057/7848

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TANK LEAK DETECTION INVESTIGATION REPORT
CIRCLE K STORE #7848
12158 ALONDRA BOULEVARD
NORWALK, CALIFORNIA 90650

JULY 14, 1989

PREPARED BY: GROUNDWATER TECHNOLOGY, INC.
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025000-7533
P91.JM/#4

GROUNDWATER TECHNOLOGY, INC.

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SUMMARY

The tank leak detection investigation at Circle K Store #7848 included drilling and sampling 11 soil borings, and installing three 45-foot groundwater monitoring wells, two 15-foot and six 5-foot vapor monitoring wells. Groundwater at the site is approximately 24 feet below grade, and may be a localized perched aquifer. Free product was encountered in down-gradient monitoring well CKE-1 and was calculated to be an apparent thickness of 2.57 feet. Eleven composite soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and for total petroleum hydrocarbons (TPH) following EPA methods 8015/8020. Results of laboratory analyses indicate that the soils from borings CKE4-5, CKE9-5, CKE10-5, and CKE11-5 contained from 1,600 ppm TPH to 4,300 ppm TPH and detectable levels of BTEX. Soil samples from borings CKE-1, CKE-3, CKE-10, CKE4-20, CKE5-5, CKE5-10, CKE5-15, and CKE5-30 contained between 1 and 290 ppm TPH and detectable levels of BTEX. Sample CKE7-5 contained detectable benzene. No detectable hydrocarbons were present in any other soil samples. A water sample taken from well CKE-3 contained 6.3 ppm TPH and detectable levels of benzene, toluene, and xylenes.

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INTRODUCTION

Circle K Corporation retained Groundwater Technology, Inc., (GTI) to perform an underground storage tank leak detection investigation at Circle K Store #7848. Drilling was performed on May 19, 1989, by Datum Exploration, and on May 22 and 23, 1989, by Sierra Pacific Exploration with the technical assistance of GTI personnel.

BACKGROUND

The site is an active Circle K Store located at 12158 Alondra Boulevard, Norwalk, California (Figure 1). The facility dispenses regular, unleaded, and premium unleaded gasoline from three underground storage systems. The systems consist of three 12,000-gallon tanks and ancillary piping and fittings (Figure 2).

HYDROGEOLOGY

This site is located within the Central Structural Block of the Los Angeles Basin. Soils encountered at the site consisted primarily of gray to brown, fine sandy clay to silty fine sand and brown to gray, silty fine sand to fine and coarse sand. Lithologic logs from the borings are presented in Appendix A.

The site is located in the Central Groundwater Basin. Groundwater was encountered during drilling at 24 feet. This is Shallow Groundwater, as defined in the "Guidelines for Monitoring Requirements," published by the Los Angeles County Department of

Public Works. As a nearby well reportedly contains water at a depth of 78.5 feet, it is possible that the water encountered at the site is part of a perched localized aquifer.

DRILLING INVESTIGATION

Six soil borings were drilled and sampled to document soil conditions at the site (Figure 2).

Borings CKE-1, CKE-2, and CKE-3 were drilled adjacent to the tank pit to a depth of 45 feet to determine groundwater gradient below the site. The soils from these borings yielded a low to moderate odor from depths of 10 to 25 feet. Borings CKE-4 and CKE-5 were also drilled adjacent to the tank pit area to depths of 40 and 30 feet, respectively. Soils from these borings yielded a low to moderate odor from depths of 5 to 25 feet.

Six borings, CKE-6, CKE-7, CKE-8, CKE-9, CKE-10, and CKE-11, were located near the product lines and drilled to a depth of 5 feet to document soil conditions near the lines. Soils from borings CKE-9, CKE-10, and CKE-11 yielded moderate to strong odor at a depth of 5 feet. Borings CKE-1, CKE-2, and CKE-3 were converted to groundwater monitoring wells. All other borings were converted to vadose monitoring wells.

Soil samples were collected at five-foot intervals, using a modified California Split Spoon Sampler with brass liners. Samples were retained in the brass liners, which were sealed with aluminum foil, plastic caps, and duct tape, labeled with appropriate sample identification, and placed in a waterproof bag. Samples were then placed on ice and, following strict Chain-of-Custody procedure, were transported to state-certified GTEL Environmental Laboratories in Torrance, California. After each sampling run, the sampler and brass liners were washed with trisodium phosphate and rinsed successively with tap and distilled water.

The wells were constructed of two-inch diameter, schedule 40, flush threaded PVC screen and blank casing. Total depth of each groundwater monitoring well in borings CKE-1, CKE-2, and CKE-3 was 45 feet below grade, with 30 feet of screen and blank to the surface, and finished with protective, traffic boxes at the surface. The total depth of each vapor well in borings CKE-4 and CKE-5 was 15 feet below grade, with 10 feet of screen and blank to the surface. The total depth of each vapor well in borings CKE-6, CKE-7, CKE-8, CKE-9, CKE-10, and CKE-11 was 5 feet below grade, with 5 feet of screen to the surface.

All wells were filter-packed with #3 Monterey sand and sealed with bentonite and cement. Well construction details are shown on the lithologic logs.

GROUNDWATER OBSERVATIONS

On June 6, 1989, monitoring wells CKE-1, CKE-2, and CKE-3 were gauged for depth to groundwater. Groundwater was found to be approximately 24 feet below grade (Figure 2). Free product was encountered in monitoring well CKE-1 and was calculated to have an apparent thickness of 2.57 feet. Well gauging data is presented in Appendix C.

LABORATORY ANALYSIS

Soil samples from the borings were analyzed individually or composited in the laboratory and analyzed for (TPH) total petroleum hydrocarbons, and benzene, toluene, ethylbenzene, and xylenes (BTEX) following modified EPA methods 8015/8020.

The results of laboratory analyses are summarized below in Table 1. The soils from borings CKE4-5, CKE9-5, CKE10-5, and CKE11-5 contained from 1,600 ppm TPH to 4,300 ppm TPH and detectable levels of BTEX. Soil samples from borings CKE-1, CKE-3, CKE-10, CKE4-20, CKE5-5, CKE5-10, CKE5-15, and CKE5-30 contained between 1 and 290 ppm TPH and detectable levels of BTEX. Sample CKE7-5 contained detectable benzene. All other soil samples were below the method detection limits of 1 ppm for TPH and 0.05 ppm for BTEX. A water sample taken from well CKE-3 contained 6.3 ppm TPH and detectable levels of benzene, toluene, and xylenes.

