



4475 SW Scholls Ferry Rd., #256 ▲ Portland, OR 97225
(503) 291-1454 ▲ Fax 291-5425

May 27, 2004

Clark County Public Works
Operations Division
4700 NE 78th Street
Vancouver, WA 98665

Attn: Charley Masco
Deputy Operations Manager

Re: UST Decommissioning and Site Assessment Report
Trail Mart/Astro 607, 13117 NE Hwy 99, Vancouver, WA

Dear Mr. Masco:

This report presents the procedures, methods and results for the UST decommissioning project recently completed by K&S Environmental, Inc. (K&S) at the above referenced facility. The site is located in a mainly commercial area and the tanks were installed in 1994. The station was acquired by Clark County as part of a highway realignment project scheduled for Hwy 99 and NE 20th Avenue. The site is reportedly in a cleanup from a previous UST release at the site.

Three dispensers were associated with the tanks and the tanks were used to store gasoline and diesel product at a service station. A total of two 15,000 gallon double wall fiberglass lined steel USTs were removed from the site by K&S Environmental, Inc. (K&S), and a Site Assessment was completed by Bill Knutson. K&S is a Washington licensed contractor and Bill Knutson is an Ecology Registered Site Assessor. A 30 Day Notice was submitted prior to beginning work at the site and a copy is included with this report. Soil samples were collected and analyzed per MTCA rules, and the results are presented in this report.

Procedures

On May 17, 2004, K&S began removing the concrete slab over the tanks and removing the dispensers. On May 19, 2004 K&S removed the two tanks from the ground and transported the tanks and all reusable ancillary equipment to the Clark County facility at 4700 NE 78th Street where they will be stored for possible future use. The tanks consisted of one 15,000 gallon UST used to store gasoline only and one 15,000 gallon compartment tank used to store gasoline and diesel products. The piping consisted of double containment flex piping. A TLS 350 leak detection system and overfill containment were in place at the site. The tank was overlaid by reinforced concrete approximately 6 inches thick. The tanks were pumped and triple rinsed by West Coast Marine of Washougal, WA prior to removing the tanks from the site. The tanks were emptied to less than 2-3 inches prior to K&S arriving at the site. The tanks were inerted with 150

lbs of dry ice prior to removing the tanks from the ground and transporting them to the Clark County site.

After the USTs were removed from the ground, a total of six soil samples were collected by the registered site assessor of the native soil from the UST excavation sidewalls and bottom. The soil samples were collected directly from the trackhoe bucket using disposable Nitrile gloves. The bottom samples were obtained at a depth of 16 feet below the surface, or approximately 1-2 feet beneath the bottom of the tanks. The sidewall samples were collected from the 10 foot depth. The tanks were backfilled with pea gravel. Upon collection of all soil samples, the pea gravel removed to facilitate the removal of the tanks was placed back in the excavation. Clark County will backfill the excavation during the construction work scheduled at the site.

Results

Subsurface Conditions: Native soil at the site consists of silty material from just beneath the surface to the total depth explored of 16 feet. The tanks were bedded in pea gravel. Crushed rock from a previous excavation was noted at the north end of the excavation just beneath the islands. Groundwater was not encountered at the site during the decommissioning process. No visual or olfactory evidence of contamination was noted in the pea gravel backfill material or in the native soil during the decommissioning of the tank. The crushed rock beneath the islands at the north end of the excavation also exhibited no evidence of a release. The containment sumps and double wall flex piping were inspected and found to be in excellent condition with no evidence of failure. The tanks also appeared to be in excellent condition.

Chemical Results: Soil samples collected during the UST decommissioning were preserved and taken to a Washington certified laboratory for analysis for total petroleum hydrocarbons (TPH) in accordance with Ecology rules and regulations for regulated USTs. The analytical methods and results of the samples analyzed are summarized below in Table 1. Complete certified analytical reports are attached to this report.

Table 1
Results of Soil Samples Collected on 5/19/04

#1	East Tank Bottom, 16 ft.	ND, ND, ND
#2	West Tank Bottom, 16 ft.	ND, ND, ND
#3	North Wall, 10 ft.	ND, ND, ND
#4	East Wall, 10 ft.	ND, ND, ND
#5	South Wall, 10 ft.	ND, ND, ND
#6	West Wall, 10 ft.	ND, ND, ND

NT - Not Tested for this analyte

ND - None detected at or above reportable levels

Conclusions

On May 17-20, 2004, K&S Environmental, Inc. decommissioned the UST system at the former Trail Mart/Astro 607 service station on Hwy 99 in North Vancouver, WA. Bill Knutson of K&S

Environmental, Inc. completed a Site Assessment for the UST decommissioning project and collected soil samples per MTCA.

