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DJG Development

Final Groundwater Sampling Report

Gas N Go Fuel Station

Juneau, Alaska

October 2006

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Final Groundwater Sampling Report

Gas N Go fuel Station, Grants Plaza

Juneau, Alaska

Prepared for:

Hugh Grant

DJG Development
5165 Glacier Highway
Juneau, AK 99801

For Submittal to:

Bruce Wanstall

Contaminated Sites Program
Alaska Department of Environmental Conservation
410 Willoughby Avenue
Juneau, AK 99801

Prepared by:

Carson Dorn, Inc.
712 West 12th Street
Juneau, Alaska 99801

October 2006

1.0 Introduction:

This report has been prepared to document initial contamination assessment, monitoring well installation, and ground water monitoring of the Gas N Go service station in Juneau, Alaska as a result of contamination from four leaking underground storage tanks that were removed in 1994.

1.1 Report Organization:

- Section 2.0 provides background information and chronology regarding initial spill and cleanup efforts.
- Section 2.1 provides Data summaries and findings from the Montgomery Watson site closure assessment.
- Section 3.0 details the initial cleanup testing, analysis, and lab results.
- Section 4.0 discusses requests by ADEC for additional analyses and monitoring based upon the original report.
- Section 4.1 provides information on sampling and analysis as a result from the ADEC request.
- Section 4.2 discusses conclusions of re-initiated sampling.
- Section 5.0 concludes and summarizes report findings

Supporting and reference material are found in the report appendices. These include:

- Appendix A: Site Diagrams
- Appendix B: Data Summary Tables
- Appendix C: Site Photographs
- Appendix D: Laboratory Sampling Analysis Results

2.0 Background:

During late August 1993, four underground storage tanks were removed by Petroleum Services Inc. (PSI) and a closure site assessment was done by Montgomery Watson Americas, Inc. (MW). The removal effort included a 5,000 gallon steel gasoline tank, two 10,000 gallon steel gasoline tanks, and a 5,000 gallon diesel tank, all installed in 1978. During the excavation, water table levels were at 10 feet below grade and were tidally influenced. The project included removal of the leaking underground storage tanks along with all existing piping, installation of new tanks and plumbing, and backfill of all excavation.

Gasoline and diesel contamination were found beneath the tanks at the time of removal based on initial screening and soil testing, and results were documented by MW. ADEC was informed of the release in a letter from MW dated October 4, 1993.

Randy Bayliss, P.E. (Bayliss) was contracted in August of 1994 to assess the extent of contamination resulting from the USTs that had been removed. Soil samples were collected for analysis by Stephanie Hoag, a Bayliss employee, and seven monitoring wells were installed on the site.

2.1 Montgomery Watson Findings:

During the removal of the four tanks in 1993, water accumulated in the newly excavated sites to a depth of about one foot, likely a combined accumulation of ground water and run-off from previous rains. The whole site was noted to have a faint gasoline smell and organic vapor screening of samples from the Tank 1 excavation with a photo ionization detector (PID) showed that readings exceeded acceptable limits.

Two soil samples and one water sample were taken from the Tank 1 removal site. The soil samples were analyzed for Volatile Petroleum Hydrocarbons (VPH) and for Benzene, Toluene, Ethyl benzene and Xylenes (BTEX). The water sample was analyzed for BTEX (Table 1, Appendix B). Two soil samples were taken from the Tank 2 removal site and both were analyzed for VPH (Table 2, Appendix B). Three soil samples were

taken from the Tank 3 removal site and analyzed for lead, VPH, and BTEX, and two water samples were taken from the Tank 3 site, one analyzed for Extractable Petroleum Hydrocarbons (EPH), and the other for BTEX (Table 3, Appendix B). Removal of Tank 4 resulted in two soil samples both analyzed for EPH (Table 4, Appendix B).

3.0 Initial Cleanup Analysis:

In November 1994, Bayliss submitted to ADEC a release investigation report detailing the initial cleanup effort and sampling analysis with the following conclusions:

- Gasoline range petroleum hydrocarbons (GRO) were present at the site in concentrations of up to 3000 parts per million (ppm) in the soil. The amount of gasoline contaminated soil was estimated at 500 cubic yards. Most samples taken near the existing pump islands contained from 27 to 62 ppm BTEX with the largest concentration at 176 ppm. Samples taken more than 20 feet away from the pump islands did not contain significant amounts of BTEX. Diesel range hydrocarbons (DRO) were present in concentrations of up to 900 ppm. Diesel contamination showed up in a relatively narrow zone extending westward from the release site with the amount of diesel contaminated soil estimated at 200 cubic yards.
- Approximately 100 cubic yards of contaminated soil was removed and stockpiled at the time of tank closure. Five of the seven water monitoring wells installed were located within the zone of contamination.

*debatable
conclusion*

4.0 2006 Monitoring:

A February 2006 letter from ADEC restated findings by the 1994 Bayliss report and suggested that groundwater monitoring be resumed from the monitoring wells Bayliss installed. The purpose of resuming groundwater monitoring was for ADEC to get a better understanding of the horizontal and vertical extent of subsurface contamination and to determine if off-site migration had occurred.

It was requested that Hugh Grant of Gas N Go provide ADEC with laboratory analysis of groundwater samples for BTEX, GRO, DRO, and Residual Range Hydrocarbon (RRO) concentrations. A request was also made to report the location where the excavated soil had been land-spread on the property.

4.1 April 2006 Sampling and results:

Carson Dorn, Inc. (CDI) was contracted by Hugh Grant of DJG Development to re-initiate ground water monitoring of the Gas N Go service station. On April 27, 2006 Sally Schlichting (CDI) carried out sampling at two wells at the Gas N Go service station in response to the ADEC monitoring request.

Field investigation at Gas N Go revealed only four of the original seven wells to still be in place (MW-11, MW-22, MW-23 and MW-24). None of the four wells were sealed off from the environment and MW-22, 23 and 24 were flush with the surrounding pavement, therefore subject to contamination from pump island activity.

Of the four wells, only MW-11 and MW-24 produced enough water on the day of sampling for the required analyses. Each well was purged of four well volumes using a low-flow peristaltic pump, and then allowed to recharge to the static water level prior to sampling. Sample sets consisting of two volatile organic compound (VOC) samples and one DRO sample, were then taken using the same pump, with volatile organic compound samples collected first, followed by the DRO samples. A duplicate sample was taken at MW-11, for a total of three sample sets.

All samples were analyzed for GRO, DRO, RRO and BTEX. Laboratory data parameters for these substances were either non-detect or met the cleanup standard in samples from MW-11 located in the grass median strip between the service station and the ditch by Glacier Hwy, but not for the sample from MW-24 which was located next to the pump island (and directly under the influence of runoff from the pumping island). DRO was detected at a concentration of 33.8 milligrams per liter (mg/l), which is more than 20 times the groundwater cleanup level of 1.5 mg/l. Benzene was also detected at 0.013

mg/l, which is a little more than twice the cleanup level of 0.005 mg/l. Due to the influence of pumping island runoff, the contents of this well are not necessarily representative of the surrounding groundwater.

4.2 April 2006 sampling conclusions:

Because of the limited data obtained from the two viable wells, the extent of lateral and vertical contamination is undetermined.

It has been confirmed by Hugh Grant of DJG development that the 100 cubic yards of excavated soil from the cleanup effort was removed and used as a sub-base under pavement for Canyon Drive during the construction of the Tlingit-Haida housing development at the end of Thunder Mountain road.

5.0 New Monitoring Well Installations:

New monitoring wells were installed by Dave Hanna in August 2006. Well positions were selected by Bruce Wanstall of ADEC and the wells were placed outside the pump fueling area to better determine the extent of lateral contamination. The three new wells are identified as MW-1 at a depth of 10.5 feet, MW-2 at 10.46 feet and MW-3 at 10.4 feet. (Figure 3 appendix A)

5.1 August 2006 Sampling Event

Samples were taken by Sally Schlichting, CDI August 16, 2006 at each of the three newly installed wells. A low-flow peristaltic pump was used to purge the wells of four times their volume. Once the wells recharged, VOC samples were taken first, followed by the DRO samples using the same pump. A total of four sample sets, one for each well and one duplicate sample at MW-3 were taken for analysis. Samples were sent to North Creek Analytical laboratory for analysis of DRO and GRO/BTEX.

5.2 Sample results:

Samples were sent to North Creek Analytical Laboratory in Bothell, Washington for analysis of DRO and GRO/BTEX. DRO results were non-detect for samples taken at MW-1 and MW-2. The DRO concentration for the sample taken at MW-3 was at 1.69 mg/l, 0.19 mg/l above the cleanup level of 1.5 mg/l. The concentration of duplicate sample, also taken at MW-3, was 1.67 mg/l of DRO, also above the cleanup level of 1.5 mg/l.

Due to laboratory QA/QC problems, the results for the GRO/BTEX samples were considered invalid. Samples were analyzed outside of their allotted holding time. However, data for these analyses have been included and summarized (Table 5 Appendix B). GRO/BTEX concentrations at MW-1 and MW-2 were either below cleanup levels or non-detect (ND). Concentrations of GRO and Benzene at MW-3 in both the original sample and the duplicate sample were above cleanup levels, but are somewhat subjective considering the long holding time prior to analysis. Another round of GRO/BTEX sampling is planned for next quarter, (October-December) along with DRO samples to provide further information and data for this assessment.

5.3 QA/QC Summary for August 2006 sample results

DRO samples were analyzed by standard methods AK102/103 and GRO/BTEX by standard method AK101 using a gas chromatograph. There were a total of three samples and one duplicate sample for the three monitoring wells. Samples were received by North Creek Analytical laboratory in Bothell, WA on August 17, 2006 in good condition at temperature of 3.6°C.

