808</b>					
Halogens, Total	ND	mg/Kg	1		500	Q40722	07/23/2009	07/23/2009	



**Pace Analytical Services, Inc.**

**Quality Control Results**

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Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	

QC Batch(es):	<b>Q40722</b>	Analysis Method:	<b>D808</b>
QC Batch Method:	D808PR	Analysis Description:	Total Halogens
Preparation Started:	07/23/2009		

Blank: B072309TXM01

Analyte	Blank Result	Units	DF	Detection Limit Threshold	Control Limit	Qualifiers
Halogens, Total	ND	mg/Kg	1		500	

LCS: S072309TXM01

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Halogens, Total	1900	mg/Kg	1	2000	95	70-130	

Sample Duplicate: OBS090701-001D      Parent Sample: OBS090701-001

Analyte	Duplicate Result	Units	DF	Parent Result	RPD	RPD Limit	Qualifiers
Halogens, Total	1600	mg/Kg	1	1700	5.8	30	



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**Quality Control Results**

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Project:	Oil Burning Spec	SDG Number:	OBS090701
Project Number:		Project Manager:	

QC Batch(es):	<b>Q40748</b>	Analysis Method:	<b>6010B</b>
QC Batch Method:	3050B	Analysis Description:	Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry
Preparation Started:	07/29/2009		

**Blank: B072909ICPS02**

Analyte	Blank Result	Units	DF	Detection Limit Threshold	Control Limit	Qualifiers
Arsenic	ND	mg/Kg	1		1	
Cadmium	ND	mg/Kg	1		0.5	
Chromium	ND	mg/Kg	1		0.5	
Lead	ND	mg/Kg	1		0.5	

**LCS: S072909ICPS02**

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Arsenic	24.9	mg/Kg	1	25.0	100	80-120	
Cadmium	28.9	mg/Kg	1	25.0	116	80-120	
Chromium	26.5	mg/Kg	1	25.0	106	80-120	
Lead	25.7	mg/Kg	1	25.0	103	80-120	

**Matrix Spike: OBS090701-005MS** Parent Sample: OBS090701-005  
**Matrix Spike Duplicate: OBS090701-005MSD**

Analyte	Matrix Spike Result	Units	DF	Spike Conc.	Parent Result	% Rec	% Rec Limits	RPD	RPD Limit	Qualifiers
Arsenic	20.6	mg/Kg	1	21.7	ND	95	75-125			
	22.9			24.3	94	75-125	0	20		
Cadmium	25.1	mg/Kg	1	21.7	ND	115	75-125			
	26.2			24.3	107	75-125	7	20		
Chromium	23.8	mg/Kg	1	21.8	ND	108	75-125			
	27.9			24.3	114	75-125	5	20		
Lead	70.5	mg/Kg	1	21.8	<b>14.2</b>	259	75-125			*,R,N
	60.4			24.3	190	75-125	26	20	*,#,R	



## Pace Analytical Services, Inc.

### Notes and Definitions

SDG No: **OBS090701**

#### Report Specific Notes:

ND	The analyte of interest was not detected, to the limit of detection indicated
N	Associated MS and/or MSD recovery result outside established control limits
R	Associated MS/MSD RPD outside established control limits
#	RPD outside established control limits
*	Recovery result outside established control limits

#### Laboratory Reporting Conventions:

DF	Dilution factor
Detection Limit Threshold	The project or method defined limit that defines the lower bound for estimated results. This may be the MDL or IDL or a project-specified value.
MDL	The project or method defined limit that defines the lower bound for estimated results. This may be the MDL or IDL or a project-specified value. Detection Limit Thresholds are listed on the report only if the data has been evaluated below the Reporting Limit. Results between the Reporting Limit and the Detection Limit Threshold are reported as estimated results.
IDL	Instrument Detection Limit. IDLs are in instrument basis units. Reported results for samples are normalized appropriately using the preparation and analysis steps performed.
Reporting Limit	The minimum detection limit for reporting unqualified results under routine laboratory operating conditions. Typically this is the PQL but it may be a different concentration on a project-specific basis.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.
% Rec	Percent recovery.
Limits	The upper and lower control limits for spike recoveries.
RPD	Relative Percent Difference. The relative difference between duplicate results (matrix spike, blank spike, or sample duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements (see RPD).
Spike conc.	The measured concentration, in sample basis units, of a spiked sample.
PQL	Practical Quantitation Limit. The quantitation limit achievable by the laboratory under routine operating conditions. The PQL will be normalized for deviations from these conditions such as dilutions, dry weight adjustment, etc.
LCS	Laboratory Control Sample

Am Test Inc.  
13600 NE 126TH PL  
Suite C  
Kirkland, WA 98034  
(425) 885-1664  
www.amtestlab.com



Professional  
Analytical  
Services

### ANALYSIS REPORT

PACE ANALYTICAL  
9640 S HARNEY  
SEATTLE, WA 98108  
Attention: HUGH PRENTICE  
All results reported on an as received basis.