The decommissioned UST system consisted of two 15,000 gallon fiberglass lined steel USTs used for storing gasoline and diesel fuel for the service station. Three dispensers were associated with the UST system and were removed during the project. The double wall flex product piping was removed from the ground. The vents were removed and approximately 20 feet of 2 inch fiberglass vent pipe were abandoned in place.

Soil samples were collected and analyzed in accordance with Ecology's 'Guidance for Site Checks and Site Assessments for Underground Storage Tanks'. Results of the TPH analyses completed on the six soil samples collected from the UST excavation sidewalls and bottom, in conjunction with field observations made by the registered site assessor, indicate the UST system did not leak.

Since no reportable levels of TPH contamination were detected in the soil samples collected at the site, the excavation will be backfilled by Clark County Public Works during the road construction work scheduled at the site. Included with this report is a copy of the UST Closure and Site Assessment Notice and the UST Site Check/Site Assessment Checklist. Please do not hesitate to call me if you have any questions.

Sincerely,



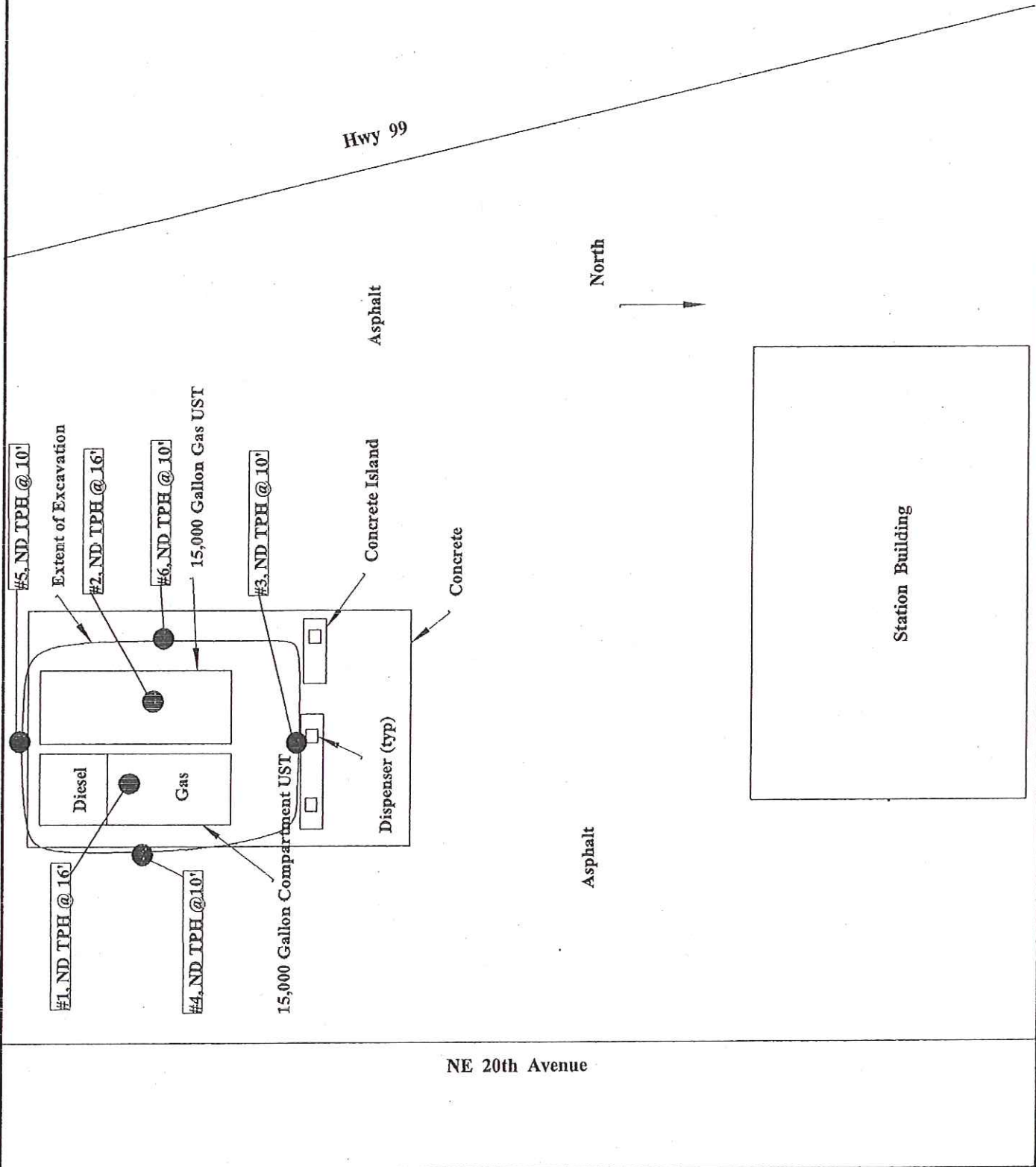
Bill Knutson, P.E.
Environmental Engineer