≈1,500 µg/L

TABLE 1

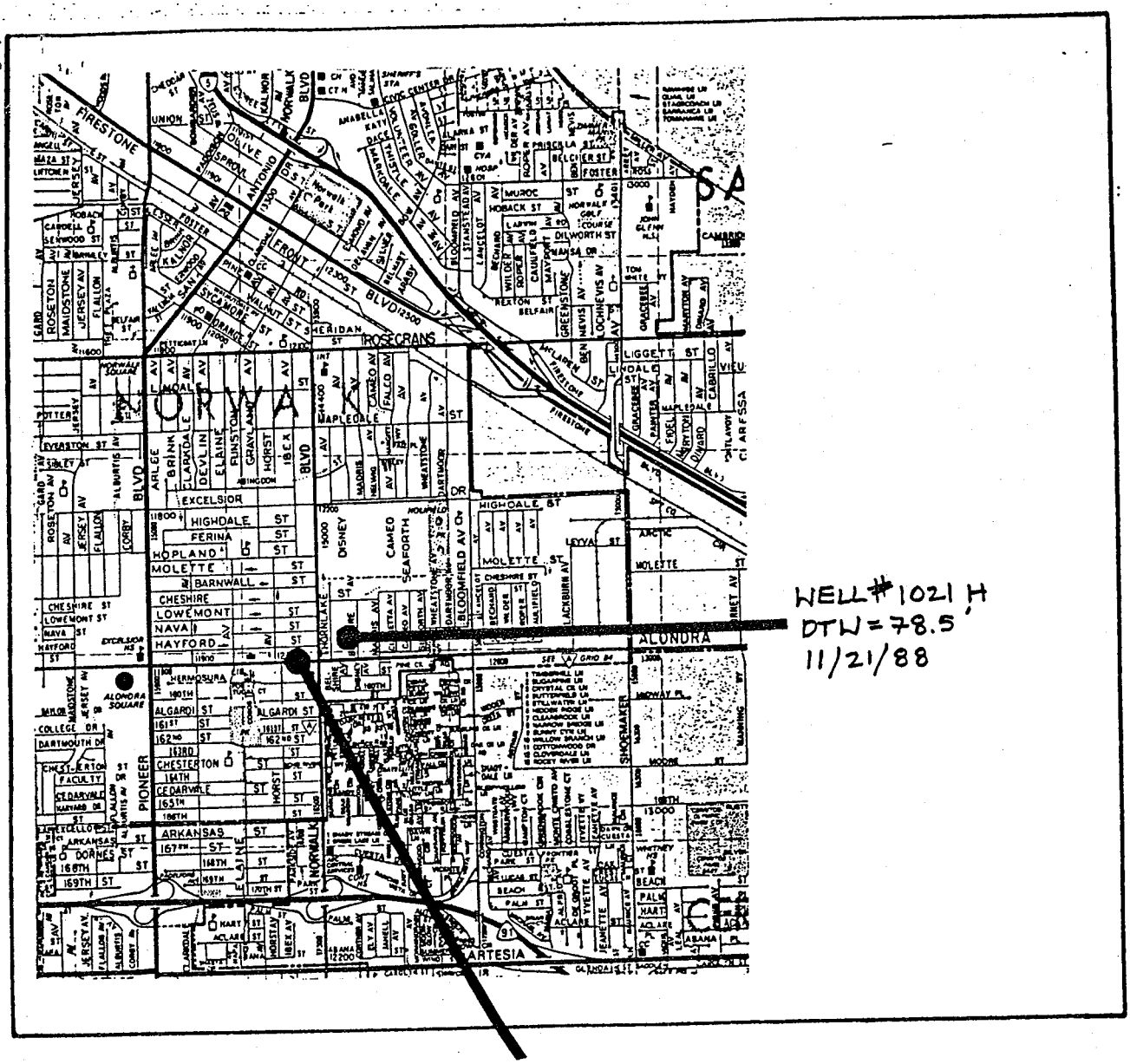
SAMPLE	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES
CKE1 5-25	11	0.36	1.2	0.21	1.6
CKE2 5-25	97	0.92	0.80	1.5	5.0
CKE3 5-25	1	0.07	0.09	<0.05	0.02
CKE4-5	4,300	14	120	50	410
CKE4-10	290	8.2	56	16	190
CKE4-15	<1	<0.05	<0.05	<0.05	<0.05
CKE4-20	10	2.6	1.8	0.16	1.4
CKE4-30	<1	<0.05	<0.05	<0.05	<0.05
CKE5-5	3	0.29	0.13	<0.05	0.16
CKE5-10	6	0.22	0.34	0.07	0.66
CKE5-20	<1	<0.05	<0.05	<0.05	<0.05
CKE5-30	2	<0.05	<0.05	<0.05	<0.05
CKE6-5	<1	<0.05	<0.05	<0.05	<0.05
CKE7-5	<1	0.05	<0.05	<0.05	<0.05
CKE8-5	<1	<0.05	<0.05	<0.05	<0.05
CKE9-5	3,100	3.4	46	27	390
CKE10-5	1,600	<0.05	0.80	1.7	18
CKE11-5	3,800	0.70	20	17	150
Well 3	6.3	1.5	0.94	<.0005	2.2

Results reported in parts per million (ppm).

CONCLUSIONS

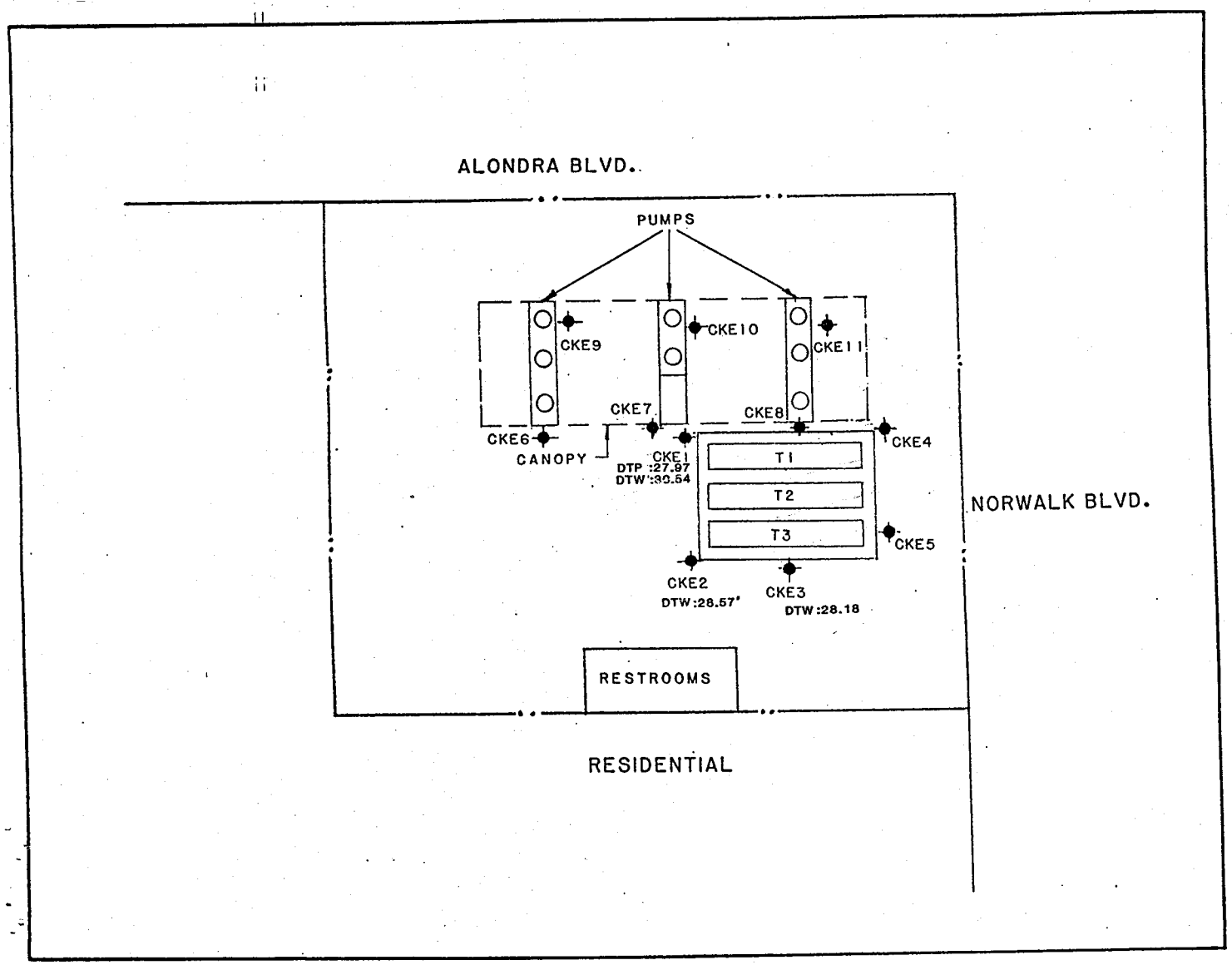
Circle K Store #7848 located at 12158 Alondra Boulevard, Norwalk, California, is underlain by gray to brown colored fine sandy-clay to silty fine sand and brown to gray silty fine sand to fine and coarse sand. Groundwater is at approximately 24 feet below grade, possibly as a localized perched zone.