Laboratory Quality Control samples (LCS) consisted of a blank sample analyzed for DRO by AK 102/103, with two LCS spiked with DRO and Residual Range Organics (RRO), as well as two LCS duplicates. GRO/BTEX quality control consisted of a blank sample analyzed for GRO/BTEX and two LCS's, one spiked with GRO and the other with Toluene, Ethylbenzene, and total xylenes, plus one LCS duplicate of each. All percent recoveries for LCS were well within analyte limits.

*lab
Mis identified
Samples
on 2nd GRO
run
outside
14 days*

The case narrative for the set of samples received by the lab on August 17, 2006 resulted in the following observations: The samples were originally prepared in batch 6H25032 on 8/25/06. Due to laboratory oversight, it was suspected that the samples were accidentally mis-filed when placed on the instrument for analysis. In order to confirm the sample sequence, all samples were analyzed a second time in batch 6101037 using the second VOA vial submitted for analysis. This second analysis was submitted outside of holding time. All sample data was qualified and reported from the second analytical run. All anomalies associated with batch quality control have been appropriately qualified in the analytical report. *restated from Case Narrative for BPH0443 August 2006*

North Creek Analytical laboratory data reports a method reporting limit (MRL) which can be 5-10x the method detection limit (MDL), to ensure accuracy and reproducibility in data analysis. A blank detection limit of one half the MRL was used for this study. Instrument sensitivity was sufficient for regulatory cleanup levels and project goals. ✓

6.0 Conclusion:

Groundwater monitoring and sampling at the Gas N Go site has proved difficult due to long time lapses between installation of original well sites and follow up monitoring. Of the original seven monitoring wells installed on site left, only two were salvageable for the recent monitoring effort. The salvageable wells were sampled; however, some were under the influence of the pumping island run-off. Having only one recent set of data from the original monitoring wells and one set from the newly installed wells makes it difficult to determine a trend in groundwater quality in the area over time. However, a comparison of contaminant levels from the data sets (past and present) show a decline in DRO, and GRO/BTEX concentrations over time. This scenario was expected considering the heavy tidal influence of the groundwater. Continued monitoring next quarter will provide additional information concerning cleanup levels of DRO and GRO/BTEX at the Gas N Go site.

APPENDIX A:
SITE DIAGRAMS

Figure 1.
 Montgomery Watson Initial Site Diagram (August 1993)

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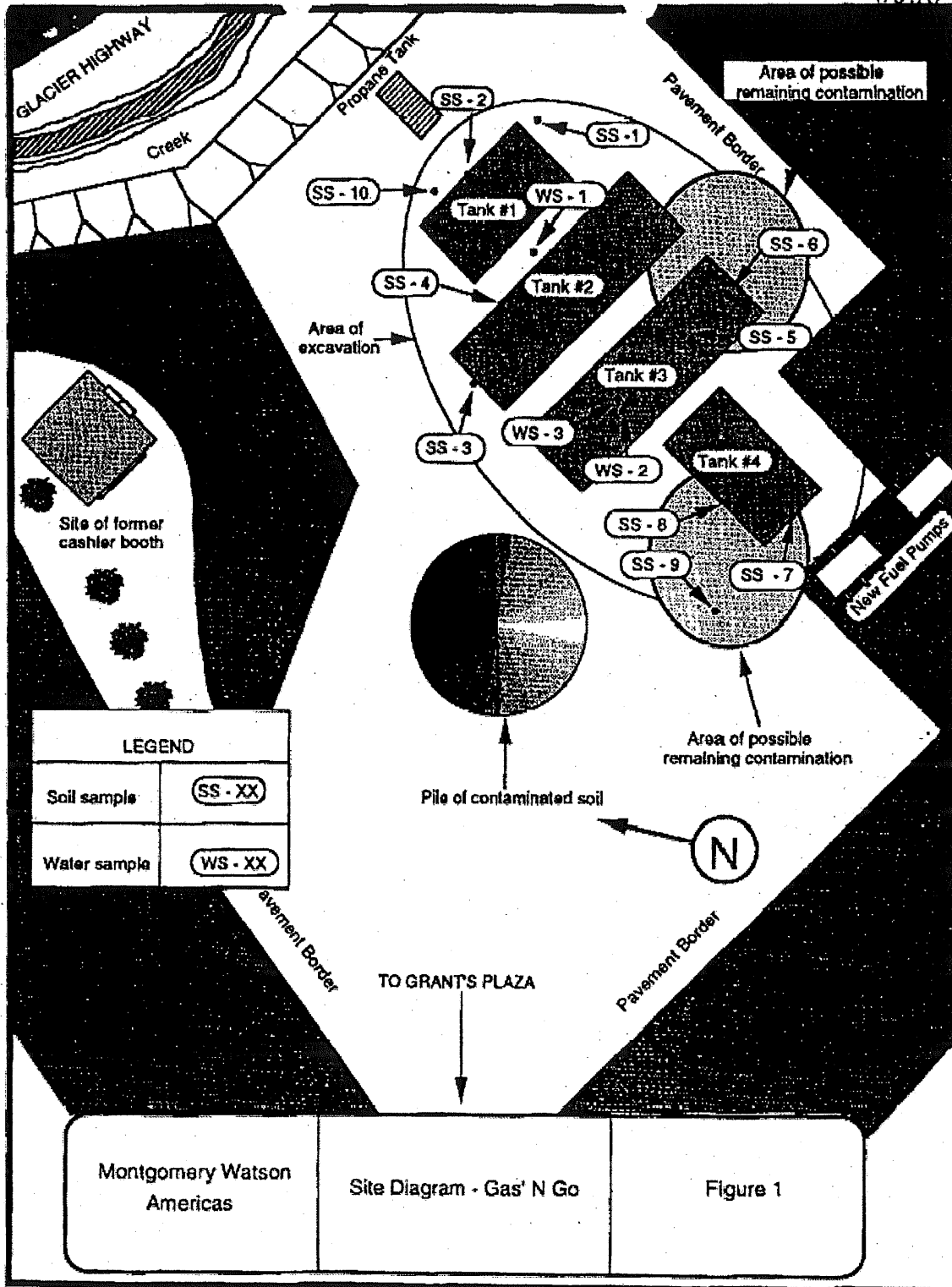
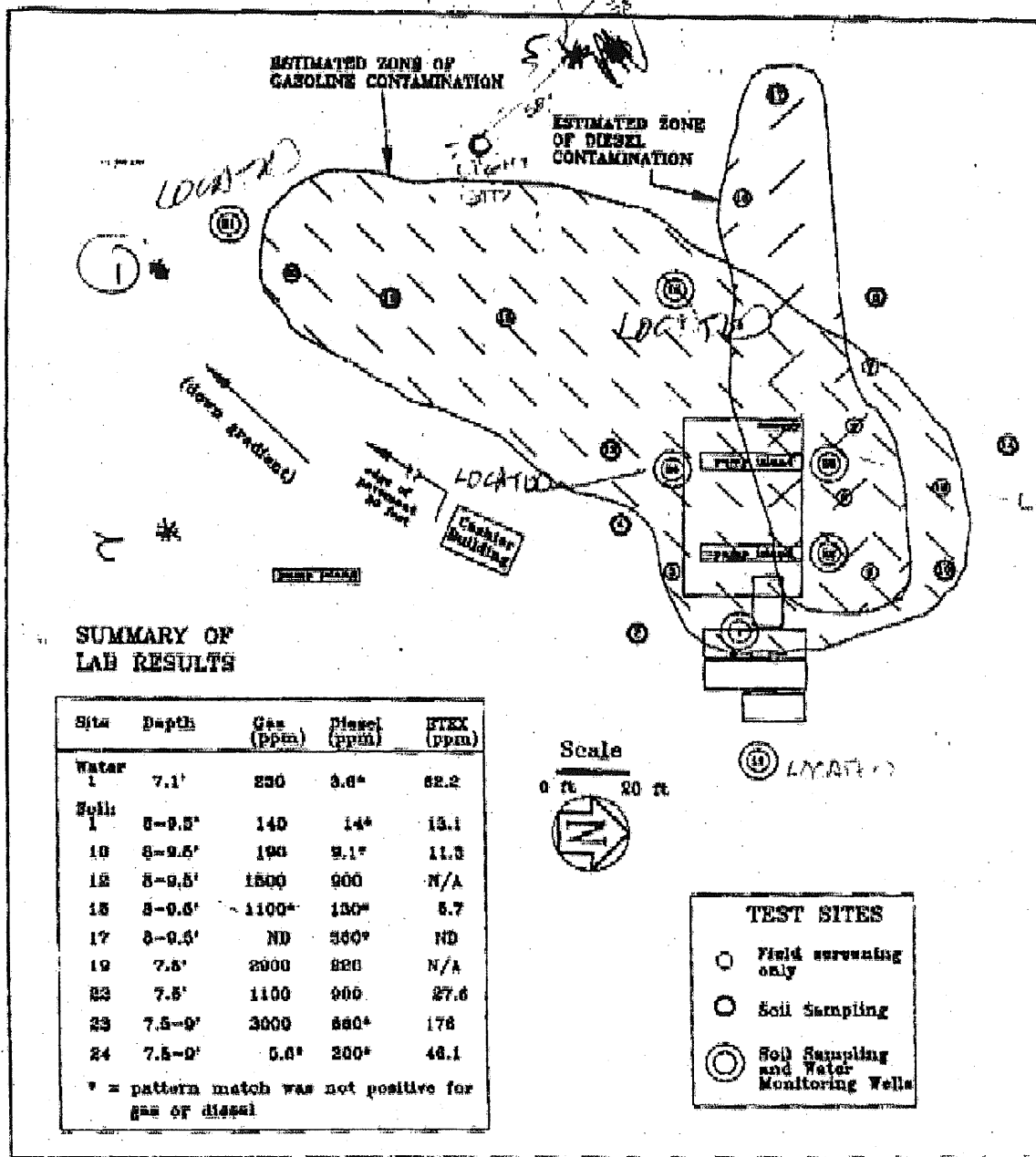