cc Jennifer Taylor
Department of Ecology
2108 Grand Blvd.
Vancouver, WA 98661

Site
 Trail Mart/Astro 607
 13117 NE Hwy. 99
 Vancouver, WA

K&S Environmental, Inc.
 #3, ND TPH @ 10' ● - - Sample Location w/Results & Depth

Job #2844
 Date: 5/27/04
 Scale: 1" = 20'



NE 20th Avenue



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21 May, 2004

Bill Knutson
K & S Environmental
4475 S.W. Scholls Ferry Road, Suite 256
Portland, OR 97225

RE: Clark County/Trail Mart

Enclosed are the results of analyses for samples received by the laboratory on 05/19/04 18:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,


Philip Nerenberg
Laboratory Manager

Work Orders included in this report:

P4E0615



DESIGN: 11/20/03
 425,41 fax 425.420.9210
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K & S Environmental
 4475 S.W. Scholls Ferry Road, Suite 256
 Portland, OR 97225

Project: Clark County/Trail Man
 Project Number: 2844
 Project Manager: Bill Knutson

Reported:
 05/21/04 16:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#1	P4E0615-01	Soil	05/19/04 12:00	05/19/04 18:05
#2	P4E0615-02	Soil	05/19/04 12:00	05/19/04 18:05
#3	P4E0615-03	Soil	05/19/04 12:00	05/19/04 18:05
#4	P4E0615-04	Soil	05/19/04 12:00	05/19/04 18:05
#5	P4E0615-05	Soil	05/19/04 12:00	05/19/04 18:05
#6	P4E0615-06	Soil	05/19/04 12:00	05/19/04 18:05

North Creek Analytical - Portland

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.

Philip Nerenberg, Laboratory Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network



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K & S Environmental 4475 S.W. Scholls Ferry Road, Suite 256 Portland, OR 97225	Project: Clark County/Trail Ma Project Number: 2844 Project Manager: Bill Knutson	Reported: 05/21/04 16:48
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**Hydrocarbon Identification per NW-TPH Methodology
 North Creek Analytical - Portland**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
						Sampled: 05/19/04 Received: 05/19/04			
#1 (P4E0615-01) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	96.7 %	50-150							
						Sampled: 05/19/04 Received: 05/19/04			
#2 (P4E0615-02) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	94.9 %	50-150							
						Sampled: 05/19/04 Received: 05/19/04			
#3 (P4E0615-03) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	97.4 %	50-150							
						Sampled: 05/19/04 Received: 05/19/04			
#4 (P4E0615-04) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	94.8 %	50-150							
						Sampled: 05/19/04 Received: 05/19/04			
#5 (P4E0615-05) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	97.4 %	50-150							

North Creek Analytical - Portland

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Philip Nerenberg
 Philip Nerenberg, Laboratory Manager

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K & S Environmental
 4475 S.W. Scholls Ferry Road, Suite 256
 Portland, OR 97225

Project: Clark County/Trail Ma
 Project Number: 2844
 Project Manager: Bill Knutson


Reported:
 05/21/04 16:48

Hydrocarbon Identification per NW-TPH Methodology
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
						Sampled: 05/19/04 Received: 05/19/04			
#6 (P4E0615-06) Soil									
Gasoline Range Hydrocarbons	ND	20.0	mg/kg dry	1	NWTPH HCID	05/20/04	05/20/04	4050731	
Diesel Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Heavy Oil Range Hydrocarbons	ND	100	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	95.1 %	50-150							