Free product was found in well CKE-1. Analysis conducted on soil samples collected during the tank leak detection investigation indicated that the soils from borings CKE4-5, CKE9-5, CKE10-5, and CKE11-5 contained from 1,600 ppm TPH to 4,300 ppm TPH and detectable levels of BTEX. Soil samples from borings CKE-1, CKE-3, CKE-10, CKE4-20, CKE5-5, CKE5-10, CKE5-15, and CKE5-30 contained between 1 and 290 ppm TPH and detectable levels of BTEX. Sample CKE7-5 contained detectable benzene.



SITE: CIRCLE K #7848	JOB # 214-425-5074
SITE LOC.: 12138 ALONDRA STREET	
MAP TYPE: SITE LOCATION	
DRAWN BY: C. Bull	DATE: 5/4/89
FIGURE 1	GROUNDWATER TECHNOLOGY

SOURCE: THOMAS BROS.



LEGEND

N

0 20

APPROX. SCALE IN FEET

BORINGS

DTP DEPTH TO PRODUCT (FEET)

DTW DEPTH TO WATER (FEET)

SITE: CIRCLE K#7848			JOB # 214 425 5074
SITE LOC.: 12158 ALONDRA BLVD, NORWALK			
MAP TYPE: SITE PLAN			
DRAWN BY C. Bull	DATE 5/10/89	APPROVED BY	DATE

REV	REVISION	DATE	BY
A	ADDING GROUNDWATER	7/89	C.B.
B	REMOVING GROUNDWATER	7/89	C.B.

FIGURE 2

GROUNDWATER TECHNOLOGY

APPENDIX A

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS	GROUP SYMBOLS	DESCRIPTIONS
CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
	GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND -SILT MIXTURES.
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES.
CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
	SP	POORLY GRADED SANDS, OR GRAVELLY SANDS, LITTLE OR NO FINES.
SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES.
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES.
SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
	CL	INORGANIC CLAYS OF LOW TO MED. PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)	MH	INORGANIC SILTS, MICACEOUS OR DIATAMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.
		ASPHALT OR CONCRETE
		BACKFILL

WELL CONSTRUCTION

GROUP SYMBOLS	DESCRIPTIONS
	CEMENT
	BENTONITE
	BACK FILL
	SAND/GRAVEL PACK
	BLANK INTERVAL
	SCREENED INTERVAL
	APPROXIMATE ELEVATION OF FLUID SURFACE

DRILL AND BORING LOG LEGEND

GROUNDWATER TECHNOLOGY

NMO 11/13/87

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE1

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS #7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 45 feet

SURFACE ELEVATION _____ DEPTH TO WATER 26 feet

SCREEN: DIA. 2-inch LENGTH 30 feet SLOT SIZE .020 inch

CASING: DIA. 2-inch LENGTH 15 feet TYPE PVC

DRILLING COMPANY Sierra Pacific Explor. DRILL METHOD HSA

DRILLER Mark Smith LOG BY John McCarthy

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Asphalt
5				CKE1-5	soil	2 4 5		ML	Grayish-brown silty-fine sand, no odor, moderate moisture, non-plastic, poorly consolidated.
10				CKE1-10	soil	3 3 5		ML	Dark gray silty-fine sand, moderate odor, moderate moisture, non-plastic, poorly consolidated.
15				CKE1-15	soil	6 12 17		SP	Light grayish-brown fine to coarse sand, moderate odor, moderate moisture, non-plastic, friable.
20				CKE1-20	soil	9 14 18		SP	Same as CKE1-15.
								ML	

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE1

GROUNDWATER TECHNOLOGY INC.

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
25				CKE1-25	soil	5 4 4		ML	Gray.clayey-silt to silty-fine sand, no odor, very moist, slight plasticity, poorly to moderately consolidated.
30									
35									
40									
45									
50									
55									

DRILL / LITHOLOGIC LOG
BORING / WELL NUMBER CKE2

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS #7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 45 feet

SURFACE ELEVATION ____ DEPTH TO WATER 25 feet

SCREEN: DIA. 2 inch LENGTH 30 feet SLOT SIZE .020 inch

CASING: DIA. 2 inch LENGTH 15 feet TYPE PVC

DRILLING COMPANY Sierra Pacific Exploration DRILL METHOD HSA

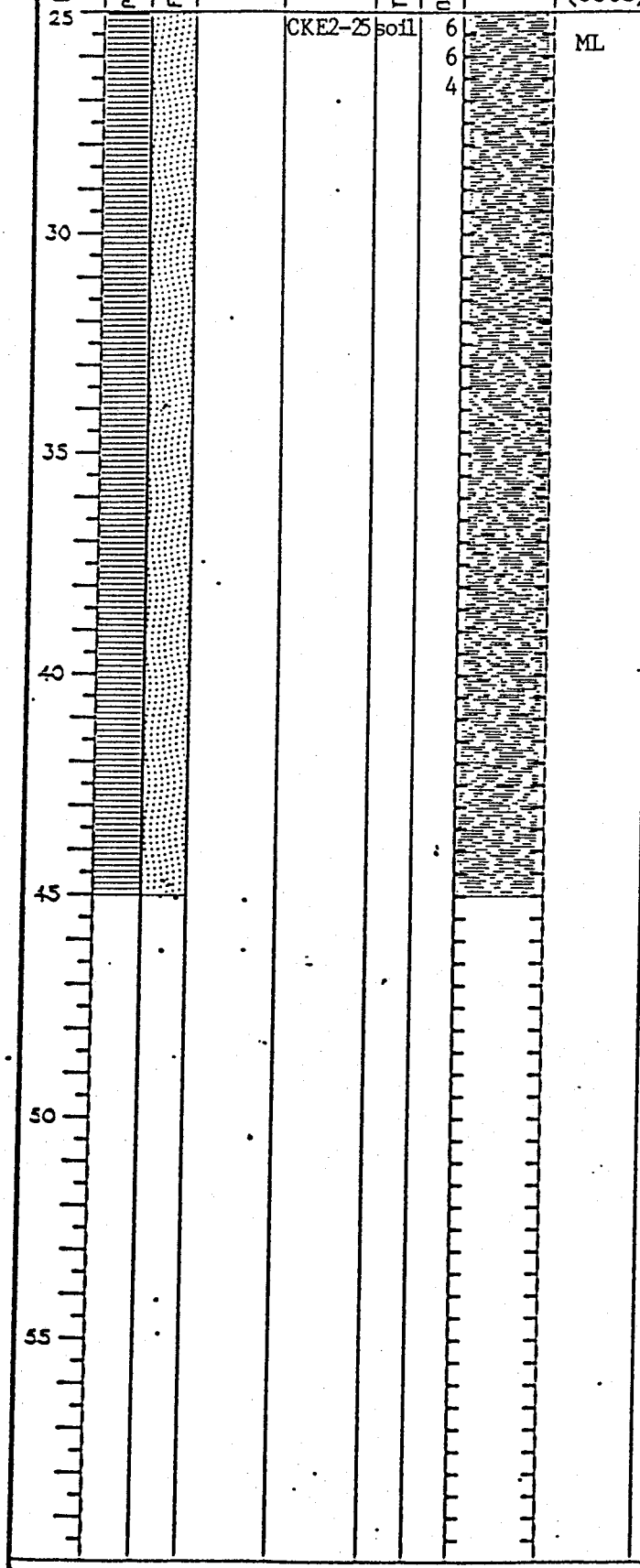
DRILLER Mark Smith LOG BY John McCarthy

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Asphalt
5				CKE2-5	soil	4 6 7		ML	Grayish-brown silty-fine sand, no odor, moderate moisture, non-plastic, poorly consolidated.
10				CKE2-10	soil	3 5 5		ML	Dark gray silty-fine sand, moderate odor, moderate moisture, non-plastic, poorly consolidated.
15				CKE2-15	soil	6 10 15		SP	Light grayish-brown fine to coarse sand, low odor, moderate moisture, non-plastic, friable.
20				CKE2-20	soil	11 27 21		SP	Light grayish-brown fine to coarse sand, moderate odor, moderate moisture, non-plastic, friable.
								ML	

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE2

GROUNDWATER TECHNOLOGY INC.



DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)

Gray clayey-silt to silty-fine sand, moderate odor, saturated, slight plasticity, poorly to moderately consolidated.

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE3

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 45 feet

SURFACE ELEVATION _____ DEPTH TO WATER 26 feet

SCREEN: DIA. 2 inch LENGTH 30 feet SLOT SIZE .020 inch

CASING: DIA. 2 inch LENGTH 15 feet TYPE PVC

DRILLING COMPANY Sierra Pacific Exploration DRILL METHOD HSA

DRILLER Mark Smith LOG BY John McCarthy

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Asphalt
5				CKE3-5	soil	4 4 5		ML	Grayish-brown silty fine sand, no odor, moderate moisture, non-plastic, poorly consolidated.
10				CKE3-10	soil	4 7 9		ML	Dark gray silty-fine sand, moderate odor, moderate moisture, non-plastic, poorly consolidated.
15				CKE3-15	soil	5 10 10		SP	Light grayish brown fine to coarse sand, moderate odor, moderate moisture, non-plastic, friable.
20				CKE3-20	soil	8 10 19		SP	Same as CKE3-15
								ML	

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE3

GROUNDWATER TECHNOLOGY INC.

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
25				CKE3-25	soil	2 2 4		ML	Gray clayey-silt to silty-fine sand, no odor, very moist, slight plasticity, poorly to moderately consolidated.
30									
35									
40									
45									
50									
55									

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-4

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/22/89 TOTAL DEPTH OF HOLE 40 feet

SURFACE ELEVATION _____ DEPTH TO WATER 27 feet

SCREEN: DIA. 2 inch LENGTH 10 feet SLOT SIZE .020 inch

CASING: DIA. 2 inch LENGTH 5 feet TYPE PVC

DRILLING COMPANY Sierra Pacific DRILL METHOD HSA

DRILLER Roger LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Gray silt to silty-fine sand, slight odro, moist, moderately friable.
5			110	CKE4-5	soil	5 5 8		ML	Gray silty-sand to clayey-sand, odor, moist, slight plasticity, loosely consolidated.
10				CKE4-10	soil	6 7 6		CL	Gray silty-sand to sandy-clay, odor, moist, loosely consolidated.
15			120	CKE4-15	soil	9 14 17		SP	Gray silty-sand to fine-coarse sand, odor, moist, friable, well-graded.
20			60	CKE4-20	soil	4 15 22		SP	Gray silty-sand to fine to coarse sand, odor, moist, loosely consolidated, 1% gravel.

DRILL / LITHOLOGIC LOG
BORING / WELL NUMBER CKE-4

GROUNDWATER TECHNOLOGY INC.

DEPTH (feet)	WELL CONSTR. PIPE	WELL CONSTR. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
25									
30			70	CKE4-30	soil	8 15 26		SP	Dark gray silty-sand to fine-coarse sand, 5% gravel, no odor, saturated, fair to good grading.
35									
40				NS				SP	Dark gray silty-sand to fine-coarse sand, no odor, saturated, fair grading.
									NOTE: Boring caved in to 20-foot depth, well set to 15 feet.
45									
50									
55									

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-5

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/22/89 TOTAL DEPTH OF HOLE 30 feet

SURFACE ELEVATION _____ DEPTH TO WATER 27 feet

SCREEN: DIA. 2 inch LENGTH 10 feet SLOT SIZE .020 inch

CASING: DIA. 2 inch LENGTH 5 feet TYPE PVC

DRILLING COMPANY Sierra Pacific DRILL METHOD HSA

DRILLER Roger LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (ppm)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0						5		ML	Dark gray silty-sand to sandy-clay, odor, moist, loosely consolidated.
5			220	CKE5-5	soil	5 8			Gray silty-fine sand to sandy clay, odor, moist, loosely consolidated.
10			190	CKE5-10	soil	6 7 9			Same as CKE5-5.
15			140	CKE5-15	soil	8 18 22		SP	Gray silty-fine sand to fine-coarse sand, odor, moist, fairly sorted, friable.
20			100	CKE5-20	soil	13 18 19			Same as CKE5-15.

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-5

GROUNDWATER TECHNOLOGY INC.

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
25									
30			110	CKE5-30	soil	2 5 10		SP	Dark gray silty-sand to fine-coarse sand, slight odor, saturated.
35									
40									
45									
50									
55									

DRILL / LITHOLOGIC LOG
BORING / WELL NUMBER CKE-6

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Sierra Pacific DRILL METHOD HSA

DRILLER Roger LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									
5				CKE6-5	soil	5 10 10		ML	Brown silty-fine sand to sandy-clay, no odor, moist, loosley consolidated.
10									
15									
20									

SHEET 1 OF 1

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-7

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Sierra Pacific Exploration DRILL METHOD HSA

DRILLER Mark Smith LOG BY John McCarthy

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Asphalt
5				CKE7-5	soil	6 5 7		ML	Brown clayey-silt to silt, no odor, moderate moisture, low plasticity, moderately consolidated.
10									
15									
20									

SHEET 1 OF 1

DRILL / LITHOLOGIC LOG
BORING / WELL NUMBER CKE-8

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Sierra Pacific Exploration DRILL METHOD HSA

DRILLER Mark Smith LOG BY John McCarthy

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Cement
5				CKE8-5	soil	grab		ML	Grayish-brown silty-fine sand, no odor, moderate moisture, non-plastic, poorly consolidated.
10									
15									
20									

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-9

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Datum DRILL METHOD HSA

DRILLER Rex LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Dark brown silty-fine sand to silt, odor, moist, loosely consolidated.
5				CKE9-5	soil	6 7 8		ML	Brown silt to silty-sand, odor, moist, loosely consolidated.
10									
15									
20									

SHEET 1 OF 1

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-10

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Datum DRILL METHOD HSA

DRILLER Rex LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Dark brown silt to silty-fine sand, no odor, moist, dense.
						8			
5				CKE10-5	soil	9		ML	Gray silty-fine sand to medium-grained sand, odor, moist, loosely consolidated.
						10			
10									
15									
20									

SHEET 1 OF 1

DRILL / LITHOLOGIC LOG

BORING / WELL NUMBER CKE-11

GROUNDWATER TECHNOLOGY INC.

PROJECT Circle K Norwalk SS#7848 OWNER Circle K Corp.