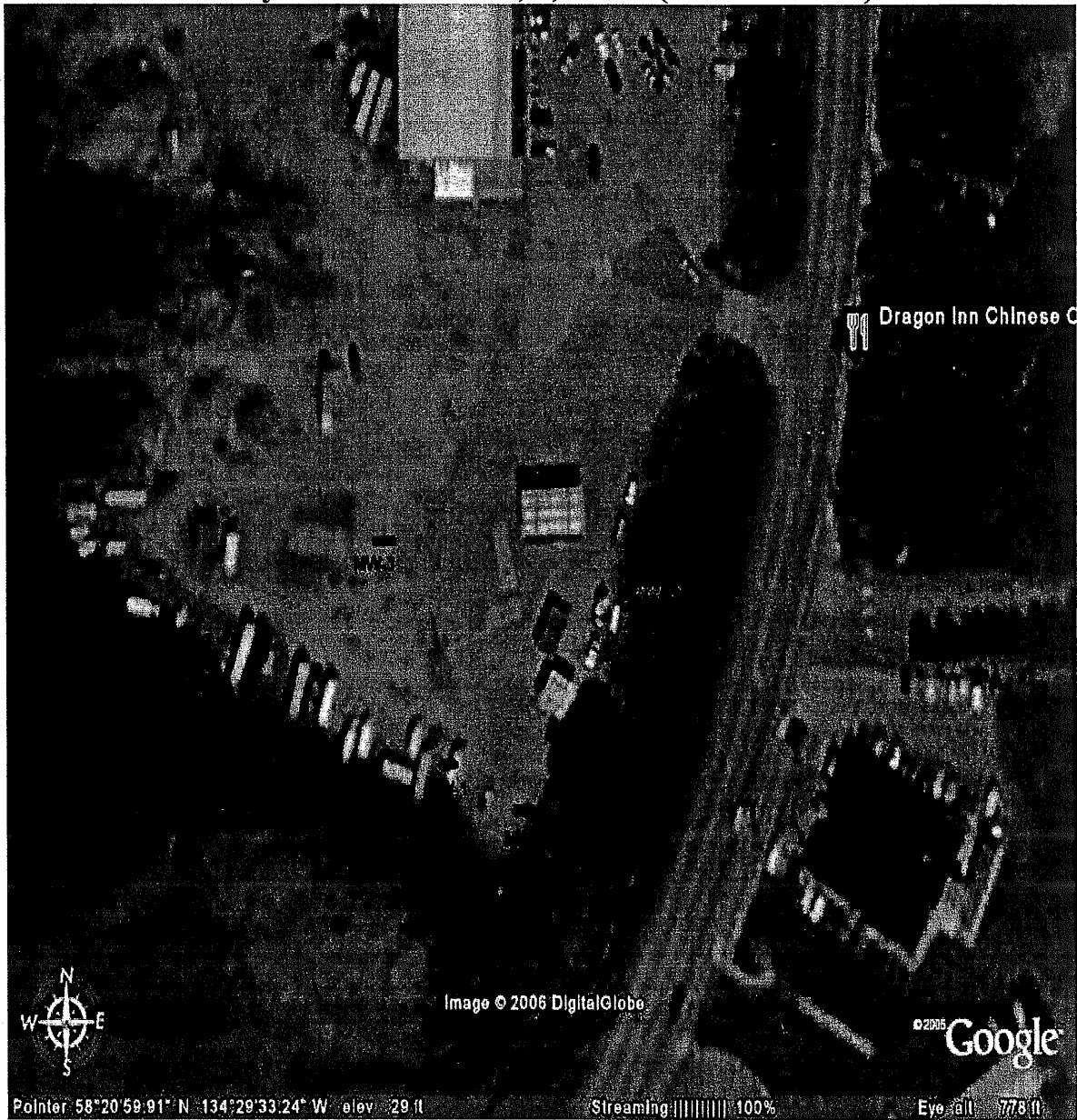
Figure 2
 Bayliss Site Diagram (September 1994)



UST Corrective Action Plan: Gas'N Go, Grant's Plaza

<p>DEC Facility ID#0-00889</p> <p>Checked by Montgomery Watson 8/28</p> <p>Release Investigation by Stephanie Hoag 8/30/94-9/2/94</p> <p>Drawn by S. Hoag 11/22/94</p>	<p>RANDOLPH BAYLISS, P.E. ENVIRONMENTAL ENGINEER 119 SEWARD STREET #10 JUNEAU, ALASKA 99801 907-588-6813</p> <p>QAPP 00-01 Approved by ADEC 10/24/90</p>	<p>Owner of Facility Hugh Grant 5155 Glacier Highway JUNEAU, ALASKA 99801 <small>Legal Description of Location</small> Tract A, U.S. Survey 088</p>
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Figure 3
MW-11 and Newly Installed MW-1, 2, and 3 (October 2006)



APPENDIX B:
DATA SUMMARY TABLES

Table 1
(Tank #1 Removal Montgomery Watson) August, 1993

Table 1
Laboratory Results Summary
Tank #1

Sample ID #	Lab Number	VPH (mg/Kg)	BTEX Soil (mg/KG)	BTEX Water (mg/Kg)
Soil Sample #1	GG831-3	320	ND	N/A
Soil Sample #2	GG831-4	5000	ND(B) 100(E) 37(T) 500(X)	N/A
Water Sample #1	GG831-A	N/A	N/A	2000(B) 1600(E) 13000(T) 18000(X)

ND = non-detect

Table 2
(Tank #2 Removal Montgomery Watson) August, 1993

Table 2
Laboratory Results Summary
Tank #2

Sample ID#	Lab ID	VPH (mg/Kg)
Soil Sample #3	GG31-1	ND
Soil Sample #4	GG31-2	4600

Table 3
(Tank #3 Removal Montgomery Watson) August, 1993

Table 3
Laboratory Results Summary
Tank #3

Sample ID	Lab ID	Lead (mg/Kg)	VPH (mg/Kg)	EPH Water (mg/L)	BTEX Water (ug/L)	BTEX Soil (mg/Kg)
Soil Sample #5	GG831-5	3	10,000	N/A	N/A	ND(B) 170(E) 120(T) 1000(X)
Soil Sample #6	GG831-6	3.9	2100	N/A	N/A	ND(B) 19(E) ND(T) 190(X)
Water Sample #2	GG831-B	N/A	N/A	N/A	10,000(B) 54,000(E) 8700(T) 67,000(X)	N/A
Water Sample #3	GG831-C	N/A	N/A	100	N/A	N/A

ND = non-detect

Table 4
(Tank #4 Removal Montgomery Watson) August, 1993

Table 4
Laboratory Results Summary
Tank #4

Sample ID	Lab ID	EPH (mg/Kg)
Soil Sample #7	GG831-7	1200
Soil Sample #8	GG831-8	310

Table 5.

April 2006 Sampling Event (Carson Dorn):

**Table 5
Laboratory Results Summary
April 2006 Sample event summary**

ID.	Well Depth(bgs)	Depth to water:	Sample date	GRO (mg/l)	DRO (mg/l)	RRO (mg/l)	BTEX (mg/l)
Cleanup limit	N/A	N/A	N/A	1.3	1.5	1.1	(B) 0.005 (T) 1.0 (E) 0.7 (X) 10.0
MW-11	11'8"	9'7"	4/27/06	ND(0.05)	ND(0.094)	ND(0.71)	(B) ND 0.0002 (T) ND 0.0005 (E) ND 0.0005 (X) ND 0.001
MW-24	8'7"	7'6"	4/27/06	1.2	33.8	ND(7.1)	(B) 0.013 (T) 0.0038 (E) 0.0196 (X) 0.0667
DUP-1 (MW-11)	11'8"	9'7"	4/27/06	ND(0.05)	ND(0.094)	ND(0.71)	(B) ND 0.0002 (T) ND 0.0005 (E) ND 0.0005 (X) ND 0.001

ND = non-detect

**Table 6.
August 2006 Sampling Event (CDI):**

**Table 6
Laboratory Summary Results
August 2006 Sample Event Summary**

QA failed

LD.	Well Depth	Depth to water	Sample Date	DRO (mg/l)	GRO (mg/l)	BTEX (mg/l)
Cleanup Limit	N/A	N/A	N/A	1.5	13	(B) 0.005 (T) 1.000 (E) 0.700 (X) 10.00
MW-1	10'5"	7'8"	8/16/06	0.402	0.435	(B) 0.0145 (T) 0.0009 (E) 0.0070 (X) 0.0236
MW-2	10'5"	9'0"	8/16/06	0.105	ND	ND
MW-3	10'4"	8'3"	8/16/06	1.69	9.780	(B) 0.0067 (T) 0.0050 (E) 0.2900 (X) 1.3300
Dup-MW-3	10'4"	8'3"	8/16/06	1.67	13.8	(B) 0.0100 (T) 0.0066 (E) 0.3740 (X) 1.7100

