Log # 6500

STEWART ENVIRONMENTAL, INC.

September 11, 2001
File No.: 97-501.18

Ms. Sara Arav-Piper, ES II
Bureau of Corrective Action
Nevada Division of Environmental Protection
555 East Washington, Suite 4300
Las Vegas, Nevada 89101-1049

Permit 16308
Orig log# 6500

SUBJECT: Sampling Results for Domestic Well at
Property Adjacent to
D&G Oil Company, Inc. - Service Station #1
6176 Las Vegas Boulevard South - Las Vegas, Nevada
UST Facility I.D. No.: 8-000147
Petroleum Fund Case No.: 99-186
APN- 162-32-802-052 21S-61E-32

Dear Ms. Arav-Piper:

Stewart Environmental, Inc. (SEI), has provided the following information for review to the Nevada Division of Environmental Protection (NDEP) related to the domestic well located at the D & G Oil Company, Inc., service station at the above referenced address and for the domestic well located at the adjacent property to the south.

BACKGROUND

In December of 2000, during the over excavation of the soil for the removal of the underground storage tanks (UST), an old domestic well was discovered at the northwest side of the UST excavation. According to water well logs on file at the Nevada Division of Water Resources (NDWR), the domestic well was installed in 1961. The domestic well is constructed of eight-inch diameter steel casing to a depth of 275 feet bgs. The domestic well is perforated from 225 to 275 feet bgs.

Log 6500

On December 14, 2000, SEI measured the depth to water and evaluated the well for any free floating petroleum hydrocarbons. There was a free floating gasoline layer from approximately 100 to 147 feet bgs. The gasoline appeared to have entered the well through either cracks in the well casing or at the well joints, as the well is not perforated until 225 feet bgs and the water in the well is not at static level or influenced by the water elevation. Additionally, the gasoline would not be in suspension and then flow into the well from 225 feet and form a free floating layer. It appears the gasoline migrated into the well and then became contained, as nearby groundwater monitoring well MW-2 is non-detect.

On December 18 and 19, 2000, SEI and MCCS installed a pneumatic pump into the well and pumped approximately 150 to 200 gallons of gasoline and water from the well. The discharged gasoline and water was stored in a portable 2,000 gallon polyethylene tank located next to the well. SEI and H_20 Environmental, Inc. (H_20) then utilized a vacuum truck stinger to remove or over purge approximately 800 gallons of water from the well. H_20 pumped the gasoline and water into a vacuum truck and transported the 1,000 gallons for treatment and disposal.

PMB B32 - 9101 West Sahara Avenue, Suite 105
Las Vegas, Nevada 89117-5772
Telephone: 702/254-6731 -- FAX 702/254-6446

SEI collected a groundwater sample after the over purging of the domestic well. The groundwater sample was analyzed by KLA Environmental Laboratory for total petroleum hydrocarbons (TPH) by EPA Method 8015 and for volatile organic compounds (VOCs) by EPA Method 8260. The benzene result was 4,210 ug/L and the TPH result was 55mg/L as gasoline range organics. There was an obstruction in the well and in March of 2001, MCCS utilized a device to dislodge the pump in the well. The pump was broke loose and dropped to the bottom of the well. SEI and MCCS pumped approximately 4,500 gallons of water to attempt to purge the dissolved gasoline from the well. The well was sampled after the purging, but the benzene concentration did not decrease, and was 4,378 ug/L. SEI and NDEP decided to access the adjacent domestic well to evaluate the potential impact and/or extent of the gasoline contamination.

SAMPLING AND ANALYSIS OF ADJACENT DOMESTIC WELL

On August 22, 2001, representatives of NDEP, the NDWR, and SEI were present at the adjacent property to the south that is owned by Mr. and Mrs. Earl Janicki. The purpose of the site visit was to access the domestic well located at the northwest corner of the property. The domestic well was accessed to evaluate the potential for groundwater impact to the well. The domestic well was accessed by moving the well pump head with a pipe wrench. The well pump was moved to the side allowing entry of the well with a groundwater elevation monitoring probe and a disposable sampling bailer.

-LOG# 56307

The depth to groundwater in the adjacent domestic well was 86.3 feet below ground surface and is consistent with the groundwater elevation in groundwater monitoring well MW-2 (or the static shallow water elevation), which is located adjacent and to the northwest of the adjacent domestic well. The adjacent domestic well was sampled by lowering a new disposable polyethylene bailer into the well. SEI was not able to purge any water from the well prior to sampling. The access in the well was limited and the disposable bailer only penetrated the water elevation a few inches, as an obstruction prevented the bailer from dropping any deeper. The bailer was removed and the water was transferred to new laboratory supplied glass VOA sample containers. The sample containers were labeled, placed into an ice chilled cooler, and transported under chain of custody protocol to KLA Environmental Laboratory in Las Vegas, Nevada, for laboratory analysis.