Date Received: 07/28/09  
Date Reported: 7/31/09

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AMTEST Identification Number 09-A012049  
Client Identification OBS090701-001 (DRUM 12)  
Sampling Date 06/30/09, 14:20

#### Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Flash Point	> 230	degrees F			ASTM D4243	MO	07/29/09

---

AMTEST Identification Number 09-A012050  
Client Identification OBS090701-002 (DRUM 5)  
Sampling Date 06/30/09, 13:52

#### Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Flash Point	200	degrees F			ASTM D4243	MO	07/29/09

---

AMTEST Identification Number 09-A012051  
Client Identification OBS090701-003 (DRUM 2)  
Sampling Date 06/30/09, 13:20

#### Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Flash Point	150	degrees F			ASTM D4243	MO	07/29/09

---

AMTEST Identification Number 09-A012052  
Client Identification OBS090701-004 (DRUM 7)  
Sampling Date 06/30/09, 14:10

**Conventionals**

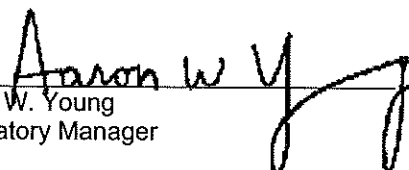
PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Flash Point	120	degrees F			ASTM D4243	MO	07/29/09

---

AMTEST Identification Number 09-A012053  
Client Identification OBS090701-005 (DRUM 4)  
Sampling Date 06/30/09, 13:45

**Conventionals**

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Flash Point	160	degrees F			ASTM D4243	MO	07/29/09

  
Aaron W. Young  
Laboratory Manager





Chain of Custody Record

Client Contact <i>Louis Peterson 829 Second St FAIRBANKS AK 99701 907-455-7225 MShuppey@tpeci.com</i>		Project Manager (PM): <i>M. Shuppey</i>		PM Email: _____		Date: <i>7/16/09</i>		COC No: _____	
Tel/Fax: <i>907-455-7225</i>		Analysis Turnaround Time (Business Day)		Lab Contact: _____		Carrier: _____		Page <i>1</i> of <i>1</i>	
Requested Turnaround Time if different from below:		Requested Turnaround Time (Business Day)		Lab Contact: <i>OIL BURN SPECIFIC</i>		Carrier: _____		Job No. <i>133</i>	
<input checked="" type="checkbox"/> 6 days (Standard) <input type="checkbox"/> 3 days <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day		Requested Turnaround Time if different from below:		Lab Contact: _____		Carrier: _____		Comments: _____	
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:			
<i>DRUM 12</i>	<i>6/30/09</i>	<i>2:20P</i>	<i>oil</i>	<i>lig.</i>	<i>1</i>	<i>SOME ARE HOT</i>			
<i>DRUM 5</i>	<i>6/30/09</i>	<i>1:52P</i>	<i>oil</i>	<i>lig.</i>	<i>1</i>	<i>SAMPLES w/PURE</i>			
<i>DRUM 2</i>	<i>6/30/09</i>	<i>1:20P</i>	<i>oil</i>	<i>lig.</i>	<i>1</i>				
<i>DRUM 7</i>	<i>6/30/09</i>	<i>2:10P</i>	<i>oil</i>	<i>lig.</i>	<i>1</i>				
<i>DRUM 4</i>	<i>6/30/09</i>	<i>1:45P</i>	<i>oil</i>	<i>lig.</i>	<i>1</i>				
Preservation Used: 1= Ice, 2= Methanol 3= Other Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements & Comments [Please note if there is Mercury in the sample.]									
<i>OIL BURN SPECIFICATION ANALYSES PLEASE.</i>									
Relinquished by: <i>M. Shuppey</i>		Company: <i>TPECI</i>		Date/Time: <i>7/16/09</i>		Received by: _____		Company: _____	
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____		Company: _____	
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____		Company: _____	



