APPENDIX C:
2006 PHOTOS



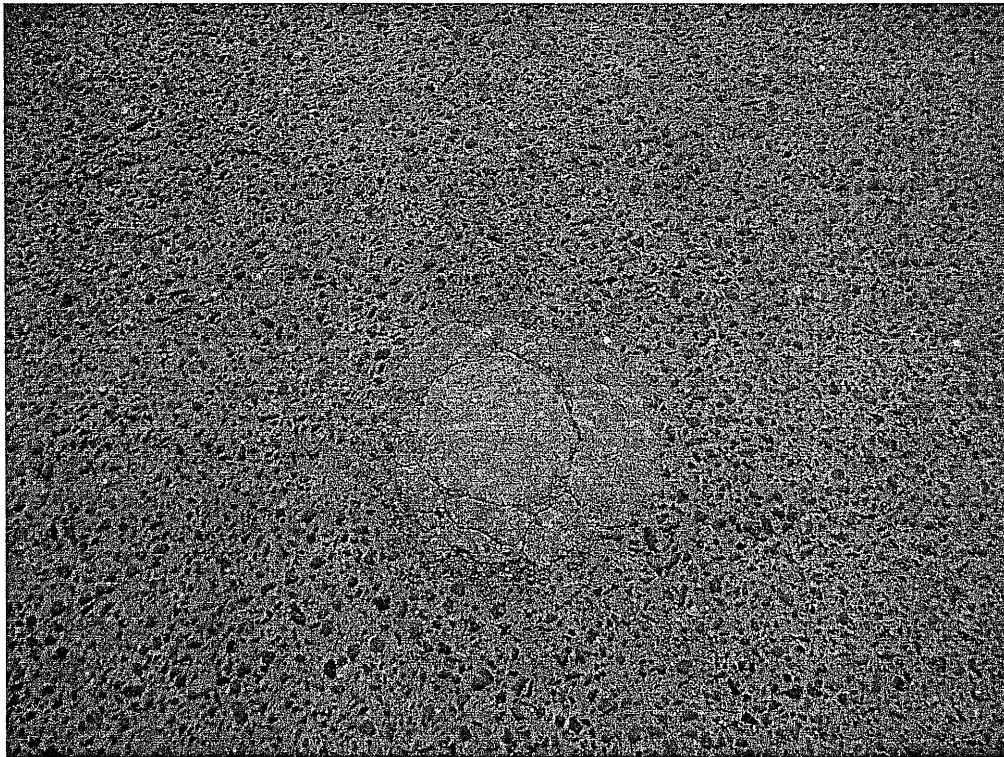
Old well casing (1994 installation) under influence of island run-off (MW-23)



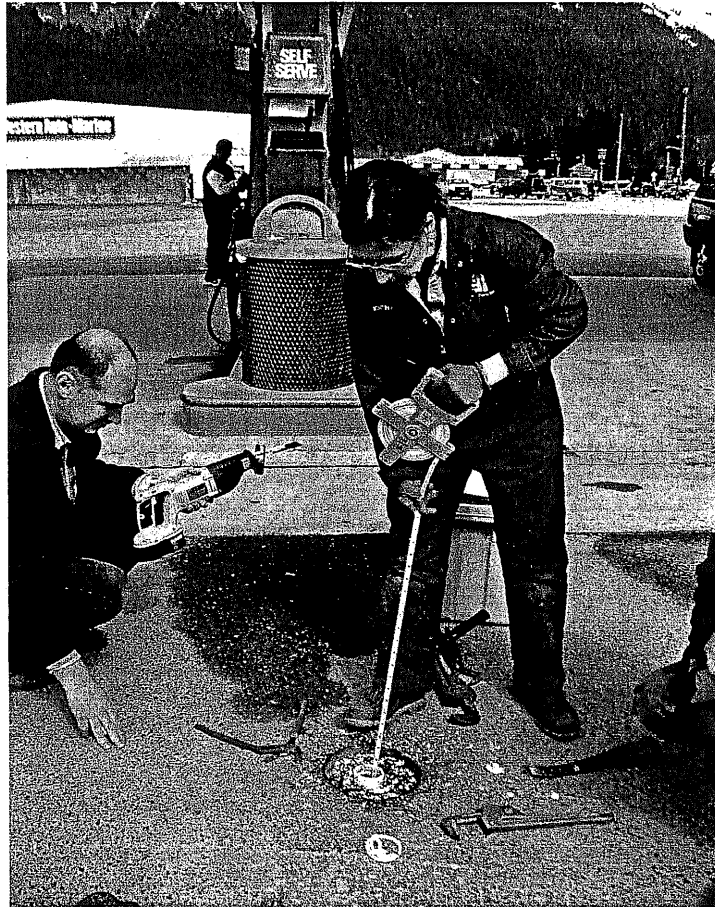
Non-functional well (MW-12)



Side view of pumping island (looking east)



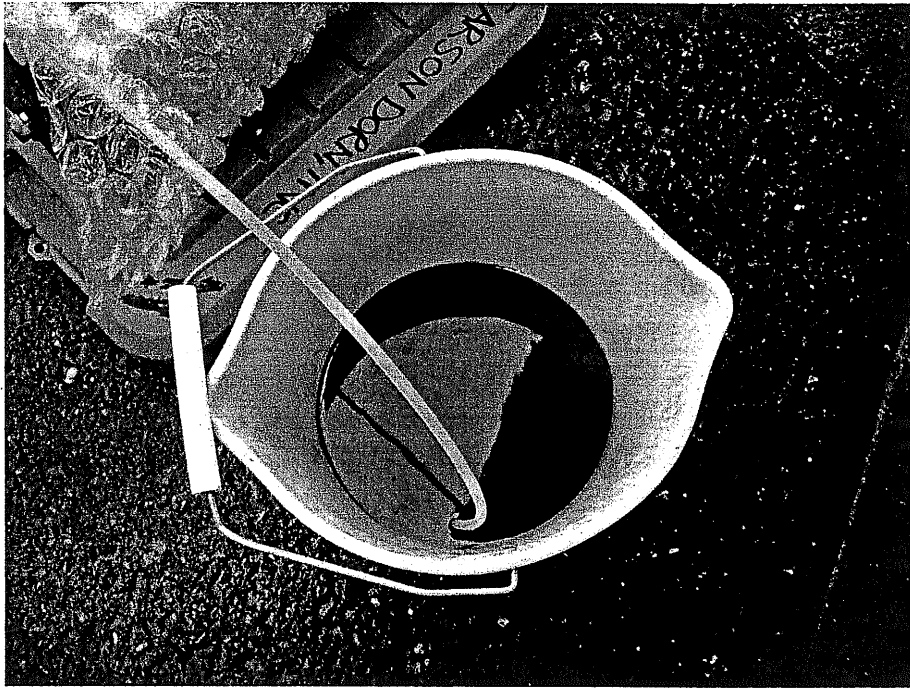
Completely sealed well (MW-1)



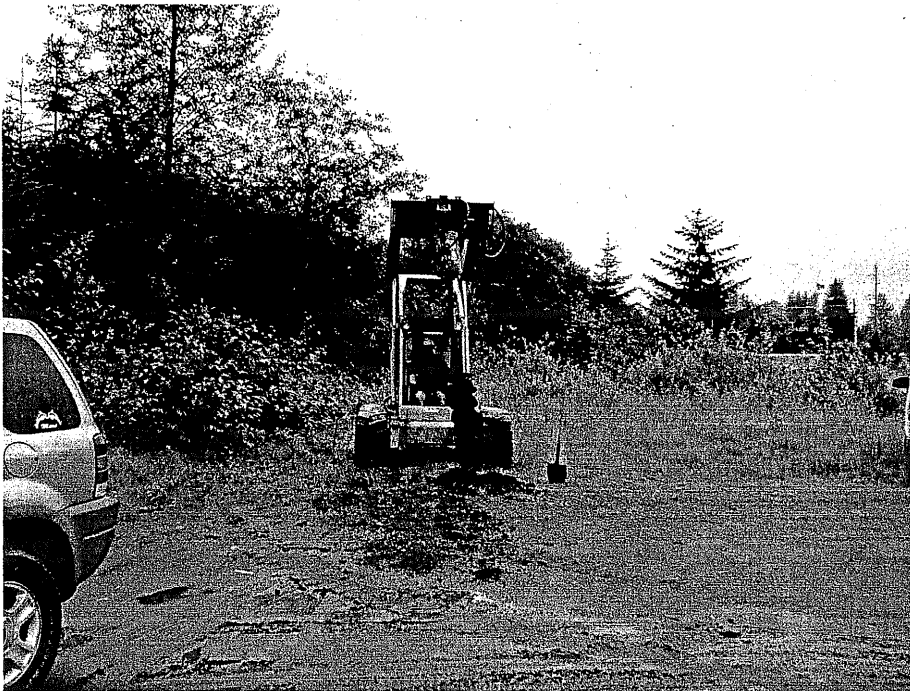
Measuring well depth (MW-24)



Non-productive well (MW-24)



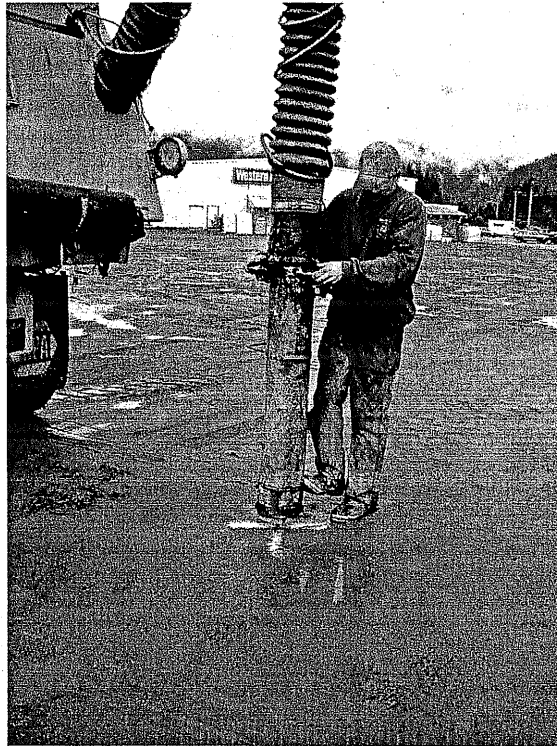
Visible sheen from non-productive well (MW-24)