The groundwater sample was analyzed for VOCs by EPA Method 8260 and for TPH as Fuel Fingerprint by Modified EPA Method 8015. The benzene concentration was reported as 893ug/L and the TPH was 5.6mg/L as gasoline range organics, and the laboratory analysis results are attached.

EVALUATION OF DRILLING LOGS

SEI has evaluated the drilling logs for the domestic well located at the D & G Oil Station and for the adjacent domestic well. The on site domestic well was perforated from 225 to 275 feet below ground surface. The adjacent domestic well was originally drilled to 130 feet below ground surface (the well perforation interval is unknown) and was deepened to 200 feet later. The new well perforations are at 95 to 195 feet below ground surface. The water elevation in the adjacent domestic well (86.3 feet) is similar to the elevation in the groundwater monitoring wells. This indicates that the elevation in the adjacent domestic well is similar to the current static water elevation for the shallow aquifer. The water elevation in the on site domestic water well (120 to 140 feet) is much deeper and does not appear to be in communication with the adjacent domestic well.

CONCLUSIONS AND RECOMMENDATIONS

The adjacent domestic well appears to be slightly impacted from gasoline. It is not clear if the adjacent well was impacted from the on site gasoline release or another source. Additionally, SEI was only able to access the top few inches of the static water in the adjacent domestic well. The current evaluation has not provided sufficient information to conclude the cause or the extent of the impact to the adjacent domestic well. SEI is recommending that the on site domestic well and the adjacent well be sampled by the end of September of 2001, and included in the quarterly sampling event for the site. SEI is also requesting NDEP and NDWR to evaluate the proposal of removing or dropping the pump in the adjacent domestic well to allow for better access for purging prior to sampling. This would allow for proper pumping and sampling protocol.

LIMITATIONS

Our limited assessment is based on information supplied by D&G Oil Company, NDEP, NDWR, and others and the results of laboratory analysis. We assume no responsibility for conditions not revealed or observed during our limited assessment, nor the conditions not generally recognized as environmentally unacceptable at the time this report was prepared. The information, recommendations, and conclusions provided herein apply only to the subject property as it existed during this limited assessment. Should site use or conditions change, or additional information become available, our conclusions and recommendations herein will no longer apply.

Please contact me at (702) 254-6731 if you have any questions regarding this letter or project.

"I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances."

Sincerely,
STEWART ENVIRONMENTAL, INC.

Keith R. Stewart, CEM #1111 (expires 12/1/02)
President

Enclosure

cc: Mr. Darwin Pilger, D&G Oil Company, Inc.
Mr. Robert Thompson, NDWR
Mr. and Mr. Janicki, Adjacent Property Owner

C:\MyFiles\Dom Well D & G Oil.wpd

LABORATORY RESULTS

KLA
ENVIRONMENTAL CONSULTING, INC.
Certified Environmental Laboratory
5070 South Arville Street, Suite 6
Las Vegas, Nevada 89118
Telephone: (702) 365-7816
FAX: (702) 365-7682

LABORATORY REPORT

DATE: August 28, 2001

REPORT NUMBER: 10937
KLA Source: 01-1981

CLIENT: Stewart Environmental
9101 W. Sahara Avenue
Suite 105-B32
Las Vegas, NV 89117

CLIENT PROJECT: 97-501.18

CLIENT P.O. NO.:

Sampled By: Keith Stewart
Date Sampled: 8/22/01
Time Sampled: 1120

Submitted by: Keith Stewart
Date Received: 8/22/01
Time Received: 1200

Report Attention: Keith Stewart

Method: 8015 MOD TPH **Date Analyzed:** 8/22/01 **Analyzed by:** DS

Sample ID	Analysis	Results mg/l	Detection Limit
ADJ well	TPH-DRO	ND (Diesel Range)	1.0 mg/l
	TPH-Oil	ND (Oil Range)	1.0 mg/l
	TPH-GRO	5.6 (Gasoline Range)	1.0 mg/l

ND: Non-detect

TPH Fingerprint: Sample appears to be degraded gasoline due to its chromatographic signature

REVIEWED BY: This report is not valid without seal.
Douglas B. Sims, M.S.
Laboratory Director

