BEK ENGINEERING & ENVIRONMENTAL, INC. BELLINGHAM • EVERETT

CIVIL • GEOTECHNICAL • ENVIRONMENTAL

360-676-9589 • 425-258-2059
800-859-5597 • 800-835-4971
FAX 360-676-4625 • 425-258-5046

July 20, 2000

Washington State Department of Ecology
Northwest Region
3190 160th Ave SE
Bellevue, WA 98008-5452

Attn: Joe Hickey

Re: Report - Ground Water Investigation
Black Mountain Ranch (Ecology Site ID #481461, Release ID #481468)
6417 Mount Baker Highway
Deming, Washington

Dear Mr. Hickey:

On the behalf of Black Mountain Ranch, BEK Engineering & Environmental, Inc. (BEK) is pleased to present this report regarding a ground water investigation at the above referenced property in Whatcom County.

A copy of this report has been transmitted to Bill Angel at Whatcom County Health and Human Services.

Should you have any questions concerning this report or require further information, please contact our office at (360)-676-9589 or (800)-859-5597.

Sincerely,

BEK ENGINEERING & ENVIRONMENTAL, INC.

Jon M. Einarsen, Ph.D., Principal
Geologist

cc: Gary Mitchell, Black Mountain Ranch
Bill Angel, Whatcom County Health and Human Services

2138 HUMBOLDT STREET
BELLINGHAM, WA 98225

2733 COLBY AVENUE
EVERETT, WA 98201

Black Mountain Ranch
LUST # 481468
Deming
UST # 481461

REPORT
GROUND WATER INVESTIGTION

BLACK MOUNTAIN RANCH
6417 MOUNT BAKER HIGHWAY
DEMING, WASHINGTON

Prepared For:

Gary Mitchell
Black Mountain Ranch
6417 Mount Baker Highway
Deming, WA 98244

ENGINEERING & ENVIRONMENTAL, INC.

2138 Humboldt Street
Bellingham, WA 98225
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Fax (360) 676-4625

LUST CLEANUP REPORT REVIEW

LUST # 481468 **UST #** _____ **Site Name** Black Mtn. Ranch

Change in Status of Release & Date (Awaiting Cleanup) (Cleanup Started) (Monitoring) (Reported Cleaned Up) (No Further Action) (Unknown) **Date** _____

Cause of Release (Overfill) (Piping Failure) (Spill)(Tank Failure) (Unknown)
Remediation Technologies Used _____

Report Title GW Investigation Report **Report Date** 7/20/00

Report Type (Interim) (Monitoring) (Final) (Site Characterization) (Unknown)

Date Received 7/24/00 **Contractor** BEK-Engineering + Environmental

Comments TPH-G and BTEX below MTCA A in all Geoprobe samples (taken @ 9' bgs) analyzed ~~collected~~ during this investigation. No soil samples

Fund Source (LUST Trust Fund) (PLIA) (Responsible Party) (State Fund)

VCP/IRAP Status (Requested) (Not Requested) (Complete) **Reviewed by** Bremer
Date 8/30/00

Nov. 4, 1999 (GG)

BEK ENGINEERING & ENVIRONMENTAL, INC. BELLINGHAM • EVERETT

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FAX 360-676-4625 • 425-258-5046

July 20, 2000

Black Mountain Ranch
6417 Mount Baker Highway
Deming, WA 98244

Attn: Mr. Gary Mitchell

Re: Report – Ground Water Investigation
Black Mountain Ranch
Deming, Washington

Dear Mr. Mitchell:

BEK Engineering & Environmental, Inc. (BEK) is pleased to present the results of a ground water investigation at the above referenced property in Deming, Washington. This report was completed in general accordance with our proposal dated March 15, 2000.

A copy of this report has been transmitted to the Washington State Department of Ecology, Northwest Regional Office and Whatcom County Health and Human Services.

SCOPE OF SERVICES

Our scope of services for this project included:

1. Arranged for the services of a contractor to operate a soil/ground water probe, and direct the contractor in the field.
2. Measured the location of each sample point relative to an arbitrary, permanent benchmark at the subject property.
3. Arranged for the transport of samples to the laboratory using proper chain-of-custody procedures.
4. Arranged for the analysis of samples for gasoline and BTEX using the NWTPH-G and EPA 8021 methods, respectively.
5. Prepared this written summary of the investigation for submittal to the Client and to the Washington State Department of Ecology

INTRODUCTION

One underground gasoline storage tank was removed on December 11, 1998. The tank had been used to store gasoline for private use by the Black Mountain Ranch. Upon excavation, it was observed that gasoline contaminated soil emanated from beneath the former location of the fuel pump, which had been located adjacent to and immediately south of the tank. The source of contamination is therefore likely to have been a leaking fitting in the distribution line near the fuel pump, possibly combined with overfilling of vehicles. Analytical results confirmed the release. Gasoline contaminated soil extended down to the top of the water table, located approximately 8.0 feet below the ground surface (bgs) at the time the tank was removed. Details concerning the removal of the tank and associated fittings are described in a report prepared by BEK entitled *Underground Storage Tank Removal, Black Mountain Ranch* (dated January 8, 1999).

Excavation of contaminated soil occurred on September 20 and 21, 1999 when the ground water table was assumed to be lower. The presence of contaminated soil was evaluated with headspace analysis using a Photovac Microtip (HL-2000) photoionization detector calibrated with isobutylene (100 ppm), odor, and visual observation. The sidewalls of the excavation were observed to evaluate subsurface soil conditions. Native soil consists of silty sand with lenses of sand and sandy gravel. Water and power utilities were encountered in the excavation at a depth of approximately 1.5 feet below the ground surface bgs. The utility trenches lie above the zone of contamination, and there is no risk that contaminants have migrated along utility trenches. Ground water was observed at approximately 11.5 feet bgs. A light to moderate hydrocarbon sheen was observed on the ground water. Hydrocarbon contaminated soil appeared to be limited to the zone of ground water fluctuation, between approximately 7.0 feet bgs and 12.0 feet to 14.0 feet bgs. Due to the presence of ground water at approximately 11.5 feet bgs, impacted soil could only be excavated to a depth of approximately 12.0 feet bgs. Field screening indicated that soil contamination extended away from the former tank location in a southeasterly direction. Excavation continued in a southeasterly direction to a location adjacent to an existing building on the subject property (the Recreation Center), and was stopped at that time by request of the Client. Approximately 140 cubic yards of impacted soil was removed and treated by thermal desorption at CSR in Everett, including the most contaminated soil (12,000 mg/kg gasoline) located immediately adjacent to the former underground storage tank. The excavation of the contaminated soil is detailed in the BEK report entitled *Interim Remedial Action, Black Mountain Ranch* (dated December 7, 1999).

Confirmation soil samples were collected from the floor and sidewalls of the excavation to evaluate the effectiveness of the remedial action. A generalized site plan indicating the extent of the excavation, sampling locations, and residual hydrocarbon concentrations is presented in Figure 2 (Appendix I). Analytical results indicated that residual hydrocarbon concentrations in soil are below Model Toxics Control Act (MTCA, WAC 173-340) Method A cleanup standards on the north and west sides of the excavation. However, residual gasoline concentrations in soil (850 mg/kg to 8,900 mg/kg, see Figure 2) were above the cleanup standards on the floor of the excavation and on the south wall of the excavation. Based on the presence of impacted soil at the top of the water table, it was our opinion that groundwater had also been impacted.

Based on the residual gasoline concentrations, BEK recommended that a remedial investigation and feasibility study (RI/FS) be completed to quantitatively assess the physical characteristics of the site and the extent of petroleum hydrocarbon impact to soil and ground water. The recommended RI/FS included a detailed evaluation of subsurface geologic and hydrogeologic conditions, ground water flow conditions, contaminant migration, and potential impacts of the release to human health and the environment. The proposed investigation would utilize a soil/ground water probe and monitoring well installations combined with analytical results for soil and ground water samples to define the extent of the contamination.

Following consultation with the client, it was agreed to utilize a phased approach for the RI/FS. The initial phase of the RI/FS described in this report was designed to access ground water quality conditions in the assumed down gradient direction (generally southerly), and to determine if a dissolved hydrocarbon plume had migrated beyond the property boundaries. This report provides a summary of a Geoprobe® ground water investigation, including a description of our field observations during the collection of ground water samples, and interpretation of analytical results.