Digging MW-2



Whirlwind cleaner digging last of MW-2



Digging MW-3, (underground utility lines in area)



Hole for MW-3



MW-3

APPENDIX D:
LABORATORY SAMPLING ANALYSIS RESULTS

May 08, 2006

Sally Schlichting
Carson Dorn, Inc.
712 W. 12th Street
Juneau, AK 99801

RE: GAS N 60

Enclosed are the results of analyses for samples received by the laboratory on 04/28/06 18:20.
The following list is a summary of the Work Orders contained in this report, generated on 05/08/06
16:16.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BPD0719	GAS N 60	06067

TestAmerica - Seattle, WA

Kate Haney

Kate Haney For Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Carson Dorn, Inc.	Project Name: GAS N 60	Report Created:
712 W. 12th Street	Project Number: 06067	05/08/06 16:16
Juneau, AK 99801	Project Manager: Sally Schlichting	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-11	BPD0719-01	Water	04/27/06 14:30	04/28/06 18:20
MW-24	BPD0719-02	Water	04/27/06 15:25	04/28/06 18:20
MW-DUP	BPD0719-03	Water	04/27/06 12:00	04/28/06 18:20

TestAmerica - Seattle, WA

Kate Haney

Kate Haney For Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N 60 Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 05/08/06 16:16
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B
 TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPD0719-01 (MW-11)		Water		Sampled: 04/27/06 14:30						
Gasoline Range Hydrocarbons	AK 101	ND	----	50.0	ug/l	1x	6E02043	05/02/06 13:45	05/02/06 22:44	
Benzene	"	ND	----	0.200	"	"	"	05/02/06 13:45	"	
Toluene	"	ND	----	0.500	"	"	"	05/02/06 13:45	"	
Ethylbenzene	"	ND	----	0.500	"	"	"	05/02/06 13:45	"	
Xylenes (total)	"	ND	----	1.00	"	"	"	05/02/06 13:45	"	
Surrogate(s): 4-BFB (FID)		93.2%		60 - 120 %	"				"	
4-BFB (PID)		101%		68 - 140 %	"				"	
BPD0719-02 (MW-24)		Water		Sampled: 04/27/06 15:25						
Gasoline Range Hydrocarbons	AK 101	1190	----	250	ug/l	5x	6E02043	05/02/06 13:45	05/03/06 07:57	
Benzene	"	13.0	----	1.00	"	"	"	05/02/06 13:45	"	
Toluene	"	3.84	----	2.50	"	"	"	05/02/06 13:45	"	
Ethylbenzene	"	19.6	----	2.50	"	"	"	05/02/06 13:45	"	
Xylenes (total)	"	66.7	----	5.00	"	"	"	05/02/06 13:45	"	
Surrogate(s): 4-BFB (FID)		91.3%		60 - 120 %	1x				"	
4-BFB (PID)		99.3%		68 - 140 %	"				"	
BPD0719-03 (MW-DUP)		Water		Sampled: 04/27/06 12:00						
Gasoline Range Hydrocarbons	AK 101	ND	----	50.0	ug/l	1x	6E02043	05/02/06 13:45	05/02/06 23:15	
Benzene	"	ND	----	0.200	"	"	"	05/02/06 13:45	"	
Toluene	"	ND	----	0.500	"	"	"	05/02/06 13:45	"	
Ethylbenzene	"	ND	----	0.500	"	"	"	05/02/06 13:45	"	
Xylenes (total)	"	ND	----	1.00	"	"	"	05/02/06 13:45	"	
Surrogate(s): 4-BFB (FID)		90.0%		60 - 120 %	"				"	
4-BFB (PID)		100%		68 - 140 %	"				"	

TestAmerica - Seattle, WA

Kate Haney

Kate Haney For Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N 60 Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 05/08/06 16:16
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Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103
 TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPD0719-01 (MW-11)		Water		Sampled: 04/27/06 14:30						
Diesel Range Hydrocarbons	AK102_103	ND	----	0.0943	mg/l	1x	6E02012	05/02/06 07:54	05/04/06 20:12	
Residual Range Organics	"	ND	----	0.708	"	"	"	05/02/06 07:54	"	
<i>Surrogate(s): 2-FBP</i>		98.7%		50 - 150 %						
<i>Octacosane</i>		104%		50 - 150 %						
BPD0719-02RE1 (MW-24)		Water		Sampled: 04/27/06 15:25						
Diesel Range Hydrocarbons	AK102_103	33.8	----	0.943	mg/l	10x	6E02012	05/02/06 07:54	05/05/06 09:14	
Residual Range Organics	"	ND	----	7.08	"	"	"	05/02/06 07:54	"	
<i>Surrogate(s): 2-FBP</i>		114%		50 - 150 %						
<i>Octacosane</i>		101%		50 - 150 %						
BPD0719-03 (MW-DUP)		Water		Sampled: 04/27/06 12:00						
Diesel Range Hydrocarbons	AK102_103	ND	----	0.0943	mg/l	1x	6E02012	05/02/06 07:54	05/04/06 20:56	
Residual Range Organics	"	ND	----	0.708	"	"	"	05/02/06 07:54	"	
<i>Surrogate(s): 2-FBP</i>		88.1%		50 - 150 %						
<i>Octacosane</i>		91.9%		50 - 150 %						

TestAmerica - Seattle, WA

Kate Haney

Kate Haney For Kortland Orr, PM

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Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N 60 Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 05/08/06 16:16
--	--	--

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6E02043 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E02043-BLK1)													Extracted: 05/02/06 10:45	
Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	05/02/06 11:00	
Benzene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 87.3%</i>		<i>Limits: 60-120%</i>								<i>05/02/06 11:00</i>		
<i>4-BFB (PID)</i>		<i>100%</i>		<i>68-140%</i>								<i>"</i>		

LCS (6E02043-BS1)													Extracted: 05/02/06 10:45	
Gasoline Range Hydrocarbons	AK 101	1020	---	50.0	ug/l	1x	--	1000	102%	(60-120)	--	--	05/02/06 11:30	
Benzene	"	10.8	---	0.200	"	"	--	9.65	112%	(80-120)	--	--	"	
Toluene	"	69.2	---	0.500	"	"	--	83.5	82.9%	"	--	--	"	
Ethylbenzene	"	14.8	---	0.500	"	"	--	16.7	88.6%	"	--	--	"	
Xylenes (total)	"	80.3	---	1.00	"	"	--	96.3	83.4%	"	--	--	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 95.2%</i>		<i>Limits: 60-120%</i>								<i>05/02/06 11:30</i>		
<i>4-BFB (PID)</i>		<i>93.3%</i>		<i>68-140%</i>								<i>"</i>		

LCS Dup (6E02043-BSD1)													Extracted: 05/02/06 10:45	
Gasoline Range Hydrocarbons	AK 101	1130	---	50.0	ug/l	1x	--	1000	113%	(60-120)	10.2%	(20)	05/02/06 15:23	
Benzene	"	11.4	---	0.200	"	"	--	9.65	118%	(80-120)	5.41%	(25)	"	
Toluene	"	73.9	---	0.500	"	"	--	83.5	88.5%	"	6.57%	"	"	
Ethylbenzene	"	15.6	---	0.500	"	"	--	16.7	93.4%	"	5.26%	"	"	
Xylenes (total)	"	84.3	---	1.00	"	"	--	96.3	87.5%	"	4.86%	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 96.0%</i>		<i>Limits: 60-120%</i>								<i>05/02/06 15:23</i>		
<i>4-BFB (PID)</i>		<i>91.8%</i>		<i>68-140%</i>								<i>"</i>		

Duplicate (6E02043-DUP1)													QC Source: BPD0724-03RE1		Extracted: 05/02/06 10:45	
Gasoline Range Hydrocarbons	AK 101	406	---	250	ug/l	5x	398	--	--	--	1.99%	(20)	05/03/06 03:21	G-03		
Benzene	"	130	---	1.00	"	"	128	--	--	--	1.55%	(25)	"			
Toluene	"	ND	---	2.50	"	"	ND	--	--	--	NR	"	"			
Ethylbenzene	"	ND	---	2.50	"	"	ND	--	--	--	NR	"	"			
Xylenes (total)	"	ND	---	5.00	"	"	ND	--	--	--	NR	"	"			
<i>Surrogate(s): 4-BFB (FID)</i>		<i>Recovery: 90.2%</i>		<i>Limits: 60-120%</i>		<i>1x</i>						<i>05/03/06 03:21</i>				
<i>4-BFB (PID)</i>		<i>98.7%</i>		<i>68-140%</i>								<i>"</i>				

TestAmerica - Seattle, WA

Kate Haney

Kate Haney For Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N 60 Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 05/08/06 16:16
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6E02043 Water Preparation Method: EPA 5030B (P/T)

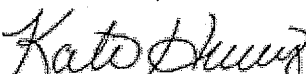
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Duplicate (6E02043-DUP2) QC Source: BPD0724-02 Extracted: 05/02/06 10:45