LOCATION 12158 Alondra Blvd., Norwalk, CA PROJECT NUMBER 214-425-5074-00

DATE DRILLED 5/23/89 TOTAL DEPTH OF HOLE 5 feet

SURFACE ELEVATION _____ DEPTH TO WATER Not encountered

SCREEN: DIA. 2 inch LENGTH 5 feet SLOT SIZE .020 inch

CASING: DIA. _____ LENGTH _____ TYPE PVC

DRILLING COMPANY Datum DRILL METHOD HSA

DRILLER Rex LOG BY Chris Nwabuzoh

DEPTH (feet)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0									Dark brown silt to silty-fine sand, slight odor, moist, loosely consolidated.
						6			
5				CKE11-5	soil	7		ML	Brown silty-sand to sandy-clay, odor, moist, loosely consolidated.
						8			
10									
15									
20									

SHEET 1 OF 1

APPENDIX B

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

5/30/89 ml
PROJECT MGR: Bill Girolamo
Groundwater Technology, Inc.
20000 Mariner Drive, Suite 200
Torrance, Ca 90503
PROJECT #: 214-425-5074-2
LOCATION: 12158 Alondra Blvd.
Norwalk, CA.
SAMPLED: 5/22/89 BY: C. Nwabuzoh
RECEIVED: 5/23/89 BY: C. Mebane
EXTRACTED: 5/23/89 BY: R. Gallegos
ANALYZED: 5/25/89 BY: M. Song
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8474 CKE-4-5'	T8475 CKE-4-10'	T8476 CKE-4-15'	T8477 CKE-4-20'	T8478 CKE-4-30'
Benzene	0.05		14	8.2	< 0.05	2.6	< 0.05
Toluene	0.05		120	56	< 0.05	1.8	< 0.05
Ethylbenzene	0.05		50	16	< 0.05	0.16	< 0.05
Xylenes	0.05		410	190	< 0.05	1.4	< 0.05
Total BTEX	0.05		590	270	< 0.05	6.0	< 0.05
Misc. Hydrocarbons (C4-C12)	1		3700	20	< 1	4	< 1
Total Petroleum Hydrocarbons as Gasoline	1		4300	290	< 1	10	< 1

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Bill Girolamo
PROJECT #: 214-425-5074-2
LOCATION: 12158 Alondra Blvd.
Norwalk, CA.

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8479 CKE-6-5'	T8480 CKE-5-5'	T8481 CKE-5-10'	T8482 CKE-5-15'	T8483 CKE-5-20'
Benzene	0.05		< 0.05	0.29	0.22	0.09	< 0.05
Toluene	0.05		< 0.05	0.13	0.34	0.26	< 0.05
Ethylbenzene	0.05		< 0.05	< 0.05	0.07	< 0.05	< 0.05
Xylenes	0.05		< 0.05	0.16	0.66	0.20	< 0.05
Total BTEX	0.05		< 0.05	0.58	1.3	0.55	< 0.05
Misc. Hydrocarbons (C4-C12)	1		< 1	2	5	1	< 1
Total Petroleum Hydrocarbons as Gasoline	1		< 1	3	6	2	< 1

GTEL
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Western Region
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(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Bill Girolamo
PROJECT #: 214-425-5074-2
LOCATION: 12158 Alondra Blvd.
Norwalk, CA.

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8484 CKE-5-30'
Benzene	0.05		< 0.05
Toluene	0.05		< 0.05
Ethylbenzene	0.05		< 0.05
Xylenes	0.05		< 0.05
Total BTEX	0.05		< 0.05
Misc. Hydrocarbons (C4-C12)	1		2
Total Petroleum Hydrocarbons as Gasoline	1		2

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHODS:
Modified EPA Method 3550/8020/8015

Rebecca Hsu-Chou MS

REBECCA HSU-CHOU, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Bill G

Phone #: (213) ~~338~~ 371-1394

Address: 20,000 Mariner Torrance

FAX #:

Project Number: 214-425-5074-2 ~~214-425-5089~~

Project Name: Circle K - Norwalk

Project Location: 12158 Alondra Blvd, Norwalk

Sampler Signature: Chris Mrozek

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
CKE-4-5'	~~7847~~ 18474	1			✓						✓			5-22	PM
CKE-4-10'	~~7847~~ 18475	1			✓						✓			✓	✓
CKE-4-15'	~~7847~~ 18476	1			✓						✓			✓	✓
CKE-4-20'	~~7847~~ 18477	1			✓						✓			✓	✓
CKE-4-30'	~~7847~~ 18478	1			✓						✓			✓	✓
CKE-6-5'	~~7847~~ 18479	1			✓						✓			✓	PM
CKE-5-5'	~~7847~~ 18480	1			✓						✓			✓	✓
CKE-5-10'	~~7847~~ 18481	1			✓						✓			✓	PM
CKE-5-15'	~~7847~~ 18482	1			✓						✓			✓	✓
CKE-5-20'	~~7847~~ 18483	1			✓						✓			✓	✓
CKE-5-30'	~~7847~~ 18484	1			✓						✓			✓	✓

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																
	✓																

OTHER

EXTRACTED 5-23-89
1.25 R.G.

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
Chris Mrozek	5-23		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	5/23/89	8am	

Remarks:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

6/01/89 ml
PROJECT MGR: Rich Andrachek
Groundwater Technology, Inc.
20000 Mariner Drive, Suite 200
Torrance, CA 90503
PROJECT #: 214-425-5074-3
LOCATION: 12158 Alondra Blvd.

SAMPLED: 5/23/89 BY: J. McCarthy
RECEIVED: 5/29/89 BY: C. Mebane
EXTRACTED: 5/30/89 BY: R. Gallegos
ANALYZED: 5/30/89 BY: T. Tintut
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8592 CKE3 5-25	T8593 CKE2 5-25	T8594 CKE1 5-25	T8595 CKE8-5
Benzene	0.05		0.07	0.92	0.36	< 0.05
Toluene	0.05		0.09	0.80	1.2	< 0.05
Ethylbenzene	0.05		< 0.05	1.5	0.21	< 0.05
Xylenes	0.05		0.02	5.0	1.6	< 0.05
Total BTEX	0.05		0.36	8.2	3.4	< 0.05
Misc. Hydrocarbons (C4-C12)	1		1	89	8	< 1
Total Petroleum Hydrocarbons as Gasoline	1		1	97	11	< 1

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

Rebecca Hsu-Chou /HS

REBECCA HSU-CHOU, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Rich Andrachek
Phone #: (213) 371-1394
Address: Torrance
FAX #:
Project Number: 214.425.5074.00 -3
Project Name: Circle K Norwalk
Project Location: 12158 Alondra St
Sampler Signature: John McCarthy

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
CKE3-5	1895 composite	1			X						X			5/23/89	0700
CKE3-10		1			X						X			5/23/89	0701
CKE3-15		1			X						X			5/23/89	0702
CKE3-20		1			X						X			5/23/89	0703
CKE3-25		1			X						X			5/23/89	0704
CKE2-5	1897 composite	1			X						X			5/23/89	0705
CKE2-10		1			X						X			5/23/89	0706
CKE2-15		1			X						X			5/23/89	0707
CKE2-20		1			X						X			5/23/89	0708
CKE2-25		1			X						X			5/23/89	0709

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
												EXTRACTED 5-25-89					
															10:50	R.G.	
																TT 5/31/89	

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
John McCarthy	5/24/89	0800	
Relinquished by	Date	Time	Received by:
	5/24/89	11:30 AM	
Relinquished by	Date	Time	Received by Laboratory:
	5/24/89	11:30	

Remarks: 5/24/89 TM: 1500 hrs
Run 8015/8020 on each composite, per W. Giacobbe

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Rich Andrachek
Groundwater Technology, Inc.
20000/200 Mariner Drive
Torrance, Calif. 90503
PROJECT #: 214-425-5073.00-4
LOCATION: 13444 Telegraph Road

SAMPLED: 5-24-89 BY: John McCarthy
RECEIVED: 5-28-89 BY: C. Mebane
EXTRACTED: 6-1-89 BY: R. Gallegos
ANALYZED: 6-1-89 BY: T. Tintut
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8728 CKD1-5-40	T8729 CKE7-5
Benzene	0.05		2.0	0.05
Toluene	0.05		25	< 0.05
Ethylbenzene	0.05		21	< 0.05
Xylenes	0.05		140	< 0.05
Total BTEX	0.05		190	0.05
Misc. Hydrocarbons (C4-C12)	1		2300	< 1
Total Petroleum Hydrocarbons as Gasoline	1		2500	< 1