SITE VICINITY CHARACTERISTICS

The subject property is located at 6417 Mount Baker Highway, in Whatcom County, Washington. A site vicinity map is presented in Figure 1 (Appendix I). The property lies approximately 3000 feet north of the Nooksack River, at an elevation of approximately 430 feet above mean sea level. The ground surface slopes gently to the west towards Kendall Creek. The vicinity of the subject property is zoned R5A, rural

one unit per five acres. A small creek bounds the subject property to the north. Mount Baker Highway bounds the subject property to the west. Forested areas bound the subject property to the east. The Nooksack River and residential properties bound the subject property to the south.

3.2.1 Geologic Summary

The geologic conditions in the vicinity of the subject property are described in the *Geologic Map of the Bellingham 1:100,000 Quadrangle, Washington* (Pringle et al., 1994). According to that map, the subject property is underlain by a former outwash plain of the Sumas Stade. Deposits in the outwash plain consist of boulders, cobbles, and gravel near the Canadian border, grading southwestward to sand near Lynden. These sediments were deposited in outwash streams when the terminus of the continental icesheet was in the vicinity of Sumas, Washington. Soil in the vicinity of the subject property was tan to brown silt with sand grading to gray sandy gravel with silt.

The *Soil Survey of Whatcom County Area, Washington* (U.S.D.A., 1992) describes soil in the vicinity of the subject property as Winston Silt Loam. This soil formed in a mixture of loess and volcanic ash over glacial outwash. It is located on outwash terraces and is very deep and well drained. Permeability is moderate in the upper part of the soil and rapid in the lower part.

FIELD OBSERVATIONS AND SAMPLING TECHNIQUES

BEK personnel completed the ground water investigation on May 31, 2000. Cascade Drilling of Woodinville, Washington completed subsurface explorations in twelve sampling locations using a truck-mounted Geoprobe®. Both ground water and soil samples were collected, but only ground water samples were submitted to the laboratory for analysis. Soil samples were visually classified as to soil type.

Ground water samples were collected using the following techniques:

1. Ground water samples were collected through a "Screen Point 15" ground water sampler driven to the selected depth. The depth of each ground water sample was confirmed with the Geoprobe® operator.
2. The ground water sampler was driven approximately four feet into the water table, to allow sufficient head for ground water to flow through the screen and into the sampler.
3. Ground water samples were obtained using low-flow sampling techniques. Dedicated tygon tubing was used at each probe location. One end of the tubing was carefully lowered into the well several feet below the static water level, trying to avoid any disturbance of the water column.
4. The tubing was placed in a peristaltic pump and ground water was withdrawn at a rate of less than 1 liter per minute. Ground water was purged from the sample point until the water ran clean.
5. Each ground water sample was collected from the discharge stream of the peristaltic pump, and placed directly into appropriate, previously labeled, laboratory-prepared sample containers.
6. Sample containers were immediately labeled with the date, sample location, sample depth, and sampler's name and placed into a cooler.

Soil samples were collected using the following techniques

1. Soil samples were collected using a Macro-Core soil sampler with a PVC liner driven to the selected depth. The depth of each soil sample was confirmed with the Geoprobe® operator.
2. The PVC liner was removed from the sampler, and the liner was cut open. The soil was logged then immediately placed into appropriate, laboratory-prepared sample containers.
3. Sample jars were immediately placed into a cooler.

Upon completion, each probe hole was abandoned with bentonite pellets. The upper portion of the probe holes driven through asphalt pavement were filled with cold patch asphalt.

Based on the our observations during removal of contaminated soil we assumed that the shallow ground water below the subject property flows in a generally southerly direction. Three explorations (GP-1, GP-2, and GP-3) were advanced to a depth of approximately 13 feet near the southern boundary of the Black Mountain Ranch. One exploration (GP-4) was advanced to a depth of approximately 20 feet below ground surface at the location of the former underground storage tank. Eight explorations (GP-5 through GP-12) were advanced to approximately 12 feet.

No samples were collected northwest of the former underground storage tank due to soft ground conditions in that area.

Soil logs for the explorations GP-1 through GP-4 are presented in Appendix I. Locations of the explorations are presented in Figure 2. Site photographs are located in Figures 3 and 4. Ground water was encountered in all of the explorations at an approximate depth of 9.0 feet bgs. Our explorations revealed that the subject property is primarily underlain by fine-grained, poorly graded gravel with a trace to some sand and silt.

Samples were refrigerated at 4 degrees Celsius overnight, and were delivered by courier to the laboratory using proper chain-of-custody procedures the day following the sampling event.

ANALYTICAL RESULTS

The ground water samples were analyzed for gasoline and BTEX (benzene, toluene, ethyl benzene, and total xylenes) using the NWTPH-GX and EPA-8021 test methods, respectively. All laboratory work was completed by CCI Analytical Laboratories, Inc. in Everett, Washington. The complete laboratory report is included in Appendix II and the results are summarized in Table 1.

TABLE 1
Analytical Results – Ground Water
Samples Collected 05-31-00

Sample Location	Sample number	Sample Depth (feet)	TPH Volatile	Volatile Aromatic Hydrocarbons (µg/L)			
			Gasoline (µg/L)	B	T	E	X
GP-1	053100-1	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-2	053100-2	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-3	053100-3	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-4	053100-6	9	570	ND<1	ND<1	3	6
GP-5	053100-7	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-6	053100-8	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-7	053100-9	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-8	053100-10	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-9	053100-11	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-10	053100-12	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-11	053100-13	9	ND<50	ND<1	ND<1	ND<1	ND<3
GP-12	053100-14	9	ND<50	ND<1	ND<1	ND<1	ND<3
MTCA METHOD A CLEANUP STANDARDS			*1,000*	*5*	*40*	*30*	*20*

TPH, Total Petroleum Hydrocarbons; B= Benzene, T= Toluene, E= Ethylbenzene, X = Total Xylenes; µg/L = parts-per-billion; ND indicates that parameter was not detected above indicated concentration

Gasoline and BTEX were not detected in any of the ground water samples except for GP-4. The sample from GP-4, collected immediately adjacent to the former tank location, contained 570 µg/L gasoline, 3 µg/L ethylbenzene, and 6 µg/L total xylenes. These concentrations are below the Model Toxics Control Act (MTCA, WAC 173-400) cleanup standards for ground water. No soil samples were analyzed.

CONCLUSIONS & RECOMMENDATIONS

Based on the analytical results contained in this report, we conclude that ground water samples collected for this investigation did not contain gasoline range hydrocarbons or BTEX in concentrations exceeding the MTCA Method A cleanup standards.

We recommend that the following actions be initiated to complete the RI/FS:

1. Soil samples should be collected and analyzed from the southern end of the previously excavated area, where residual hydrocarbon products were present in concentrations exceeding the MTCA cleanup standards. This task could be completed with a test pit investigation using on-site equipment maintained by the Black Mountain Ranch.
2. Ground water samples should be collected and analyzed from the area north of the former underground storage tank. This task is required to confirm that a plume of dissolved hydrocarbons is not migrating in a northerly direction. The task will require dry ground conditions, or may need to be completed using a hand-operated tools.

Please be aware that because gasoline contaminated soil is known to have been present at the top of the water table, and because hydrocarbon products were detected in ground water at GP-4 during this study, Ecology may require the installation of permanent monitoring wells and ground water sampling and analysis for a period of time to confirm that ground water has not been impacted.

INDEMNIFICATION AND LIMITATIONS

The analytical results, conclusions, and recommendations within this report are based on the ground water samples collected from the indicated locations at the time this report was prepared, and should not be construed as a warranty of the subsurface conditions throughout the site. No environmental investigation can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. An environmental investigation is intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions.

Within the limitations of scope, schedule and budget for our work, we warrant that our work has been done in accordance with our proposal and generally accepted environmental assessment practices followed in this area at the time the report was prepared. No other warranty, express or implied, is made.

We appreciate the opportunity to be of service to you. Should you have any questions concerning this report or require further information, please contact our office at (360)-676-9589 or (800)-859-5597.