Gasoline Range Hydrocarbons	AK 101	121	---	50.0	ug/l	1x	125	--	--	--	3.25%	(20)	05/02/06 19:43	
Benzene	"	11.9	---	0.200	"	"	11.9	--	--	--	0.00%	(25)	"	
Toluene	"	1.78	---	0.500	"	"	1.80	--	--	--	1.12%	"	"	
Ethylbenzene	"	1.74	---	0.500	"	"	1.76	--	--	--	1.14%	"	"	
Xylenes (total)	"	4.23	---	1.00	"	"	4.51	--	--	--	6.41%	"	"	
Surrogate(s): 4-BFB (FID)		Recovery: 92.7%		Limits: 60-120%		"						05/02/06 19:43		
4-BFB (PID)		98.7%		68-140%		"						"		

Matrix Spike (6E02043-MS1) QC Source: BPD0724-02 Extracted: 05/02/06 10:45

Gasoline Range Hydrocarbons	AK 101	1250	---	50.0	ug/l	1x	125	1000	112%	(60-120)	--	--	05/02/06 20:14	
Benzene	"	22.3	---	0.200	"	"	11.9	9.65	108%	(46-130)	--	--	"	
Toluene	"	75.7	---	0.500	"	"	1.80	83.5	88.5%	(60-124)	--	--	"	
Ethylbenzene	"	16.8	---	0.500	"	"	1.76	16.7	90.1%	(56-141)	--	--	"	
Xylenes (total)	"	89.1	---	1.00	"	"	4.51	96.3	87.8%	(66-132)	--	--	"	
Surrogate(s): 4-BFB (FID)		Recovery: 99.0%		Limits: 60-120%		"						05/02/06 20:14		
4-BFB (PID)		92.3%		68-140%		"						"		

TestAmerica - Seattle, WA

 Kate Haney For Kortland Orr, PM

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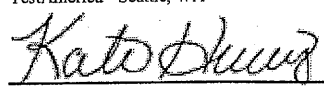


Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N 60 Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 05/08/06 16:16
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Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6E02012 Water Preparation Method: EPA 3520C

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6E02012-BLK1)													Extracted: 05/02/06 07:54	
Diesel Range Hydrocarbons	AK102_103	ND	---	0.100	mg/l	1x	--	--	--	--	--	--	05/04/06 19:00	
Residual Range Organics	"	ND	---	0.750	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 86.0%</i>		<i>Limits: 50-150%</i>		"						05/04/06 19:00		
<i>Octacosane</i>		<i>87.6%</i>		<i>50-150%</i>		"						"		
LCS (6E02012-BS1)													Extracted: 05/02/06 07:54	
Diesel Range Hydrocarbons	AK102_103	2.20	---	0.100	mg/l	1x	--	2.00	110%	(75-125)	--	--	05/04/06 19:28	
Residual Range Organics	"	2.23	---	0.750	"	"	--	"	112%	(60-120)	--	--	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 116%</i>		<i>Limits: 50-150%</i>		"						05/04/06 19:28		
<i>Octacosane</i>		<i>118%</i>		<i>50-150%</i>		"						"		
LCS Dup (6E02012-BSD1)													Extracted: 05/02/06 07:54	
Diesel Range Hydrocarbons	AK102_103	1.91	---	0.100	mg/l	1x	--	2.00	95.5%	(75-125)	14.1%	(20)	05/04/06 19:43	
Residual Range Organics	"	2.00	---	0.750	"	"	--	"	100%	(60-120)	10.9%	"	"	
<i>Surrogate(s): 2-FBP</i>		<i>Recovery: 97.2%</i>		<i>Limits: 50-150%</i>		"						05/04/06 19:43		
<i>Octacosane</i>		<i>104%</i>		<i>50-150%</i>		"						"		

TestAmerica - Seattle, WA

 Kate Haney For Kortland Orr, PM

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Carson Dorn, Inc.

712 W. 12th Street
Juneau, AK 99801

Project Name: **GAS N 60**
Project Number: 06067
Project Manager: Sally Schlichting

Report Created:
05/08/06 16:16

Notes and Definitions

Report Specific Notes:

- G-03 - The total hydrocarbon result in this sample is primarily due to an individual compound eluting in the volatile hydrocarbon range. Identification and quantitation by EPA method 8021B or 8260B is recommended.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' or 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

WA - 14 days preserved

Kate Haney





North Creek Analytical, Inc.
Environmental Laboratory Network
www.nctlabs.com

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9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132
20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

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(509) 924-9200 FAX 924-9290
(503) 906-9200 FAX 906-9210
(541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #: **BD0719**

INVOICE TO: **FLORENCE JOHNSON**

CLIENT: **CHARLSON DORN, INC.**

REPORT TO: **SALLY SCHUCHTING**

ADDRESS: **712 W. 12th ST**

PHONE: **(907) 586-4447**

PROJECT NAME: **6AS N 60**

PROJECT NUMBER: **06067**

SAMPLED BY: **SCHUCHTING**

FAX: **(907) 586-5917**

P.O. NUMBER: **06067**

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	6001 BTX	AK101/80ALB	AK102/MNO	AK102/AK103	YOC	BALO	SVOC	BZFO	SIM PAH	PCNA 8	HEAVY METALS	TELURIC	CHROMIUM	TCP Pb	CEI
1. MW-11	4/27/06 1430	X	X	X	X											
2. MW-24	4/27/06 1525	X	X	X	X											
3. MW-DMP	4/27/06	X	X	X	X											
4.																
5.																
6.																
7.																
8.																
9.																
10.																
11.																
12.																
13.																
14.																
15.																

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

10 7 5 4 3 2 1 <1

Petroleum Hydrocarbon Analyses

4 3 2 1 <1

OTHER

Please Specify

*Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W,S,O)	# OF CONT.	COMMENTS	ID
W	4		-01
W	4		-02
W	4		-03

RELINQUISHED BY: **[Signature]**
PRINT NAME: **SALLY SCHUCHTING** FIRM: **NCA**
DATE: **4/27/06** TIME: **1820**

RECEIVED BY: **[Signature]**
PRINT NAME: **Blair Kinski** FIRM: **NCA**
DATE: **4/28** TIME: **1820**

ADDITIONAL REMARKS:
COC REV 3/99

September 14, 2006

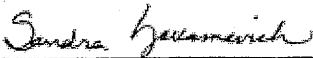
Sally Schlichting
Carson Dorn, Inc.
712 W. 12th Street
Juneau, AK 99801

RE: GAS N GO

Enclosed are the results of analyses for samples received by the laboratory on 08/17/06 18:33.
The following list is a summary of the Work Orders contained in this report, generated on 09/14/06
11:50.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BPH0443	GAS N GO	06067


Sandra Yakamavich, Project Manager



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
--	--	-----------------------------------

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	BPH0443-01	Water	08/16/06 15:50	08/17/06 18:33
MW-2	BPH0443-02	Water	08/16/06 16:37	08/17/06 18:33
MW-3	BPH0443-03	Water	08/16/06 14:32	08/17/06 18:33
MW-Dup 2	BPH0443-04	Water	08/16/06 12:00	08/17/06 18:33
TRIP BLANK	BPH0443-05	Water	08/16/06 12:00	08/17/06 18:33

Sandra Yakamavich
Sandra Yakamavich, Project Manager



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
--	--	--

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B
 TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPH0443-01RE1 (MW-1)		Water				Sampled: 08/16/06 15:50				HT-1, X
Gasoline Range Hydrocarbons	AK 101	435	---	50.0	ug/l	1x	6I01037	08/25/06 10:10	09/02/06 00:10	
Benzene	"	14.5	---	0.200	"	"	"	"	"	
Toluene	"	0.900	---	0.500	"	"	"	"	"	
Ethylbenzene	"	7.27	---	0.500	"	"	"	"	"	
Xylenes (total)	"	23.6	---	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			106%		60 - 120 %	"				
<i>4-BFB (PID)</i>			104%		68 - 140 %	"				
BPH0443-02RE1 (MW-2)		Water				Sampled: 08/16/06 16:37				HT-1, X
Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	6I01037	08/25/06 10:10	09/02/06 00:41	
Benzene	"	ND	---	0.200	"	"	"	"	"	
Toluene	"	ND	---	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	---	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	---	1.00	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			90.3%		60 - 120 %	"				
<i>4-BFB (PID)</i>			99.7%		68 - 140 %	"				
BPH0443-03RE1 (MW-3)		Water				Sampled: 08/16/06 14:32				HT-1, X
Gasoline Range Hydrocarbons	AK 101	9780	---	500	ug/l	10x	6I01037	08/25/06 10:10	09/02/06 17:13	
Benzene	"	6.73	---	2.00	"	"	"	"	"	
Toluene	"	5.14	---	5.00	"	"	"	"	"	
Ethylbenzene	"	290	---	5.00	"	"	"	"	"	
Xylenes (total)	"	1330	---	10.0	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			101%		60 - 120 %	1x				
<i>4-BFB (PID)</i>			100%		68 - 140 %	"				
BPH0443-04RE1 (MW-Dup 2)		Water				Sampled: 08/16/06 12:00				HT-1, X
Gasoline Range Hydrocarbons	AK 101	13800	---	500	ug/l	10x	6I01037	08/25/06 10:10	09/02/06 07:05	
Benzene	"	10.0	---	2.00	"	"	"	"	"	
Toluene	"	6.60	---	5.00	"	"	"	"	"	
Ethylbenzene	"	374	---	5.00	"	"	"	"	"	
Xylenes (total)	"	1710	---	10.0	"	"	"	"	"	
<i>Surrogate(s): 4-BFB (FID)</i>			105%		60 - 120 %	1x				
<i>4-BFB (PID)</i>			99.8%		68 - 140 %	"				