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 3550/8020/8015

Rebecca Hsu-Chou/MS

REBECCA HSU-CHOU, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Rich Andrachek
Phone #: (213) 371-1394
Address: Torrance
FAX #:
Project Number: 214.425.5073.00 - 4
Project Name: Circle K Telegraph
Project Location: 13444 Telegraph Rd
Sampler Signature: John McCarthy

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
CKD1-5	18728 composite	1			X						X			5/24/89	1100		X																					
CKD1-10		1			X						X			5/24/89	1101		X																					
CKD1-15		1			X						X			5/24/89	1102		X																					
CKD1-20		1			X						X			5/24/89	1103		X																					
CKD1-25		1			X						X			5/24/89	1104		X																					
CKD1-30		1			X						X			5/24/89	1105		X																					
CKD1-40		1			X						X			5/24/89	1106		X																					
CKE7-5	18729	1			X						X			5/24/89	1200		X								EXTRACTED 6-1-89 R.G. 11:00														
																																		6289		TT		

Relinquished by:	Date Time	Received by:
John McCarthy	5/25/89 10:00	
	Date Time	Received by:
	5/25/89 5:10PM	
Relinquished by	Date, Time	Received by Laboratory:
	5/25/89 5:	

Remarks: Standard Turn Around

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Bill Girolamo
Groundwater Technology, Inc.
20000/200 Mariner Drive
Torrance, CA 90503
PROJECT #: 214-425-5074-1
LOCATION: Norwalk, CA

SAMPLED: 5/19/89 BY: C. Nwabuzoh
RECEIVED: 5/19/89 BY: C. Mebane
EXTRACTED: 5/22/89 BY: R. Gallegos
ANALYZED: 5/25/89 BY: M. Song
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8428 CKE-9-5'	T8429 CKE-10-5'	T8430 CKE-11-5'
Benzene	0.05		3.4	< 0.05	0.70
Toluene	0.05		46	0.80	20
Ethylbenzene	0.05		27	1.7	17
Xylenes	0.05		390	18	150
Total BTEX	0.05		470	21	190
Misc. Hydrocarbons (C4-C12)	1		2600	1600	3600
Total Petroleum Hydrocarbons as Gasoline	1		3100	1600	3800

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 3550/8020/8015

Rebecca Hsu-Chou/MS

REBECCA HSU-CHOU, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Bill G

Phone #: (213) 328 - 1360

Address: Torrance

FAX #:

Project Number: ~~214-425-5074~~ ~~214-425-5074~~ -1

Project Name: Circle K - Norwalk

Project Location: 12158 Blondra Blvd, Norwalk

Sampler Signature: Chris Nowaczyk

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
CKE-9-S	~~7842~~	1			✓						✓			5-19	1pm
CKE-10-S	~~7843~~	1			✓						✓			✓	✓
CKE-11-S	~~7830~~	1			✓						✓			✓	✓

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	✓																
	✓																
	✓																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

EXTRACTED 5-22-89
3:45 R.G.

Relinquished by:	Date	Time	Received by:
Chris Nowaczyk			
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	5/19/89	1630	

Remarks:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

6-9-89 ak

PROJECT MGR: Bill Girulano
Groundwater Technology, Inc.
20000\200 Mariner Drive
Torrance, CA 90503

PROJECT #: 214-425-5074-4
LOCATION: Norwalk, CA

SAMPLED: 6-1-89 BY: R. Holtenstein
RECEIVED: 6-1-89 BY: C. Mebane
PREPARED: 6-5-89 BY: E. Thomas
ANALYZED: 6-5-89 BY: E. Thomas
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	T8884 WELL 3
Benzene	0.5		1500
Toluene	0.5		940
Ethylbenzene	0.5		< 0.5
Xylenes	0.5		2200
Total BTEX	0.5		4600
Misc. Hydrocarbons (C4-C12)	1		1700
Total Petroleum Hydrocarbons as Gasoline	1		6300

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/602/8020/8015

Rebecca Hsu-Chou

REBECCA HSU-CHOU, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: BILL G.

Phone #:

Address: 2000 MARINER DR #200

FAX #:

Project Number: 214425 5074-4

Project Name: CIRCLE K #7848

Project Location: NORWALK

Sampler Signature: H. HOLMSTEIN

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
well 3	T8884	2		X							✓			6/1/89		✓																							

Relinquished by: Date 6/1/89 Time 11:05 — Received by:

Relinquished by — Date — Time — Received by:

Relinquished by — Date 6-1-89 Time 11:05 — Received by Laboratory:

Remarks: CH 6/5/89

APPENDIX C

THE CIRCLE K CORPORATION
CONVENIENCE FOOD STORES

April 6, 1988

Mr. Carl Syoberg
County of Los Angeles
Dept of Public Works
Engineering Divsion
2250 Alcazar Street
Los Angeles, CA 90033

Dear Mr. Syoberg,

Enclosed please find Petro-tite precision tank test results for our stores #7848 and #7856 located in Los Angeles County.

We will be sending you tank test results for our other stores in Los Angeles County as soon as the data arrives in our office.

Sincerely,

PAT WRIGHT
Gasoline Facilities Supervisor

PW/grb

enc

Data Chart for Tank System Tightness Test

PLEASE PRINT STORE NO. 7848

petro tite TANK TESTER

1. OWNER Property ☐ Tank(s) ☐
The Circle K Corporation, 5811 Manzanita Ave., Carmichael, CA
Name / Address / Representative / Telephone
The Circle K Corporation
Name / Address / Representative / Telephone

2. OPERATOR
The Circle K Corporation, 12158 Alondra, Norwalk, CA
Name / Address / Telephone

3. REASON FOR TEST (Explain Fully)
Ordinance Testing

4. WHO REQUESTED TEST AND WHEN
Mr. Pat Wright, Gasoline Facilities Supervisor
Name / Title / Company or Affiliation / Date
5811 Manzanita Ave., Carmichael, CA
Address / Telephone

5. WHO IS PAYING FOR THIS TEST?
The Circle K Corporation
Company, Agency or Individual / Person Authorizing / Title / Telephone
5811 Manzanita Ave., Carmichael, CA 95608
Billing Address / City / State / Zip
Attention of: / Order No. / Other Instructions

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#1 South	12,000	Aero K	Regular	10 yrs	ST
#2 Mid	12,000	Aero K	Premium	10 yrs	ST
#3 North	12,000	Aero K	Unleaded	10 yrs	ST

7. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
3 2 1 N	Concrete	4"	2"	None	Redjacket
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Titefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

8. UNDERGROUND WATER
Depth to the Water table 25+ "
Is the water over the tank? ☐ Yes ☑ No

9. FILL-UP ARRANGEMENTS
Tanks to be filled 0400 hr. 3-23-88 Date Arranged by Dealer
Name / Telephone
Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.
Terminal or other contact for notice or inquiry
Company / Name / Telephone

10. CONTRACTOR, MECHANICS, any other contractor involved

11. OTHER INFORMATION OR REMARKS
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test etc.

12. TEST RESULTS
Tests were made on the above tank systems in accordance with test procedures prescribed for petro tite TANK TESTER as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#1 Regular	Yes	-.019 gal/hr	3-23-88
#2 Premium	Yes	-.005 gal/hr	3-23-88
#3 Unleaded	Yes	+.012 gal/hr	3-23-88