KLA Environmental Consulting, Inc.
Report Number: 10937
August 28, 2001

Method: 8260 GCMS

Sample ID: ADJ well

Compound	Result ug/l	Reporting Limits ug/l	Compound	Result ug/l	Reporting Limits ug/l
Bromomethane	ND	10	Carbon Disulfide	ND	10
Bromobenzene	ND	10	Carbon tetrachloride	ND	10
Bromochloromethane	ND	10	Chlorobenzene	ND	10
Bromodichloromethane	ND	10	Chloroethane	ND	10
Bromoform	ND	10	Chloroform	ND	10
2-Butanone (MEK)	ND	10	Chloromethane	ND	10
2-Chloroethyl vinyl ether	ND	10	cis-1,2-Dichloroethene	ND	10
2-Chlorotoluene	ND	10	cis-1,3-Dichloropropene	ND	10
2-Hexanone	ND	10	Dibromochloromethane	ND	10
4-Chlorotoluene	ND	10	Dibromomethane	ND	10
4-Methyl-2-Pentanone	ND	10	Dichlorodifluoromethane	ND	10
Acetone	ND	100	Dimethyl Disulfide	ND	10
Acrylonitrile	ND	10	Ethylbenzene	ND	10
Benzene	893	100	Hexachlorobutadiene	ND	10
1,1,1,2-Tetrachloroethane	ND	10	Isopropylbenzene (Cumene)	ND	10
1,1,1-Trichloroethane	ND	10	m and p-Xylene	ND	10
1,1,2,2- Tetrachloroethane	ND	10	Methylene chloride	ND	50
1,1,2-Trichloroethane	ND	10	Methyl-tert-butylether	ND	10
1,1-Dichloroethane	ND	10	Naphthalene	ND	10
1,1-Dichloroethene	ND	10	n-Butylbenzene	ND	10
1,1-Dichloropropene	ND	10	n-Propylbenzene	ND	10
1,2,3-Trichlorobenzene	ND	10	o-Xylene	ND	10
1,2,3-Trichloropropane	ND	10	p-Isopropyltoluene	ND	10
1,2,4-Trichlorobenzene	ND	10	sec-Butylbenzene	ND	10
1,2,4-Trimethylbenzene	ND	10	Styrene	ND	10
1,2-Dibromo-3-chloropropane	ND	10	tert-Butylbenzene	ND	10
1,2-Dibromoethane	ND	10	Tetrachloroethene	100	10
1,2-Dichlorobenzene	ND	10	Toluene	ND	10
1,2-Dichloroethane	ND	10	trans-1,2-Dichloroethene	ND	10
1,2-Dichloropropane	ND	10	trans-1,3-Dichloropropene	ND	10
1,3,5-Trimethylbenzene	ND	10	trans-1,4-Dichloro-2-butene	ND	10
1,3-Dichlorobenzene	ND	10	Trichloroethene	ND	10
1,3-Dichloropropane	ND	10	Trichlorofluoromethane	ND	10
1,4-Dichlorobenzene	ND	10	Vinyl acetate	ND	10
1-Chlorohexane	ND	10	Vinyl chloride	ND	10
2,2-Dichloropropane	ND	10	Xylenes, total	ND	10

Date Analyzed: 8/24/01

Analyzed by: BCB

EPA Code Flag: *none*

ND: non-detect

KLA-SVL
Environmental Consulting, Inc.
070 South Arville, Suite 6 ; Las Vegas, Nevada 89118
hone: (702) 365-7816 Fax: (702) 365-7682

CHAIN-OF-CUSTODY RECORD

Page 1 of 1
Date 8-22-01

roject/Job #: 97-501.18
Payment Method/PO #:

Name:
Company:
Mailing Address:
City, State, Zip:

REPORT RESULTS TO
Name: Keith Stewart Title: President
Company: Stewart Environmental
Mailing Address: 9101 West Sahara Ave., Suite 105
City, State, Zip: Las Vegas, Nevada 89117
Phone: 702-254-6731 Fax: 702-254-6446

ampled By: Keith Stewart
eport Attention: Keith Stewart
n-Site pH/Temperature:

Turnaround (Specify Below with an X):
Standard 7-10 Business Days [X]
Rush:

24h	48h	72h	Other

NOTE: A surcharge is applied for rush samples

Other Pertinent Info: NERD TPH-Fuel Fingerprint

ANALYSES REQUESTED

Date Sampled	Time Sampled	Sample Location/ Sample ID	KLA Lab ID	Comp/ Grab	Matrix*	Preservatives	Number/Type of Containers**	8260/624 + MTBE	8015 P&T and/or extr	Metals* TCLP/STLC	BOD	TDS/TSS	FOG (413.1)					
8-22-01	11:20	ADJ. Well	01-1981-1	G	AQ	HCl/Ice	3-1GA	X	X									

Reporting requirements:
Use RL / MDL / PQL
Report Level ⊕
I II III IV

Circle Applicable Program:
SDWA
CWA
RCRA
Other

⊕ Level III and IV will be surcharge for the level of effort

*Metals:

Relinquished by: Signature/Print	Time/Date	Received by: Signature/Print	Time/Date
Keith Stewart	1200 8/22/01	D. Sims	1200 8/22/01
Relinquished by: Signature/Print:	Time/Date:	Received by: Signature/Print	Time/Date:
Relinquished by: Signature/Print	Time/Date:	Received by: Signature/Print	Time/Date:
Relinquished by: Signature/Print	Time/Date:	Received by: Signature/Print	Time/Date:
Relinquished by: Signature/Print	Time/Date:	Received by: Signature/Print	Time/Date:

Method of Delivery: Hand
Receiving Laboratory: KLA
Tamper Seal (Y/N):
Condition of Samples:

Authorized by: Keith Stewart Date: 8-22-01

Authorization is required to process samples. This obligates your organization for fee pertaining to services rendered. If collections or legal services are required to recover said fees, your organization will be responsible for all fees and cost in addition to service fees.

Special Instructions:

NOTE: Samples are discarded 60 days after results are reported. This report for the analysis of the above samples is applicable only to those samples received by the laboratory coc. *Hazardous samples are returned to the client upon completion of analysis*

* Key: AQ – Aqueous S – Soil W – Waste OT – Other

Distribution: White – Lab Yellow – Client Pink-Client on site

** [redacted]P – Plastic G – Glass V – VOA Vial T – Teflon OT - Other

Log No. 6500
Rec. ..... 19.....
Well No. .....
Permit No. 16308
Do not fill in

WELL LOG AND REPORT TO THE STATE ENGINEER OF NEVADA

PLEASE COMPLETE THIS FORM IN ITS ENTIRETY

Owner Save U More Service Stations Driller S. M. McKinney & Sons, Inc.

Address 6176 Las Vegas Blvd. South Address 1042 South Main Lic. No. 45

Location of well: SE ¼ SW¼ Sec. 32, T21 N/S, R61 E, in Clark County

or.....

Water will be used for Commercial Use Total depth of well 275

Size of drilled hole 12" to 50 ft., 10" to 275' Weight of casing per linear foot 10 gauge

Thickness of casing 10gauge Temp. of water .....

Diameter and length of casing 8"ID from 0 feet to 275 feet
(Casing 12" in diameter and under give inside diameter; casing 12" in diameter give outside diameter.)

If flowing well give flow in c.f.s. or g.p.m. and pressure.....

If nonflowing well give depth of standing water from surface 78 feet

If flowing well describe control works.....
(Type and size of valve, etc.)

Date of commencement of well 9/28/61 Date of completion of well 10/7/61

Type of well rig Bucyrus Erie 60 L

LOG OF FORMATIONS

From feet	To feet	Thickness feet	Type of material
0	6	6	Gravely clay
6	9	3	sandy clay
9	14	5	gravely clay
14	19	5	cement boulders
19	27	8	gravely clay
27	30	3	cement gravel
30	34	4	cement boulders
34	48	14	gravely clay
48	53	5	cement gravel
53	67	14	gravely clay
67	70	3	caliche
70	85	15	sandy clay(little water)
85	94	9	cement gravel
94	108	14	gravely clay
108	112	4	white gravely clay
112	121	9	sandy & gravely clay
121	128	7	cement gravel
128	134	6	gravely clay
134	138	4	cement gravel
138	155	17	sand & gravely clay
155	162	7	gravel
162	200	38	gravely clay
200	204	4	gravel
204	215	11	cement gravel
215	220	5	sandy clay
220	238	18	cement gravel(Water)

Water-bearing Formation, Casing Perforations, Etc.

Chief aquifer (water-bearing formation)
from 256 to 275 ft.

Other aquifers 220 to 238'
70 to 85'

First water at 70 feet.

Casing perforated
from 225 to 275 ft.

Size of perforations
3/16" X 10"

(OVER)

919

LOG OF FORMATIONS—*Continued*

From feet	To feet	Thickness	Type of material
238	256	18	Cement gravel
256	275	19	Cement Gravel (Water

CASING RECORD

Diam. casing	From feet	To feet	Length	"Remarks"—Seals, Grouting, Etc.
8"ID	0	275'	275'	Cemented casing in place at 50 feet, with 3 yards of grout.

GENERAL INFORMATION—Pumping Test, Quality of Water, Etc.

Bailed 50 GPM from 102 feet. Set 2 HP Submersible pump 147 feet.

WELL DRILLER'S STATEMENT

This well was drilled under my jurisdiction and the above information is true to my best information and belief.

Signed S.R. McKinney & Sons, Inc.
Well Driller

By J.S. McKinney

License No. 65

Dated 3/17/62, 19

(Not to be filled in by Driller)