TestAmerica - Seattle, WA

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Sandra Yakamavich
 Sandra Yakamavich, Project Manager



Carson Dorn, Inc.	Project Name: GAS N GO	Report Created:
712 W. 12th Street	Project Number: 06067	09/14/06 11:50
Juneau, AK 99801	Project Manager: Sally Schlichting	

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B
 TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPH0443-05RE1 (TRIP BLANK)		Water					Sampled: 08/16/06 12:00			HT-1, X
Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	6101037	08/25/06 10:10	09/02/06 06:34	
Benzene	"	ND	---	0.200	"	"	"	"	"	
Toluene	"	ND	---	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	---	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	---	1.00	"	"	"	"	"	
Surrogate(s):	4-BFB (FID)		91.7%		60 - 120 %	"				
	4-BFB (PID)		100%		68 - 140 %	"				

TestAmerica - Seattle, WA

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Sandra Yakamavich

Sandra Yakamavich, Project Manager



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
--	--	-----------------------------------

Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103
 TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPH0443-01 (MW-1)		Water				Sampled: 08/16/06 15:50				
Diesel Range Hydrocarbons	AK102_103	0.402	---	0.0943	mg/l	1x	6H23013	08/23/06 09:45	08/25/06 22:21	D-06
Residual Range Organics	"	ND	---	0.708	"	"	"	"	"	
Surrogate(s): 2-FBP		92.4%			50 - 150 %	"				"
Octacosane		88.6%			50 - 150 %	"				"
BPH0443-02 (MW-2)		Water				Sampled: 08/16/06 16:37				
Diesel Range Hydrocarbons	AK102_103	0.105	---	0.0943	mg/l	1x	6H23013	08/23/06 09:45	08/25/06 22:50	D-06
Residual Range Organics	"	ND	---	0.708	"	"	"	"	"	
Surrogate(s): 2-FBP		100%			50 - 150 %	"				"
Octacosane		94.5%			50 - 150 %	"				"
BPH0443-03 (MW-3)		Water				Sampled: 08/16/06 14:32				
Diesel Range Hydrocarbons	AK102_103	1.69	---	0.0943	mg/l	1x	6H23013	08/23/06 09:45	08/25/06 23:20	D-08
Residual Range Organics	"	ND	---	0.708	"	"	"	"	"	
Surrogate(s): 2-FBP		99.6%			50 - 150 %	"				"
Octacosane		99.2%			50 - 150 %	"				"
BPH0443-04 (MW-Dup 2)		Water				Sampled: 08/16/06 12:00				
Diesel Range Hydrocarbons	AK102_103	1.67	---	0.0943	mg/l	1x	6H23013	08/23/06 09:45	08/25/06 23:49	D-08
Residual Range Organics	"	ND	---	0.708	"	"	"	"	"	
Surrogate(s): 2-FBP		95.8%			50 - 150 %	"				"
Octacosane		97.9%			50 - 150 %	"				"

TestAmerica - Seattle, WA

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Sandra Yakamavich

Sandra Yakamavich, Project Manager



Carson Dorn, Inc.	Project Name: GAS N GO	Report Created:
712 W. 12th Street	Project Number: 06067	09/14/06 11:50
Juneau, AK 99801	Project Manager: Sally Schlichting	

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6H25032 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (6H25032-BLK1) Extracted: 08/25/06 10:10

Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	08/26/06 12:32	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		Recovery:	88.2%	Limits: 60-120%		"							08/26/06 12:32	
4-BFB (PID)		Recovery:	97.8%	Limits: 68-140%		"							"	

LCS (6H25032-BS1) Extracted: 08/25/06 10:10

Gasoline Range Hydrocarbons	AK 101	1030	---	50.0	ug/l	1x	--	1000	103%	(60-120)	--	--	08/26/06 13:49	
Surrogate(s): 4-BFB (FID)		Recovery:	94.7%	Limits: 60-120%		"							08/26/06 13:49	

LCS (6H25032-BS2) Extracted: 08/25/06 10:10

Toluene	AK 101	30.5	---	0.500	ug/l	1x	--	30.0	102%	(80-120)	--	--	08/26/06 14:51	
Ethylbenzene	"	30.8	---	0.500	"	"	--	"	103%	"	--	--	"	
Xylenes (total)	"	91.5	---	1.00	"	"	--	90.0	102%	"	--	--	"	
Surrogate(s): 4-BFB (PID)		Recovery:	97.8%	Limits: 68-140%		"							08/26/06 14:51	

LCS Dup (6H25032-BSD1) Extracted: 08/25/06 10:10

Gasoline Range Hydrocarbons	AK 101	991	---	50.0	ug/l	1x	--	1000	99.1%	(60-120)	3.86%	(20)	08/26/06 14:20	
Surrogate(s): 4-BFB (FID)		Recovery:	90.7%	Limits: 60-120%		"							08/26/06 14:20	

LCS Dup (6H25032-BSD2) Extracted: 08/25/06 10:10

Toluene	AK 101	31.9	---	0.500	ug/l	1x	--	30.0	106%	(80-120)	4.49%	(25)	08/26/06 15:22	
Ethylbenzene	"	32.5	---	0.500	"	"	--	"	108%	"	5.37%	"	"	
Xylenes (total)	"	96.1	---	1.00	"	"	--	90.0	107%	"	4.90%	"	"	
Surrogate(s): 4-BFB (PID)		Recovery:	97.7%	Limits: 68-140%		"							08/26/06 15:22	

Duplicate (6H25032-DUP1) QC Source: BPH0433-04 Extracted: 08/25/06 10:10

Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	ND	--	--	--	NR	(20)	08/26/06 16:31	
Benzene	"	ND	---	0.200	"	"	ND	--	--	--	NR	(25)	"	Q-41
Toluene	"	ND	---	0.500	"	"	ND	--	--	--	26.4%	"	"	RP-4
Ethylbenzene	"	ND	---	0.500	"	"	ND	--	--	--	NR	"	"	
Xylenes (total)	"	ND	---	1.00	"	"	ND	--	--	--	NR	"	"	
Surrogate(s): 4-BFB (FID)		Recovery:	87.0%	Limits: 60-120%		"							08/26/06 16:31	
4-BFB (PID)		Recovery:	97.3%	Limits: 68-140%		"							"	

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Sandra Yakamavich

Sandra Yakamavich, Project Manager



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6H25032 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Duplicate (6H25032-DUP2)		QC Source: BPH0433-05										Extracted: 08/25/06 10:10		X
Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	ND	--	--	--	NR	(20)	08/26/06 23:10	
Surrogate(s): 4-BFB (FID)		Recovery: 88.8%		Limits: 60-120%		"						08/26/06 23:10		
4-BFB (PID)		97.7%		68-140%		"						"		

Matrix Spike (6H25032-MS1)		QC Source: BPH0433-04										Extracted: 08/25/06 10:10		
Gasoline Range Hydrocarbons	AK 101	1090	---	50.0	ug/l	1x	ND	1000	109%	(60-120)	--	--	08/26/06 17:53	
Surrogate(s): 4-BFB (FID)		Recovery: 90.5%		Limits: 60-120%		"						08/26/06 17:53		

Matrix Spike (6H25032-MS2)		QC Source: BPH0433-04										Extracted: 08/25/06 10:10		
Benzene	AK 101	34.5	---	0.200	ug/l	1x	ND	30.0	115%	(46-130)	--	--	08/26/06 18:24	Q-41
Toluene	"	32.1	---	0.500	"	"	0.223	"	106%	(60-124)	--	--	"	
Ethylbenzene	"	32.7	---	0.500	"	"	0.145	"	109%	(56-141)	--	--	"	
Xylenes (total)	"	95.7	---	1.00	"	"	0.482	90.0	106%	(66-132)	--	--	"	
Surrogate(s): 4-BFB (PID)		Recovery: 96.5%		Limits: 68-140%		"						08/26/06 18:24		

QC Batch: 6I01037 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (6I01037-BLK1)		QC Source: BPH0433-04										Extracted: 09/01/06 13:12		
Gasoline Range Hydrocarbons	AK 101	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	09/01/06 14:03	
Benzene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB (FID)		Recovery: 92.5%		Limits: 60-120%		"						09/01/06 14:03		
4-BFB (PID)		98.5%		68-140%		"						"		

LCS (6I01037-BS1)		QC Source: BPH0433-04										Extracted: 09/01/06 13:12		
Gasoline Range Hydrocarbons	AK 101	1040	---	50.0	ug/l	1x	--	1000	104%	(60-120)	--	--	09/01/06 17:03	
Surrogate(s): 4-BFB (FID)		Recovery: 98.3%		Limits: 60-120%		"						09/01/06 17:03		

LCS (6I01037-BS2)		QC Source: BPH0433-04										Extracted: 09/01/06 13:12		
Benzene	AK 101	30.9	---	0.200	ug/l	1x	--	30.0	103%	(80-120)	--	--	09/01/06 18:39	
Toluene	"	28.7	---	0.500	"	"	--	"	95.7%	"	--	--	"	
Ethylbenzene	"	29.3	---	0.500	"	"	--	"	97.7%	"	--	--	"	
Xylenes (total)	"	86.8	---	1.00	"	"	--	90.0	96.4%	"	--	--	"	
Surrogate(s): 4-BFB (PID)		Recovery: 98.5%		Limits: 68-140%		"						09/01/06 18:39		

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Sandra Yakamovich
 Sandra Yakamovich, Project Manager



Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: **6I01037** Water Preparation Method: **EPA 5030B (P/T)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS Dup (6I01037-BSD1) Extracted: 09/01/06 13:12