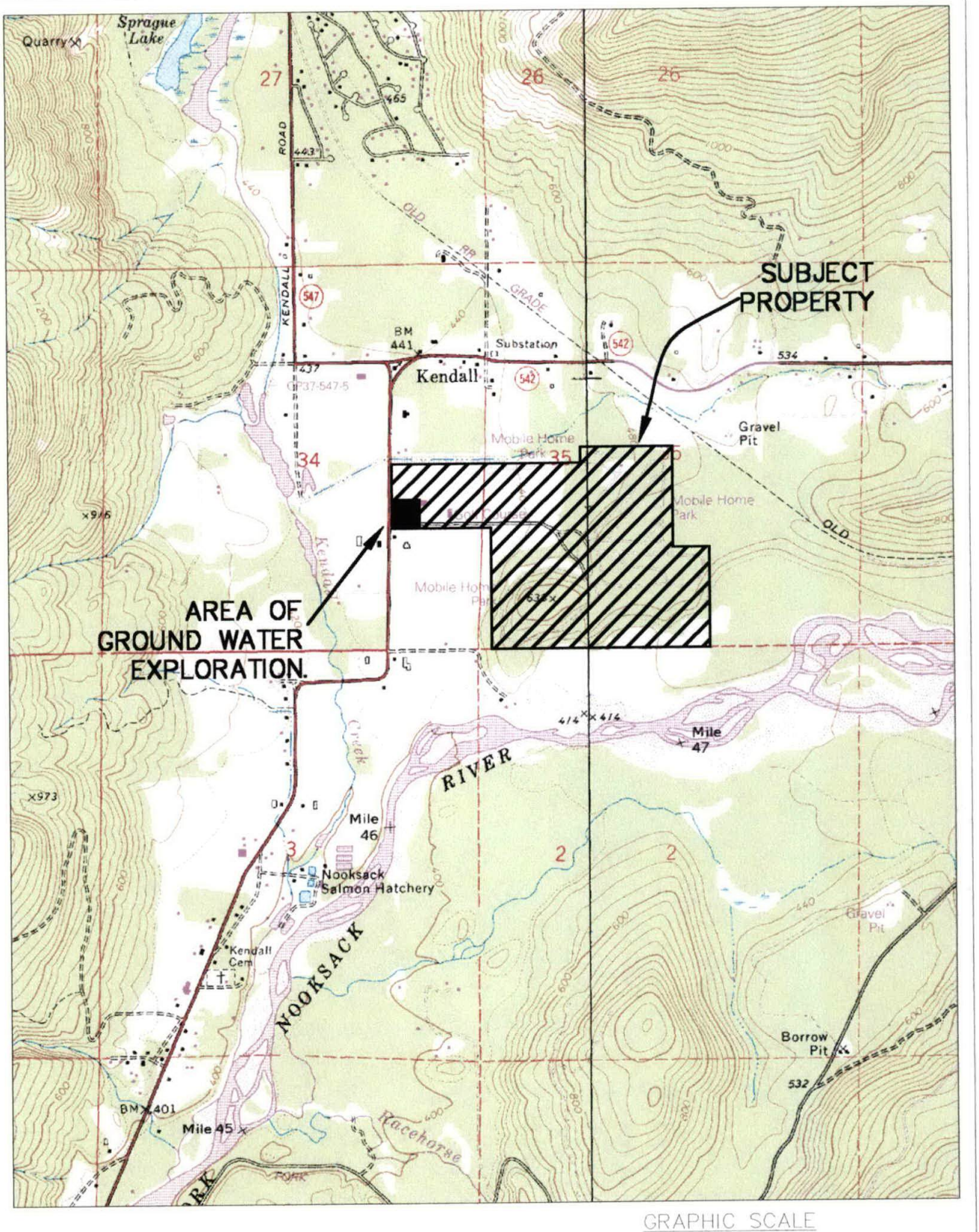
Sincerely,

BEK ENGINEERING & ENVIRONMENTAL, INC.

Jon M. Einarsen, Ph.D., Principal
Geologist

APPENDIX I

Figure 1 – Site Vicinity Map
Figure 2 – Exploration Locations & Site Plan
Exploration Soil Logs



GRAPHIC SCALE

2000 0 2000 4000

1 INCH = 2000 FEET

REFERENCE: KENDALL QUADRANGLE (U.S.GEOLOGICAL SURVEY, 1972, REVISED 1993)
MAPLE FALLS QUADRANGLE (U.S. GEOLOGICAL SURVEY, 1972, REVISED 1994)

JOB NO.:	200060
DESIGNED BY/DRAWN BY:	KNN
CHECKED BY:	JME
DWG FILE:	KENDALL/MAPLE FALLS

BEK ENGINEERING & ENVIRONMENTAL, INC.

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FIGURE 1
SITE VICINITY MAP
BLACK MOUNTAIN RANCH

DATE: 7/2000 SCALE: H: 1"=2000' V: N/A

N
W E
S

MOUNT BAKER HIGHWAY

PL

RESIDENTIAL HOME

LIBRARY & LOUNGE

PROPANE TANK

GRASS

GP-8 ND/ND

BURIED SEPTIC TANK & DRAIN FIELD

092199-4 100

TOOL SHED

FORMER TANK LOCATION

092199-5 160

GP-4 570/ND

092099-1 ND

092199-7 ND

092099-4 5900

092199-8 350

GP-7 ND/ND

ASPHALT ROAD

GP-11 ND/ND

EXCAVATION BOUNDARIES (09/20/99)

092199-3 8900

GRAVEL ROAD

STAIRWAY

GP-12 ND/ND

GRASS

RECREATION CENTER

PAVED SURFACE

GP-6 ND/ND

PLAYGROUND

PAVED PARKING AREA

OFFICE

GP-10 ND/ND

GP-5 ND/ND

GP-9 ND/ND

GRASS

GRAVEL PARKING AREA

GP-2 ND/ND

GRASS

GP-3 ND/ND

GP-1 ND/ND

ASPHALT ROAD

PL

PL

PL

Nooksack river

GROUND WATER EXPLORATION LOCATION
CONCENTRATION: GASOLINE/BENZENE IN µg/L

092199-7: EXCAVATION SAMPLE LOCATION
CONCENTRATION: TOTAL GASOLINE IN MG/KG

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JOB NO.:	200060
DESIGNED BY /DRAWN BY:	KNN
CHECKED BY:	JME
DRAWING FILE:	200060

FIGURE 2
EXPLORATION LOCATIONS & SITE PLAN
BLACK MOUNTAIN RANCH

DATE: 7/2000 SCALE: H: 1" = ~ 40' V: N/A

Exploration No.	Depth Interval (ft.)	USCS Symbol	Soil Description	Sample No./ Depth (ft.)
GP-1	5-7	ML	Clayey SILT, some to trace sand, poorly graded, moist to wet. 50% recovery.	--
	10-12	GP	Fine GRAVEL with some sand, poorly graded, saturated. 50% recovery.	--
	9		GROUND WATER SAMPLE	053100-1 9'
Notes: Exploration completed to 13.0 feet on May 31, 2000. Ground water observed approximately nine feet below ground level. Exploration filled with bentonite upon completion.				

Exploration No.	Depth Interval (ft.)	USCS Symbol	Soil Description	Sample No./ Depth (ft.)
GP-2	5-7	ML	Reddish-brown, clayey SILT, with trace to some sand and gravel, poorly graded, moist. 50% recovery.	--
	10-12	GP	Fine GRAVEL with some sand, poorly graded, saturated. 50% recovery.	--
	9		GROUND WATER SAMPLE	053100-2
Notes: Exploration completed to 13.0 feet on May 31, 2000. Ground water observed approximately nine feet below ground level. Exploration filled with bentonite upon completion.				

Exploration No.	Depth Interval (ft.)	USCS Symbol	Soil Description	Sample No./ Depth (ft.)
GP-3	3-5	GP	Reddish-brown grading to brown, fine GRAVEL with some clay and silt, poorly graded, moist. 50% recovery.	--
	8-10	GP	GRAVEL with trace of silt and sand, poorly graded, saturated. 50% recovery.	--
	9		GROUND WATER SAMPLE	053100-3
Notes: Exploration completed to 13.0 feet on May 31, 2000. Ground water observed nine feet below ground level. Exploration filled with bentonite upon completion.				

Exploration No.	Depth Interval (ft.)	USCS Symbol	Soil Description	Sample No./ Depth (ft.)
GP-4	3-5	ML	Brownish-gray, clayey SILT with trace to some sand, poorly graded, moist. 25% recovery.	--
	8-10	GP	Fine GRAVEL with trace of silt and sand, poorly graded, saturated. 50% recovery	--
	13-15	SP	Brown coarse SAND with trace to some gravel and silt, poorly graded, saturated. 25% recovery.	053100-4 13-15'
	18-20	GP	Brown, fine to medium GRAVEL with trace of silt and sand, poorly graded, saturated. 50% recovery.	053100-5 18.5-20'
	9'		GROUND WATER SAMPLE	053100-6 9'

Notes: Exploration completed to 20.0 feet on May 31, 2000.
Ground water observed nine feet below ground level.
Exploration filled with bentonite upon completion.