North Creek Analytical - Portland

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 Philip Nerenberg, Laboratory Manager

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K & S Environmental
 4475 S.W. Scholls Ferry Road, Suite 256
 Portland, OR 97225

Project: Clark County/Trail Maintenance
 Project Number: 2844
 Project Manager: Bill Knutson


Reported:
 05/21/04 16:48

Percent Dry Weight (Solids) per Standard Methods
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
						Sampled: 05/19/04		Received: 05/19/04	
#1 (P4E0615-01) Soil									
% Solids	80.2	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	
						Sampled: 05/19/04		Received: 05/19/04	
#2 (P4E0615-02) Soil									
% Solids	81.5	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	
						Sampled: 05/19/04		Received: 05/19/04	
#3 (P4E0615-03) Soil									
% Solids	83.5	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	
						Sampled: 05/19/04		Received: 05/19/04	
#4 (P4E0615-04) Soil									
% Solids	82.9	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	
						Sampled: 05/19/04		Received: 05/19/04	
#5 (P4E0615-05) Soil									
% Solids	82.4	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	
						Sampled: 05/19/04		Received: 05/19/04	
#6 (P4E0615-06) Soil									
% Solids	78.3	1.00	% by Weight	1	NCA SOP	05/20/04	05/20/04	4050719	

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 Philip Nerenberg, Laboratory Manager

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K & S Environmental
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 Portland, OR 97225

Project: Clark County/Trail Marsh
 Project Number: 2844
 Project Manager: Bill Knutson

Reported:
 05/21/04 16:48

Hydrocarbon Identification per NW-TPH Methodology - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Notes
Batch 4050731 - TPH-HCID Extraction									
Blank (4050731-BLK1)					Prepared & Analyzed: 05/20/04				
Gasoline Range Hydrocarbons	ND	20.0	mg/kg						
Diesel Range Hydrocarbons	ND	50.0	"						
Heavy Oil Range Hydrocarbons	ND	100	"						
Surr: 1-Chlorooctadecane	DET		"	9.60		107		50-150	
Duplicate (4050731-DUP1)					Source: P4E0605-01 Prepared & Analyzed: 05/20/04				
Gasoline Range Hydrocarbons	10.5	20.0	mg/kg dry		5.82		57.4	50	Q-16
Diesel Range Hydrocarbons	ND	50.0	"		ND		NA	50	
Heavy Oil Range Hydrocarbons	ND	100	"		ND		NA	50	
Surr: 1-Chlorooctadecane	DET		"	12.8		98.4		50-150	

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Phillip Nerenberg, Laboratory Manager

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K & S Environmental
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 Portland, OR 97225

Project: Clark County/Trail Map
 Project Number: 2844
 Project Manager: Bill Knutson

Reported:
 05/21/04 16:48


Percent Dry Weight (Solids) per Standard Methods - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4050719 - Dry Weight										
Duplicate (4050719-DUP1)		Source: P4E0477-01			Prepared: 05/19/04		Analyzed: 05/20/04			
% Solids	81.6	1.00%	by Weight		81.5			0.123	20	
Duplicate (4050719-DUP2)		Source: P4E0477-02			Prepared: 05/19/04		Analyzed: 05/20/04			
% Solids	82.8	1.00%	by Weight		82.7			0.121	20	

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 Philip Nerenberg, Laboratory Manager

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K. & S Environmental
 4475 S.W. Scholls Ferry Road, Suite 256
 Portland, OR 97225

Project: Clark County/Trail Marsh
 Project Number: 2844
 Project Manager: Bill Knutson


Reported:
 05/21/04 16:48

Notes and Definitions

- Q-16 RPD is not applicable for analyte concentrations less than 5 times the MRL.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
- wet Sample results reported on a wet weight basis (as received)
- RPD Relative Percent Difference

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 Philip Nerenberg, Laboratory Manager

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Clark East UST.jpg
5/19/1904



Clark Islands 2.jpg
5/19/1904



Clark Islands.jpg
5/19/1904



Clark North End USTs.jpg
5/19/1904



Clark UST.jpg
5/19/1904



Clark USTs N. View.jpg
5/19/1904