Gasoline Range Hydrocarbons	AK 101	1010	---	50.0	ug/l	1x	--	1000	101%	(60-120)	2.93%	(20)	09/01/06 17:34	
Surrogate(s): 4-BFB (FID)		Recovery: 96.2%		Limits: 60-120%										09/01/06 17:34

LCS Dup (6I01037-BSD2) Extracted: 09/01/06 13:12

Benzene	AK 101	32.9	---	0.200	ug/l	1x	--	30.0	110%	(80-120)	6.27%	(25)	09/01/06 19:10	
Toluene	"	30.7	---	0.500	"	"	--	"	102%	"	6.73%	"	"	
Ethylbenzene	"	31.4	---	0.500	"	"	--	"	105%	"	6.92%	"	"	
Xylenes (total)	"	92.8	---	1.00	"	"	--	90.0	103%	"	6.68%	"	"	
Surrogate(s): 4-BFB (PID)		Recovery: 98.3%		Limits: 68-140%										09/01/06 19:10

Duplicate (6I01037-DUP1) QC Source: BPH0443-01RE1 Extracted: 09/01/06 13:12

Gasoline Range Hydrocarbons	AK 101	469	---	50.0	ug/l	1x	435	--	--	--	7.52%	(20)	09/01/06 23:36	
Benzene	"	14.9	---	0.200	"	"	14.5	--	--	--	2.72%	(25)	"	
Toluene	"	0.937	---	0.500	"	"	0.900	--	--	--	4.03%	"	"	
Ethylbenzene	"	7.55	---	0.500	"	"	7.27	--	--	--	3.78%	"	"	
Xylenes (total)	"	24.6	---	1.00	"	"	23.6	--	--	--	4.15%	"	"	
Surrogate(s): 4-BFB (FID)		Recovery: 107%		Limits: 60-120%										09/01/06 23:36
4-BFB (PID)		104%		68-140%										"

Duplicate (6I01037-DUP2) QC Source: BPH0443-04RE1 Extracted: 09/01/06 13:12

Gasoline Range Hydrocarbons	AK 101	14100	---	500	ug/l	10x	13800	--	--	--	2.15%	(20)	09/02/06 07:36	
Benzene	"	10.1	---	2.00	"	"	10.0	--	--	--	0.995%	(25)	"	
Toluene	"	6.73	---	5.00	"	"	6.60	--	--	--	1.95%	"	"	
Ethylbenzene	"	383	---	5.00	"	"	374	--	--	--	2.38%	"	"	
Xylenes (total)	"	1740	---	10.0	"	"	1710	--	--	--	1.74%	"	"	
Surrogate(s): 4-BFB (FID)		Recovery: 105%		Limits: 60-120%		1x								09/02/06 07:36
4-BFB (PID)		99.0%		68-140%										"

TestAmerica - Seattle, WA

Sandra Yakamavich
 Sandra Yakamavich, Project Manager

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Carson Dorn, Inc. 712 W. 12th Street Juneau, AK 99801	Project Name: GAS N GO Project Number: 06067 Project Manager: Sally Schlichting	Report Created: 09/14/06 11:50
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Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 6H23013 Water Preparation Method: EPA 3520C

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (6H23013-BLK1) Extracted: 08/23/06 09:45

Diesel Range Hydrocarbons	AK102_103	ND	---	0.100	mg/l	1x	--	--	--	--	--	--	08/25/06 19:53	
Residual Range Organics	"	ND	---	0.750	"	"	--	--	--	--	--	--	"	
Surrogate(s): 2-FBP		Recovery: 92.4%		Limits: 50-150%	"								08/25/06 19:53	
Octacosane		91.6%		50-150%	"								"	

LCS (6H23013-BS1) Extracted: 08/23/06 09:45

Diesel Range Hydrocarbons	AK102_103	1.62	---	0.100	mg/l	1x	--	2.00	81.0%	(75-125)	--	--	08/25/06 20:22	
Residual Range Organics	"		---	0.750	"	"	--	"	90.5%	(60-120)	--	--	"	
Surrogate(s): 2-FBP		Recovery: 85.6%		Limits: 50-150%	"								08/25/06 20:22	
Octacosane		91.2%		50-150%	"								"	

LCS (6H23013-BS2) Extracted: 08/23/06 09:45

Diesel Range Hydrocarbons	AK102_103	1.83	---	0.100	mg/l	1x	--	2.00	91.5%	(75-125)	--	--	08/25/06 21:22	
Residual Range Organics	"	1.81	---	0.750	"	"	--	"	90.5%	(60-120)	--	--	"	
Surrogate(s): 2-FBP		Recovery: 93.2%		Limits: 50-150%	"								08/25/06 21:22	
Octacosane		90.8%		50-150%	"								"	

LCS Dup (6H23013-BSD1) Extracted: 08/23/06 09:45

Diesel Range Hydrocarbons	AK102_103	1.65	---	0.100	mg/l	1x	--	2.00	82.5%	(75-125)	1.83%	(20)	08/25/06 20:52	
Residual Range Organics	"		---	0.750	"	"	--	"	86.5%	(60-120)	4.52%	"	"	
Surrogate(s): 2-FBP		Recovery: 89.2%		Limits: 50-150%	"								08/25/06 20:52	
Octacosane		94.4%		50-150%	"								"	

LCS Dup (6H23013-BSD2) Extracted: 08/23/06 09:45

Diesel Range Hydrocarbons	AK102_103	1.79	---	0.100	mg/l	1x	--	2.00	89.5%	(75-125)	2.21%	(20)	08/25/06 21:51	
Residual Range Organics	"	1.73	---	0.750	"	"	--	"	86.5%	(60-120)	4.52%	"	"	
Surrogate(s): 2-FBP		Recovery: 90.0%		Limits: 50-150%	"								08/25/06 21:51	
Octacosane		88.4%		50-150%	"								"	

TestAmerica - Seattle, WA

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Sandra Yakamavich
 Sandra Yakamavich, Project Manager



Carson Dorn, Inc.

712 W. 12th Street
Juneau, AK 99801

Project Name: **GAS N GO**
Project Number: 06067
Project Manager: Sally Schlichting

Report Created:
09/14/06 11:50

Notes and Definitions

Report Specific Notes:

- D-06 - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- D-08 - Results in the diesel organics range are primarily due to overlap from a gasoline range product.
- HT-1 - Sample analysis performed past method-specified holding time.
- Q-41 - This analyte had a high bias in the associated calibration verification standard.
- RP-4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- X - See case narrative.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Sandra Yakamavich

Sandra Yakamavich, Project Manager



CASE NARRATIVE for Work Order BPH0443

Client: Carson Dorn, Inc.
Project Manager: Jeanette Gann
Project Name: GAS N GO
Project Number: 06067

1.0 DESCRIPTION OF CASE

Four aqueous samples were submitted for analysis of:

- Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA8021B
- Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103

2.0 COMMENTS ON SAMPLE RECEIPT

The samples were received on 08/17/06 in good condition. The sample temperature at the time of receipt was 3.6°C.

3.0 PREPARATIONS AND ANALYSIS

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA8021B

The following was observed:

The samples were originally prepared in batch 6H25032 on 08/25/06. Due to a laboratory oversight, it was suspected that the samples were inadvertently mis-filed when placed on the instrument for analysis. In order to confirm the sample sequence, all batch samples were analyzed a second time in batch 6I01037 using the second vial submitted for analysis. This second analysis was conducted outside of holding time. All sample data was qualified and was reported from the second analytical run.

All anomalies associated with batch Quality Control have been appropriately qualified in the analytical report.

Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103

All anomalies associated with sample preparation and analysis have been appropriately qualified in the analytical report.

There were no anomalies associated with batch Quality Control.

Sandra Yakamavich

Sandra Yakamavich
Project Manager
North Creek Analytical





ncaTM
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Environmental Laboratory Network
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(509) 924-9200 FAX 924-9290
(503) 906-9200 FAX 906-9210
(541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #:

6PH0443

CLIENT: CARLSON DOLAN, INC.
REPORT TO: SALLY SCHLICHTING
ADDRESS: 712 W. 12TH ST
JUNEAU, AK 99801
PHONE: (907) 586-4447
PROJECT NAME: GAS N 60
PROJECT NUMBER: 06067
SAMPLED BY: SAHLICHTING/GANN

INVOICE TO: FLORENCE JOHNSON
P.O. NUMBER: 06067-3-010

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses
 10 7 5 4 3 2 1 <1

Petroleum Hydrocarbon Analyses
 4 3 2 1 <1

STD. OTHER Please Specify

*Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	REQUESTED ANALYSES										MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
		6001 BTX	AK101/8021B	AK102/AK103	VOC	B2C0	SVOC	B2F0	SIM PAH	PCNA & METALS	ORGANIC CHLORINE				
1. MW-1	8/16/06 1550	X	X	X	X	X	X	X	X	X	X	3	4		01
2. MW-2	" 1637	X	X	X	X	X	X	X	X	X	X	3	4		02
3. MW-3	" 1432	X	X	X	X	X	X	X	X	X	X	3	4		03
4. MW-DUP2	"	X	X	X	X	X	X	X	X	X	X	3	4		04
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															

RELINQUISHED BY: *[Signature]* FIRM: CSD
 DATE: 8/16/06 TIME: 1715
 PRINT NAME: SALLY SCHLICHTING

RECEIVED BY: *[Signature]* FIRM: TA
 DATE: 8/17/06 TIME: 1733
 PRINT NAME: FRANCISCO LUNA, JR.

REINQUISHED BY: *[Signature]* FIRM: CSD
 DATE: TIME:
 PRINT NAME: FIRM:

ADDITIONAL REMARKS:
 @ Lab 1833
 TEMP: 3.6