APPENDIX II

Laboratory Report

CCI
ANALYTICAL
LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 1
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-1 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/2/00	LAH

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES OR AS FOLLOWS:
GASOLINE(VOLATILE RANGE) REPORTING LIMIT IS 50 UG/L

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

*** ACTIONS LEVELS ARE PROVIDED ONLY WHEN PARAMETER DATA IS USED FOR A GENERALLY CONSISTENT APPLICATION. WHEN PROVIDED, THEY SHOULD BE USED AS GUIDELINES ONLY. THE APPROPRIATE REGULATORY DOCUMENT SHOULD BE CONSULTED BEFORE MAKING ANY DECISIONS BASED ON ANALYTICAL DATA

APPROVED BY: _____

3229 Pine St. • Everett, WA 98201 • 425 252-2620 • FAX 425 259-6289 • Seattle 206 292-9059

CCI
ANALYTICAL
LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 2
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-2 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/2/00	LAH

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES OR AS FOLLOWS:
GASOLINE(VOLATILE RANGE) REPORTING LIMIT IS 50 UG/L.

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

*** ACTIONS LEVELS ARE PROVIDED ONLY WHEN PARAMETER DATA IS USED FOR A GENERALLY CONSISTENT APPLICATION. WHEN PROVIDED, THEY SHOULD BE USED AS GUIDELINES ONLY. THE APPROPRIATE REGULATORY DOCUMENT SHOULD BE CONSULTED BEFORE MAKING ANY DECISIONS BASED ON ANALYTICAL DATA

APPROVED BY: _____

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CCI
ANALYTICAL
LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 3
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-3 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/2/00	LAH

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES OR AS FOLLOWS:
GASOLINE(VOLATILE RANGE) REPORTING LIMIT IS 50 UG/L

** UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

*** ACTIONS LEVELS ARE PROVIDED ONLY WHEN PARAMETER DATA IS USED FOR A GENERALLY CONSISTENT APPLICATION. WHEN PROVIDED, THEY SHOULD BE USED AS GUIDELINES ONLY. THE APPROPRIATE REGULATORY DOCUMENT SHOULD BE CONSULTED BEFORE MAKING ANY DECISIONS BASED ON ANALYTICAL DATA

APPROVED BY: _____

3229 Pine St. • Everett, WA 98201 • 425 252-2620 • FAX 425 259-6289 • Seattle 206 292-9059

CCI
ANALYTICAL
LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 4
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-6 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	570	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	3	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	6	UG/L	20 UG/L	6/2/00	LAH

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY WEATHERED GASOLINE

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES OR AS FOLLOWS: GASOLINE(VOLATILE RANGE) REPORTING LIMIT IS 50 UG/L

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CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 5
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-7 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/2/00	LAH

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GASOLINE(VOLATILE RANGE) REPORTING LIMIT IS 50 UG/L

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2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 6
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-8 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/2/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/2/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/2/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/2/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/2/00	LAH

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2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 7
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-9 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/5/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/5/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/5/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/5/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/5/00	LAH

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CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 8
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-10 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/3/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/3/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/3/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/3/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/3/00	LAH

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BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 9
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-11 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/3/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/3/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/3/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/3/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/3/00	LAH

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DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 10
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-12 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/3/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/3/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/3/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/3/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/3/00	LAH

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2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 11
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-13 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/3/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/3/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/3/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/3/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/3/00	LAH

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CERTIFICATE OF ANALYSIS

CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007
CCIL SAMPLE #: 12
DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060
CLIENT SAMPLE ID: 053100-14 5/31/00

DATA RESULTS

ANALYTE	METHOD	RESULTS*	UNITS**	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-VOLATILE RANGE	NWTPH-GX	ND	UG/L		6/3/00	LAH
BENZENE	EPA-8021	ND(<1)	UG/L	5 UG/L	6/3/00	LAH
TOLUENE	EPA-8021	ND(<1)	UG/L	40 UG/L	6/3/00	LAH
ETHYLBENZENE	EPA-8021	ND(<1)	UG/L	30 UG/L	6/3/00	LAH
XYLENES	EPA-8021	ND(<3)	UG/L	20 UG/L	6/3/00	LAH

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CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007

DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

CCIL SAMPLE ID	ANALYTE	SUR ID	% RECV
006007-01	NWTPH-GX	TFT	91
006007-01	EPA-8021	TFT	110
006007-02	NWTPH-GX	TFT	83
006007-02	EPA-8021	TFT	100
006007-03	NWTPH-GX	TFT	90
006007-03	EPA-8021	TFT	110
006007-04	NWTPH-GX	TFT	93
006007-04	EPA-8021	TFT	111
006007-05	NWTPH-GX	TFT	85
006007-05	EPA-8021	TFT	106
006007-06	NWTPH-GX	TFT	66
006007-06	EPA-8021	TFT	80
006007-07	NWTPH-GX	TFT	85
006007-07	EPA-8021	TFT	103
006007-08	NWTPH-GX	TFT	79
006007-08	EPA-8021	TFT	97
006007-09	NWTPH-GX	TFT	92
006007-09	EPA-8021	TFT	110
006007-10	NWTPH-GX	TFT	80
006007-10	EPA-8021	TFT	97

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CLIENT: BEK ENGINEERING & ENVIRONMENTAL
2138 HUMBOLDT ST.
BELLINGHAM, WA 98225

DATE: 6/5/00
CCIL JOB #: 006007

DATE RECEIVED: 6/1/00
WDOE ACCREDITATION #: C142

CLIENT CONTACT: JON EINARSEN

CLIENT PROJECT ID: 200060

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

CCIL SAMPLE ID	ANALYTE	SUR ID	% RECV
006007-11	NWTPH-GX	TFT	88
006007-11	EPA-8021	TFT	112
006007-12	NWTPH-GX	TFT	92
006007-12	EPA-8021	TFT	112

APPROVED BY: CNDL

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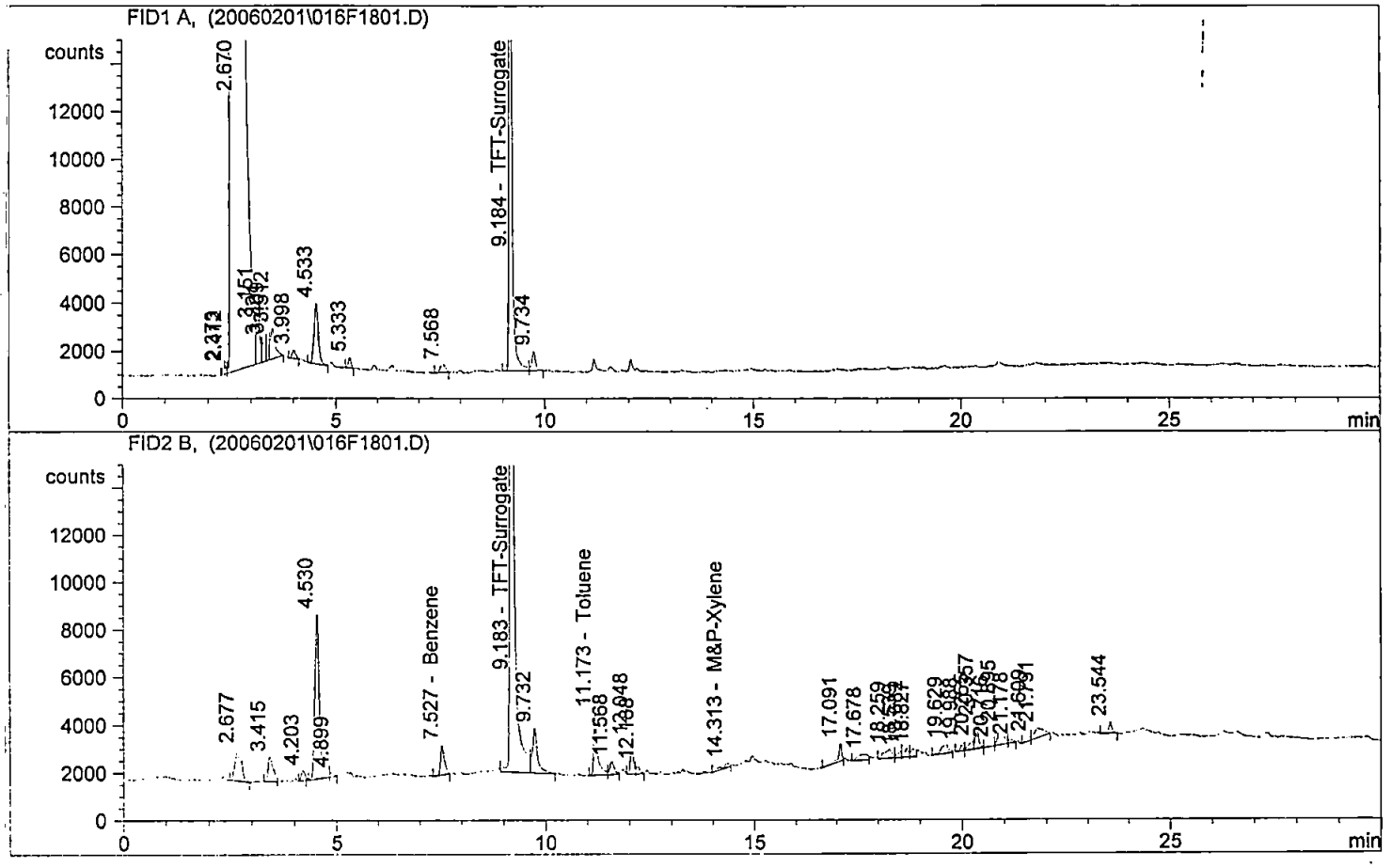
Data file : D:\HPCHEM\2\DATA\20060201\016F1801.D
Gas/BTEX 1 Report Created on 6/2/00 7:13:14 PM
Injection Date & Time: Fri, 2. Jun. 2000 6:43:09 PM
Sample Name : 006007-1 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.184	TFT-Surrogate	116318.664	9.093
0.000	Gasoline Envelope.	0.000	0.000

÷10×(10)=91%.