13. CERTIFICATION
3-23-88
Date
#1-1792, #2-1788 #3-1966
Serial No. of Thermal

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

John Torh
Technicians

Motor Fuels Tank Services, Inc.
Testing Contractor or Company. By: Signature
P.O. Box 2928, Laguna Hills, CA 92654-2928
Address

STORE NO. 7548

14. THE CIRCLE K CORPORATION — 12155 Alondra — Norwalk, CA — 3-23-88
(Name of Supplier, Owner or Dealer | Address, No. and Street(s) | City | State | Date of Test)

Petro Tite TANK TESTER

Motor Fuels Tank Services, Inc.
P.O. Box 2928
Laguna Hills, CA 92654-2928
Ph: 714-472-4823

15. TANK TO TEST
#1 — Sconth (Identity by position)
Aero K Regular (Brand and Grade)

16. CAPACITY
Nominal Capacity 12,000 Gallons
By most accurate capacity chart available 11,891 Gallons
Is there doubt as to True Capacity? ☐
See Section "DETERMINING TANK CAPACITY"
From: [X] Station Chart; [ ] Tank Manufacturer's Chart; [ ] Company Engineering Data; [ ] Charts supplied with petro tite; [ ] Other

17. FILL-UP FOR TEST
Stick Water Bottom before Fill-up 1" to ⅛ in. — 6 Gallons
Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY
Tank Diameter 9'5"
Product in full tank (up to fill pipe)

Inventory	Stick Readings to ⅛ in.	Gallons	Total Gallons as Reading
	95"		11,891
WATER			0
TOP OFF			10
			11901

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (26).
OBS API 56.6 @ 72°
CORR API 55.2 @ 60°
[ ] Water in tank [ ] High water table in tank excavation [X] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[X] Stage I
[X] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* 144"
Add 30" for 4" L 30"
Add 24" for 3" L or air seal
Total tubing to assemble Approximate 174"

20. EXTENSION HOSE SETTING
Tank top to grade* 49"
Extend hose on suction tube 6" or more below tank top 59"
*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 14212 digits — 65/66 °F nearest

23. Digits per °F in range of expected change .326 digits

24. 11,901 (total quantity in full tank (18 or 17)) × .00057952 (coefficient of expansion for involved product) = 6.89686675 gallons volume change in this tank per °F .0212

25. 6.89686675 (volume change per °F (24)) ÷ .326 (Digits per °F in test Range (23)) = .02115603 Volume change per digit. Compute to 4 decimal places. This is test factor (a)

26. LOG OF TEST PROCEDURES

27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	30. HYDROSTATIC PRESSURE CONTROL: Standpipe Level in Inches — Beginning of Reading	Level to which Restored	31. VOLUME MEASUREMENTS TO RECORD TO .001 GAL.: Product in Gradeate — Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	34. TEMPERATURE COMPENSATION USE FACTOR (a): 35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) = (a) × Expansion + Contraction −	38. NET VOLUME CHANGES EACH READING: Temperature Adjustment — Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	39. ACCUMULATED CHANGE: All High Level record Total End Deflection; All Low Level compute Change per Hour (NFPA criteria)
845	ARRIVED LOCATION. REMOVED FILL CAP ADAPTER AND SPLASH TUBE FROM FILL PIPE.											
900	MEASURED FOR WATER ON TANK BOTTOM. TOOK TANK BURIAL MEASUREMENTS. TAKE INVENTORY OF PRODUCT ON HAND.											
										Factor 'A' .0212		
	ATTACH LINE TEST ADAPTERS.											
930	SET UP AND FILL EQUIPMENT. BLED AIR											
950	PUMP PRIMED AND RUNNING.											
1110	FIRST SENSOR READING	1		42				14212				
1125	START HIGH LEVEL TEST	2	41.2	42	.350	.565	+.215	267	155			
1140	CONT HIGH LEVEL TEST	3	41.2	42	.565	.780	+.215	279	H2	+.254	-.039	
1155	" " " "	4	41.2	42	.290	.505	+.215	290	H11	+.233	-.018	
1210	" " " "	5	41.0	42	.505	.705	+.200	303	H13	+.276	-.076	
1225	" " " "	6	41.2	42	.705	.915	+.210	312	H9	+.182	+.028	
1240	" " " "	7	41.4	42	.125	.335	+.230	322	H10	+.212	+.018	
1255	" " " "	8	41.1	42	.335	.560	+.225	332	H10	+.212	+.013	
1310	" " " "	9	41.0	42	.560	.760	+.200	343	H11	+.233	-.033	
1315	Drop to Low Level			12				346				
1330	START LOW LEVEL TEST	10	15.1	12	.315	.530	+.215	355	+9	+.182	+.033	
1345	" " " "	11	15.1	12	.530	.745	+.215	363	+8	+.170	+.045	+.045
1400	" " " "	12	15.1	12	.380	.600	+.220	374	+11	+.233	-.013	+.032
1415	" " " "	13	15.1	12	.600	.810	+.210	386	+12	+.254	-.044	-.012
1430	" " " "	14	[illegible]	12	.160	.365	+.205	396	+10	+.212	-.007	-.019
	" " " "	15		12								
	T.S # 1792											

P-T Tank Test Data Chart
Additional Info

1 Net Volume Change at Conclusion of Precision Test -.019 gph

Signature of Tester John Tosh
Date 3-23-88

2 Statement
[X] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak
OR
[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator Circle K Corp
Date 3-23-88

STORE NO. 7848

14. THE CIRCLE K CORPORATION (Name of Supplier Owner or Dealer) 12158 Alondra (Address No. and Street(s)) Norwalk (City) CA (State) 3-23-88 (Date of Test)

Petro Tite TANK TESTER

15. TANK TO TEST: #2 Middle (Identify by position); Aero K Premium (Brand and Grade)

16. CAPACITY: Nominal Capacity 12,000 Gallons; By most accurate capacity chart available 11891 Gallons; Is there doubt as to True Capacity? ☐ See Section "DETERMINING TANK CAPACITY"

From: ☑ Station Chart ☐ Tank Manufacturer's Chart ☐ Company Engineering Data ☐ Charts supplied with petro tite ☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up: 0 to ⅛ in. - 0 Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 95"

	Stick Readings to ⅛ in.	Gallons	Total Gallons as Reading
Inventory	95"		14,891
WATER			0
TOP OFF			10
Product in full tank (up to fill pipe)			11901

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (28).

OBS API 50.7 @ 78 °

CORR API 49 @ 60 °

☐ Water in tank ☐ High water table in tank excavation ☐ Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM: ☑ Stage I ☑ Stage II

MOTOR FUELS TANK SERVICES, INC.
P.O. BOX 2928
LAGUNA HILLS, CA 92654-2928
(714) 472-4823

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade*	142"
Add 30" for 4" L	30"
Add 24" for 3" L or air seal	"
Total tubing to assemble Approximate	172"

20. EXTENSION HOSE SETTING

Tank top to grade*	47"
Extend hose on suction tube 6" or more, below tank top	57"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? ☐ Colder? ☐ ___ °F Product in Tank ___ °F Fill-up Product on Truck ___ °F Expected Change (+ or -)

22. Thermal-Sensor reading after circulation 14849 (digits) 67/68 (Nearest) °F

23. Digits per °F in range of expected change 326 (digits)

24. 11901 (total quantity in full tank (16 or 17)) × .00053550 (coefficient of expansion for involved product) = 6.3729855 gallons (volume change in this tank per °F)

25. 6.3729855 (volume change per °F (24)) ÷ 326 (Digits per °F in test Range (23)) = .019549 (Volume change per digit Compute to 4 decimal places) This is test factor (a)