Gas < 50ug/L

REVIEWED BY & DATE RB 6/5/00

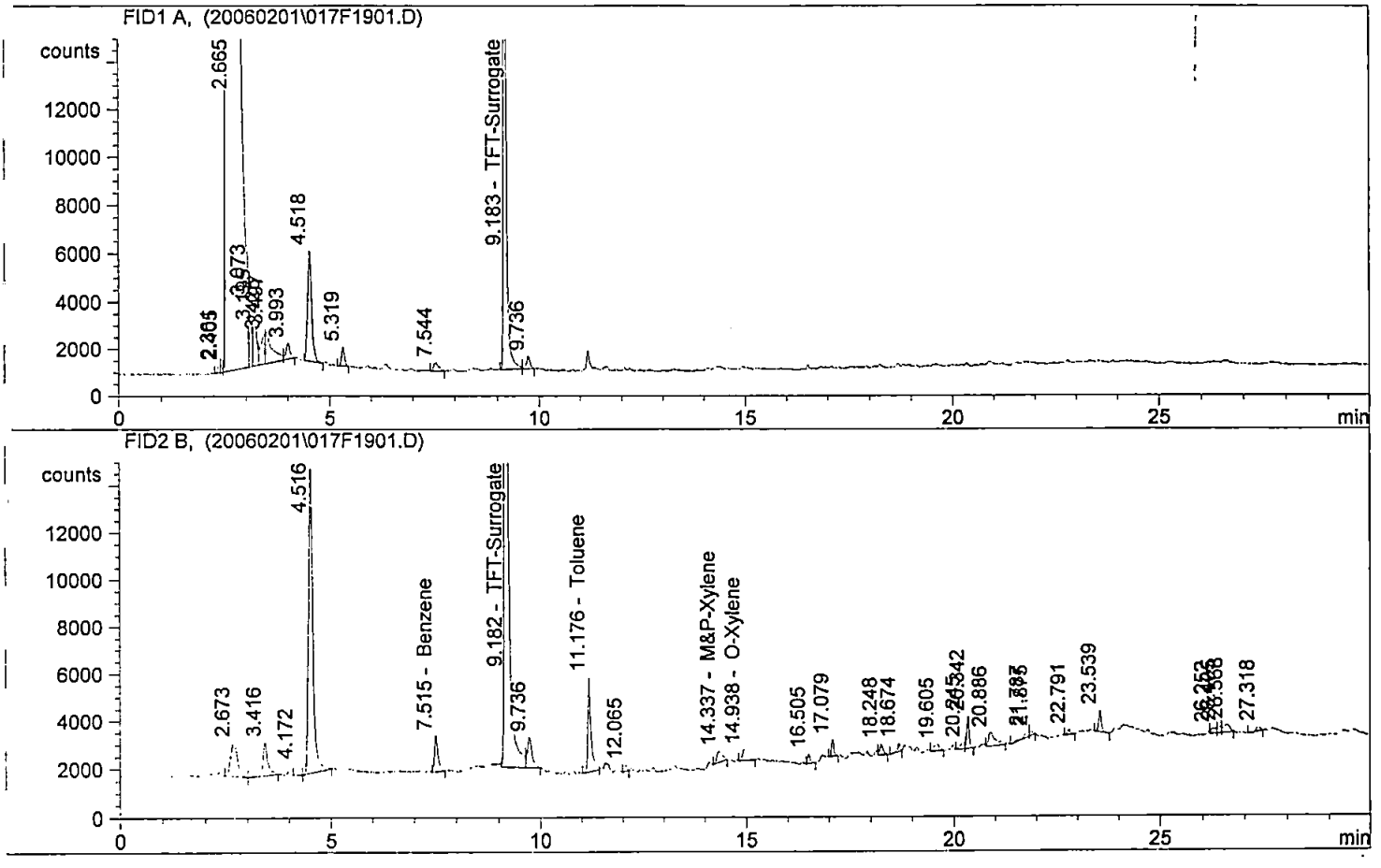
Ret.	Compound Name	Area	Amount ug/L
7.527	Benzene	7878.017	0.043
9.183	TFT-Surrogate	330985.344	11.007
11.173	Toluene	16170.813	0.101
0.000	Ethylbenzene	0.000	0.000
14.313	M&P-Xylene	2556.761	0.013
0.000	O-Xylene	0.000	0.000

110%.

B.T.E <1ug/L X <3ug/L

6-4-00LH

Data file : D:\HPCHEM\2\DATA\20060201\017F1901.D
Gas/BTEX 1 Report Created on 6/2/00 7:49:05 PM
Injection Date & Time: Fri, 2. Jun. 2000 7:19:00 PM
Sample Name : 006007-2 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.183	TFT-Surrogate	106475.625	8.324
0.000	Gasoline Envelope	0.000	0.000

÷10 X100 = 83%

Gas < 50µg/L

REVIEWED BY RB
& DATE 6/5/00

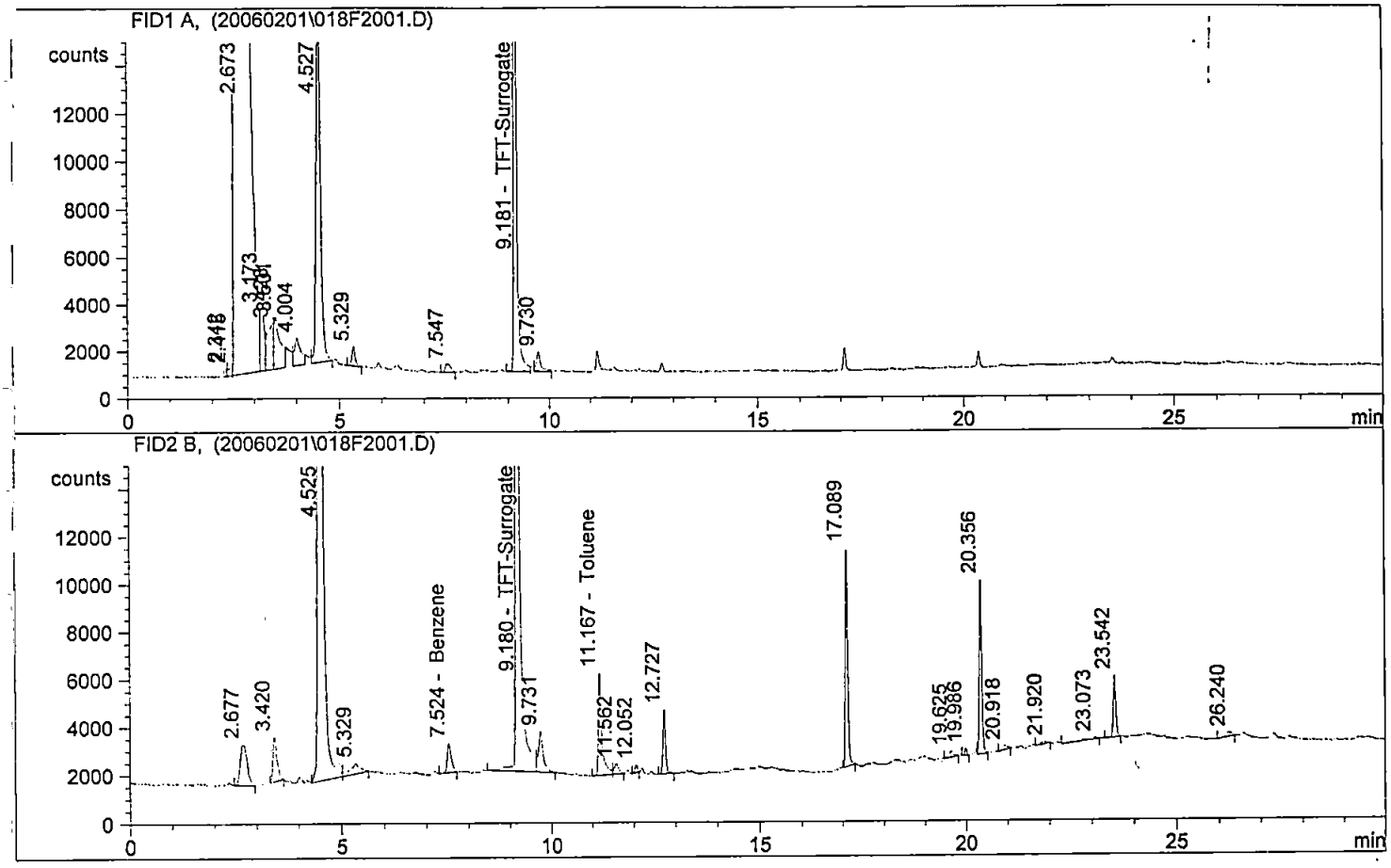
Ret.	Compound Name	Area	Amount ug/L
7.515	Benzene	8785.328	0.048
9.182	TFT-Surrogate	302604.000	9.969
11.176	Toluene	21816.066	0.136
0.000	Ethylbenzene	0.000	0.000
14.337	M&P-Xylene	4452.925	0.023
14.938	O-Xylene	3836.205	0.020

100%.

B, T, E < 1µg/L X < 3µg/L

6-4-00 LH

Data file : D:\HPCHEM\2\DATA\20060201\018F2001.D
Gas/BTEX 1 Report Created on 6/2/00 8:25:23 PM
Injection Date & Time: Fri, 2. Jun. 2000 7:55:19 PM
Sample Name : 006007-3 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.181	TFT-Surrogate	115468.078	9.027
0.000	Gasoline Envelope	0.000	0.000

90%

Gas < 50ug/L

REVIEWED BY & DATE RB 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.524	Benzene	8157.949	0.044
9.180	TFT-Surrogate	329597.625	10.956
11.167	Toluene	24526.873	0.152
0.000	Ethylbenzene	0.000	0.000
0.000	M&P-Xylene	0.000	0.000
0.000	O-Xylene	0.000	0.000

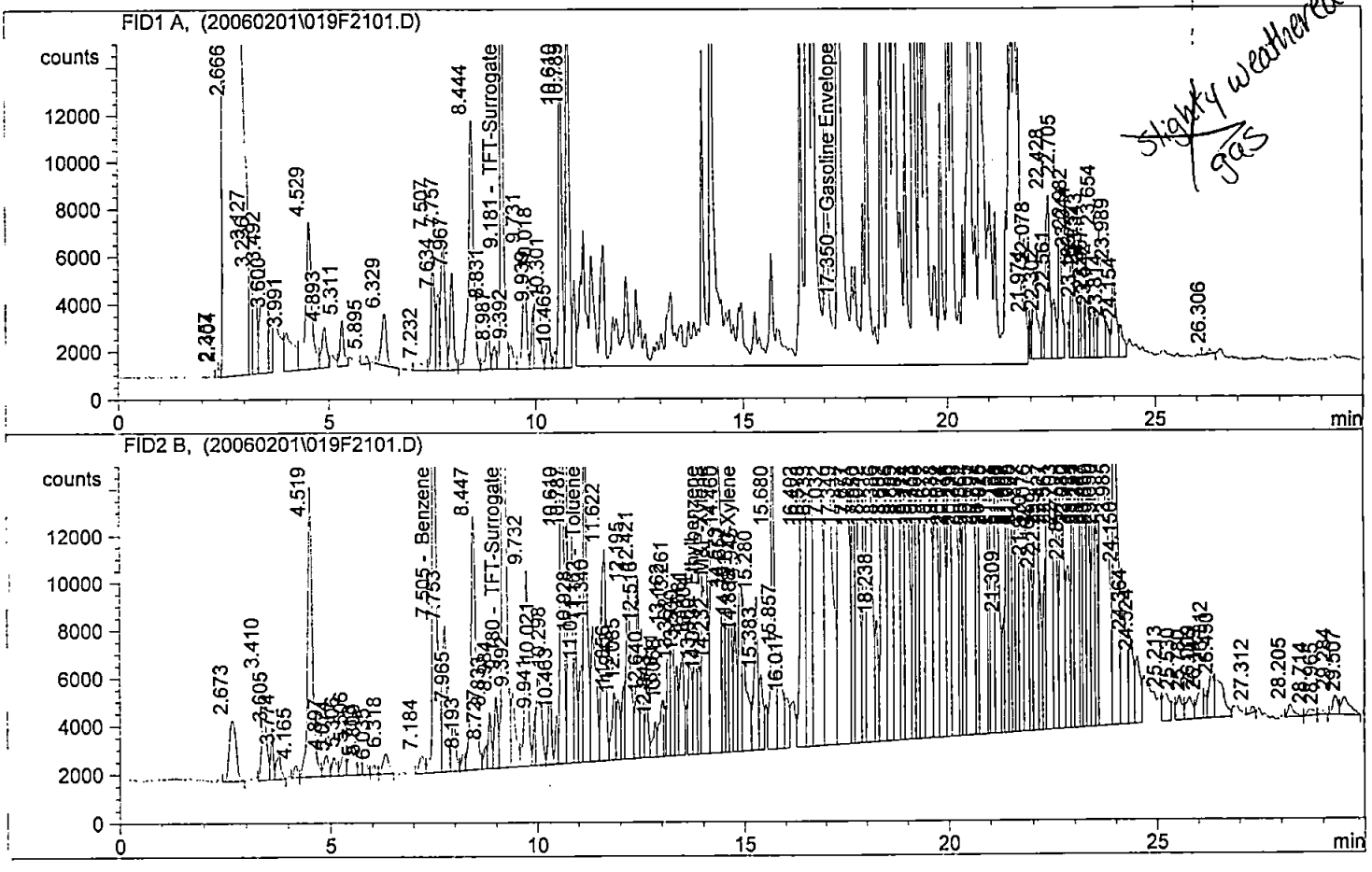
110%

B,T,E <1ug/L X<3ug/L

6-4-00LH

Data file : D:\HPCHEM\2\DATA\20060201\019F2101.D

Gas/BTEX 1 Report Created on 6/4/00 9:55:55 AM
Injection Date & Time: Fri, 2. Jun. 2000 8:31:10 PM
Sample Name : 006007-4 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Slightly weathered gas

Ret.	Compound Name	Area	Amount ug/L
9.181	TFT-Surrogate	118526.352	9.266
17.350	Gasoline Envelope	4145615.750	567.600

÷10 X 100 = 93%

Gas = 570 ug/L

REVIEWED BY & DATE 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.505	Benzene	163152.125	0.885
9.180	TFT-Surrogate	333908.219	11.114
11.162	Toluene	101421.805	0.631
14.013	Ethylbenzene	212072.031	2.626
14.232	M&P-Xylene	684518.875	5.862
14.888	O-Xylene	39803.402	0.203