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO NEXT GAL.			34 TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATIVE CHANGE
27. DATE (This 24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Standpipe Level in Inches: Level to which Restored	32. Product in Gradeste: Before Reading	32. Product in Gradeste: After Reading	Product Replaced (-) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower - (a)	37. Computation (c) + (a) = Expansion + Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (-) ø33(V) – ø37(c)	
845	ARRIVED LOCATION. REMOVED FILL CAP ADAPTER AND SPLASH TUBE FROM FILL PIPE.											
900	MEASURED FOR WATER ON TANK BOTTOM. TOOK TANK BURIAL MEASUREMENTS. TAKE INVENTORY OF PRODUCT ON HAND. Factor 'A' .0195											
	ATTACH LINE TEST ADAPTERS.											
0945	SET UP AND FILL EQUIPMENT. BLED AIR											
1000	PUMP PRIMED AND RUNNING.											
1130	FIRST SENSOR READING	1		42				14849				
1145	START HIGH LEVEL TEST	2	44.2	42	.495	.640	+.145	860	+11	+.215	-.070	
1200	CONT HIGH LEVEL TEST	3	44.6	42	.640	.815	+.175	870	+10	+.195	-.020	
1215	" " " "	4	44.3	42	.265	.420	+.155	878	+8	+.156	-.001	
1230	" " " "	5	44.1	42	.420	.580	+.160	888	+10	+.195	-.035	
1241	" " " "	6	44.4	42	.580	.740	+.160	894	+6	+.117	+.043	
1300	" " " "	7	44.4	42	.740	.895	+.155	903	+9	+.176	-.021	
1315	" " " "	8	44.5	42	.280	.440	+.160	914	+11	+.215	-.055	
1330	" " " "	9	44.7	42	.440	.620	+.180	920	+6	+.117	+.063	
1335	DROP TO 12" LEVEL			12				920				
1350	START LOW LEVEL TEST	10	14.9	12	.210	.405	+.195	930	+10	+.195	+.000	
1405	" " " "	11	14.8	12	.405	.585	+.180	939	+9	+.176	+.004	+.004
1420	" " " "	12	14.7	12	.585	.760	+.175	950	+11	+.215	-.040	-.036
1435	" " " "	13	14.2	12	.035	.185	+.150	956	+6	+.117	+.033	-.003
1450	" " " "	14	14.1	12	.185	.320	+.135	963	+7	+.137	-.002	-.005
	" " " "	15		12								
	T.S. # 1788											

P-T Tank Test Data Chart Additional Info

-.005

1 Net Volume Change at Conclusion of Precision Test ___ gph

Signature of Tester John Toth

Jack Kiefaber

2 Statement:

☑ Tank and product handling system has been tested tight according to the Precision Test Criteria as established by NFPA publication 329. This is not intended to indicate permission of a leak.

OR

☐ Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by NFPA publication 329

It is the responsibility of the owner and/or operator of the system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of the system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner-Operator Circle K Corp.

STORE NO. 7848

14. THE CIRCLE K CORPORATION — 12158 Alondra, Norwalk CA — 3-23-88
Name of Supplier Owner or Dealer / Address No. and Street(s) / City / State / Date of Test

Petro Tite TANK TESTER

Motor Fuels Tank Services, Inc.
P.O. Box 2928
Laguna Hills, CA 92654-2928
Ph: 714-472-4823

15. TANK TO TEST
#3 North (Identify by position)
Aero K Unleaded (Brand and Grade)

16. CAPACITY
Nominal Capacity 12,000 Gallons
By most accurate capacity chart available 11,891 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
[x] Station Chart
[ ] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with petro tite
[ ] Other ______

17. FILL-UP FOR TEST
Stick Water Bottom before Fill-up 0 to ⅛ in. 0 Gallons
Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY
Tank Diameter 95"

	Stick Readings to ⅛ in.	Gallons	Total Gallons as Reading
Inventory	95"		11,891
WATER			0
TOP OFF			10
Product in full tank (up to fill pipe)			11901

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
OBS API 53.9 @ 74
CORR API 52.3 @ 60
See manual sections applicable. Check below and record procedure in log (26).
[ ] Water in tank [ ] High water table in tank excavation [x] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[x] Stage I
[x] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* 146"
Add 30" for 4" L 30"
Add 24" for 3" L or air seal ______"
Total tubing to assemble Approximate 176"

20. EXTENSION HOSE SETTING
Tank top to grade* 51"
Extend hose on suction tube 6" or more below tank top 10" 61"
*If Fill pipe extends above grade, use top of fill

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 14472 digits 66/67 °F Nearest
23. Digits per °F in range of expected change 326 digits
24. 11,901 (total quantity in full tank (16 or 17)) × .00055893 (coefficient of expansion for involved product) = 6.6518259 gallons (volume change in this tank per °F) .0204
25. 6.6518259 (volume change per °F (24)) ÷ 326 (Digits per °F in test Range (23)) = .02040437 (Volume change per digit. Compute to 4 decimal places.) This is test factor (a)

26. LOG OF TEST PROCEDURES

27. Date / Time (24 hr)	28. Record details of setting up and running test. (Use full length of line if needed)	29. Reading No.	30. Hydrostatic Pressure Control: Standpipe Level in Inches — Beginning of Reading	Level to which Restored	31./32. Volume Measurements (V) Record to .001 Gal.: Product in Graduate — Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	34./35. Temperature Compensation Use Factor (a): Thermal Sensor Reading	36. Change Higher + Lower − (t)	37. Computation (t) × (a) = Expansion + Contraction −	38. Net Volume Changes Each Reading: Temperature Adjustment Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	39. Accumulated Change
0900	ARRIVED LOCATION. REMOVED FILL CAP ADAPTER AND SPLASH TUBE FROM FILL PIPE.											
0955	MEASURED FOR WATER ON TANK BOTTOM. TOOK TANK BURIAL MEASUREMENTS. TAKE INVENTORY OF PRODUCT ON HAND.											
	ATTACH LINE TEST ADAPTERS.										Factor 'A'	.0204
1010	SET UP AND FILL EQUIPMENT, BLEED AIR											
1020	PUMP PRIMED AND RUNNING.											
1120	FIRST SENSOR READING	1		42				14472				
1150	START HIGH LEVEL TEST	2	42.7	42	.315	.355	+.040	546	+72			
1205	CONT HIGH LEVEL TEST	3	44.4	42	.355	.575	+.160	553	+7	+.143	+.017	
1220	" " " "	4	44.5	42	.575	.685	+.170	563	+10	+.204	−.034	
1235	" " " "	5	44.7	42	.685	.860	+.175	567	+4	+.082	+.093	
1250	" " " "	6	44.7	42	.285	.465	+.180	574	+7	+.143	+.037	
1305	" " " "	7	44.5	42	.465	.630	+.165	583	+9	+.184	−.019	
1320	" " " "	8	44.6	42	.630	.805	+.175	591	+8	+.163	+.012	
1335	" " " "	9	44.5	42	.805	.970	+.165	698	+7	+.143	+.022	
1340	DROP TO 12" LEVEL			12								
1355	START LOW LEVEL TEST	10	15.3	12	.180	.405	+.225	609	+10	+.204	+.021	
1410	" " " "	11	14.7	12	.405	.585	+.180	616	+7	+.143	+.037	+.037
1425	" " " "	12	14.5	12	.585	.745	+.160	623	+7	+.143	+.017	+.054
1440	" " " "	13	14.3	12	.745	.890	+.145	630	+7	+.143	+.002	+.056
1455	" " " "	14	14.2	12	.200	.340	+.140	639	+9	+.184	−.044	+.012
1510	" " " "	15		12								
	T.S #: 1466											

P-T Tank Test Data Chart Additional Info

1. Net Volume Change at Conclusion of Precision Test +.012
Signature of Tester John Torth J. Tiedt
Date March 23, 1988
#414812176

2. Statement:
[x] Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

[ ] Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator Circle K Corp.
Date 3-23-88