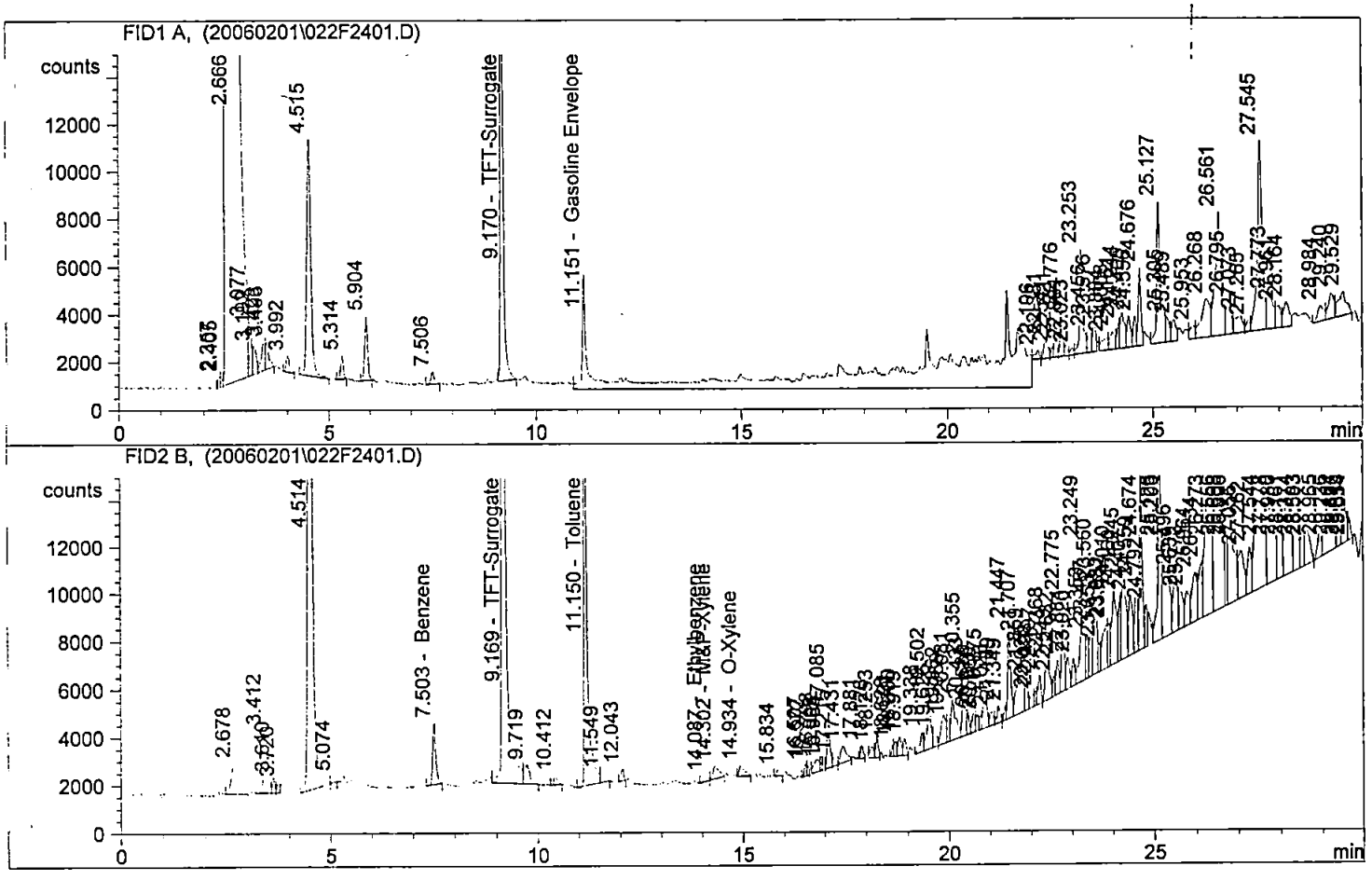
111%

B, T < 1 ug/L E = 3 ug/L X = 6 ug/L

6-4-00 LH

Data file : D:\HPCHEM\2\DATA\20060201\022F2401.D

Gas/BTEX 1 Report Created on 6/4/00 10:01:52 AM
Injection Date & Time: Fri, 2. Jun. 2000 10:19:34 PM
Sample Name : 006007-5 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.170	TFT-Surrogate	108690.805	8.497
11.151	Gasoline Envelope	457524.906	44.667

÷10×100=85%

Gas <50ug/L

REVIEWED BY & DATE KB 6/5/00

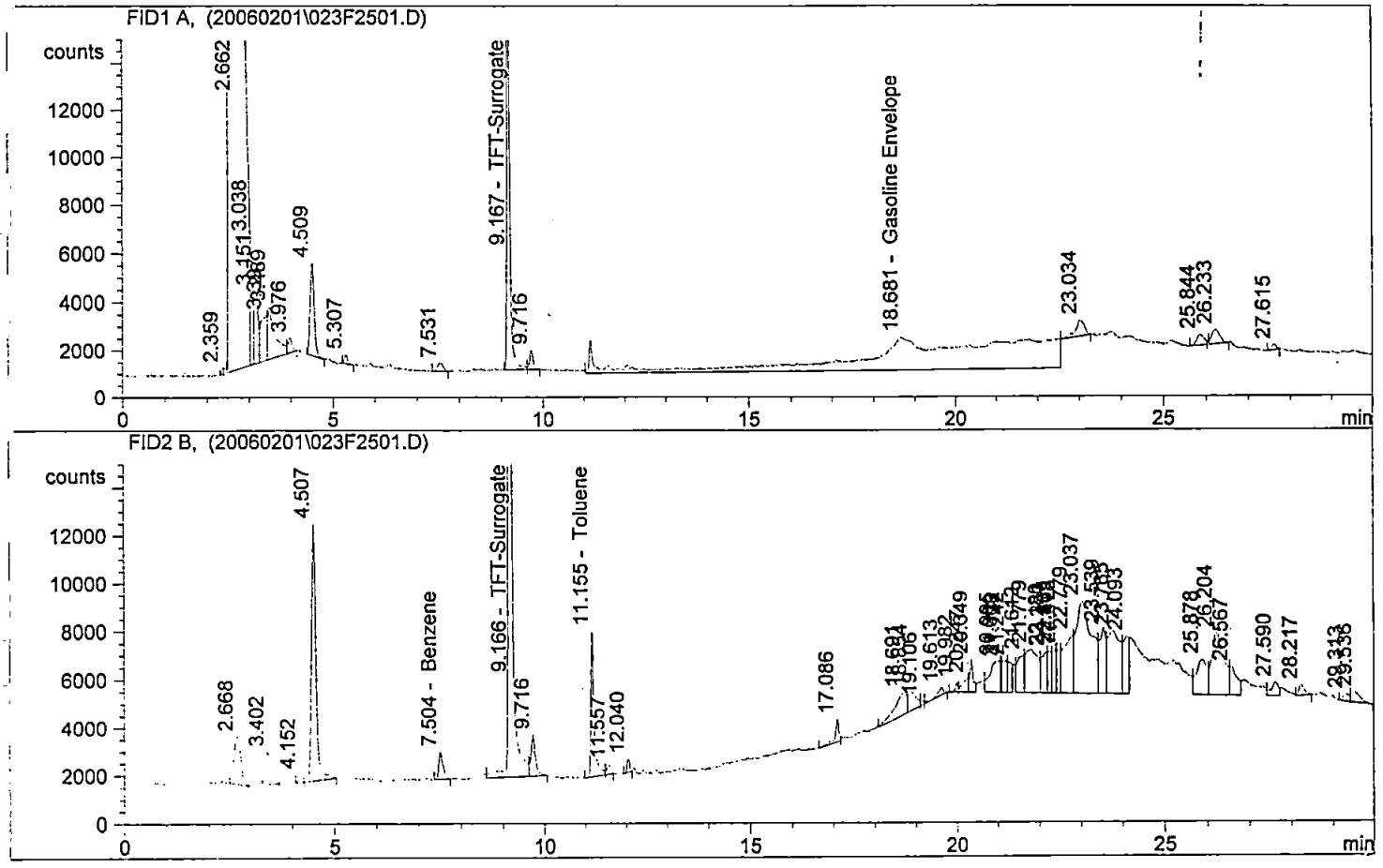
Ret.	Compound Name	Area	Amount ug/L
7.503	Benzene	13200.012	0.072
9.169	TFT-Surrogate	320089.844	10.608
11.150	Toluene	105813.242	0.658
14.087	Ethylbenzene	1266.457	0.012
14.302	M&P-Xylene	5629.902	0.028
14.934	O-Xylene	4099.560	0.021

106%

B,T,E <1ug/L X <3ug/L

6-4-00LH

Data file : D:\HPCHEM\2\DATA\20060201\023F2501.D
Gas/BTEX 1 Report Created on 6/4/00 10:02:31 AM
Injection Date & Time: Fri, 2. Jun. 2000 10:55:31 PM
Sample Name : 006007-6 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.167	TFT-Surrogate	84710.328	6.622 66%
18.681	Gasoline Envelope	382028.375	37.296

Gas < 50ug/L

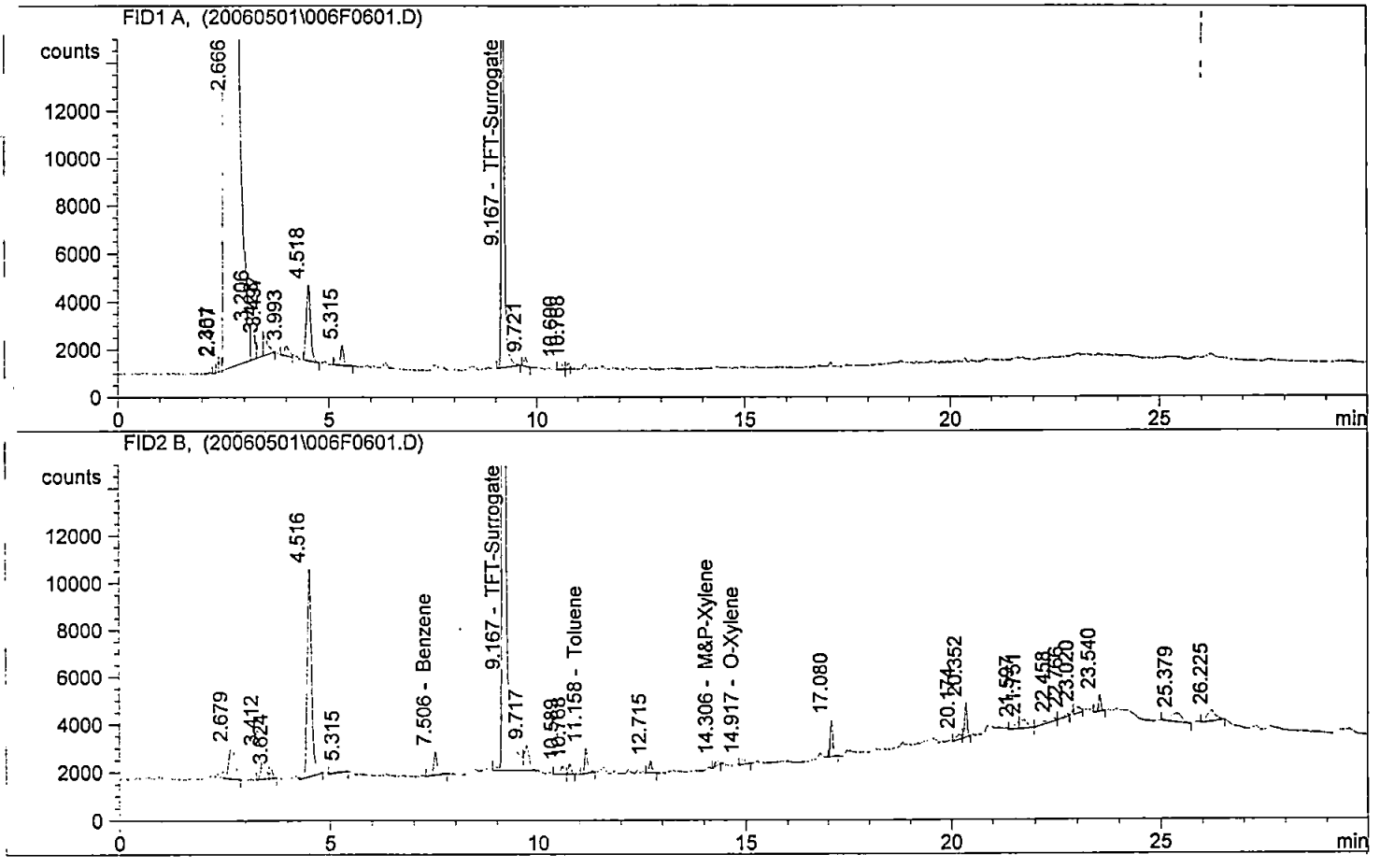
REVIEWED BY & DATE RO 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.504	Benzene	7743.823	0.042
9.166	TFT-Surrogate	249427.406	8.023 80%
11.155	Toluene	32359.084	0.201
0.000	Ethylbenzene	0.000	0.000
0.000	M&P-Xylene	0.000	0.000
0.000	O-Xylene	0.000	0.000

B, T, E < 1ug/L X < 3ug/L

6-4-00LH

ata file : D:\HPCHEM\2\DATA\20060501\006F0601.D
Gas/BTEX 1 Report Created on 6/5/00 11:49:09 AM
Injection Date & Time: Mon, 5. Jun. 2000 11:19:04 AM
ample Name : 006007-7 RR 5ML
.cq Operator : LAH
Acq. Method : GBTEX040.M
nalysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
'ID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.167	TFT-Surrogate	108331.773	8.469 85%
0.000	Gasoline Envelope	0.000	0.000

Gas < 50ug/L

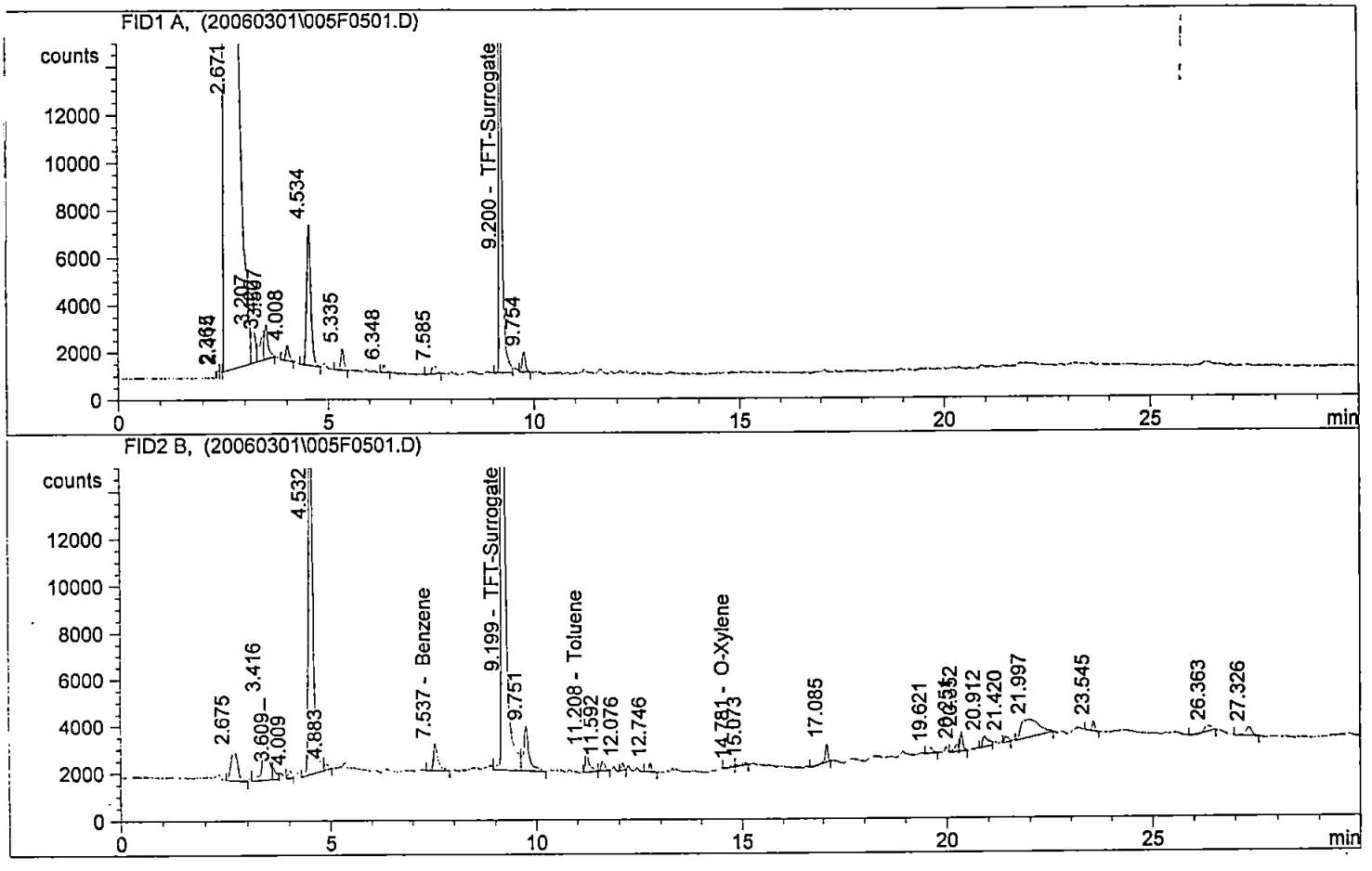
REVIEWED BY & DATE PB 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.506	Benzene	5985.140	0.032
9.167	TFT-Surrogate	312397.875	10.327 103%
11.158	Toluene	5364.308	0.033
0.000	Ethylbenzene	0.000	0.000
14.306	M&P-Xylene	1509.931	0.008
14.917	O-Xylene	1656.848	0.008

B, T, E < 1 µg/L X < 3 µg/L

10-500LH

Data file : D:\HPCHEM\2\DATA\20060301\005F0501.D
Gas/BTEX 1 Report Created on 6/3/00 1:00:16 PM
Injection Date & Time: Sat, 3. Jun. 2000 12:30:10 PM
Sample Name : 006007-8 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.200	TFT-Surrogate	101558.633	7.939 ÷10×100=79%
0.000	Gasoline Envelope	0.000	0.000

Gas <50ug/L

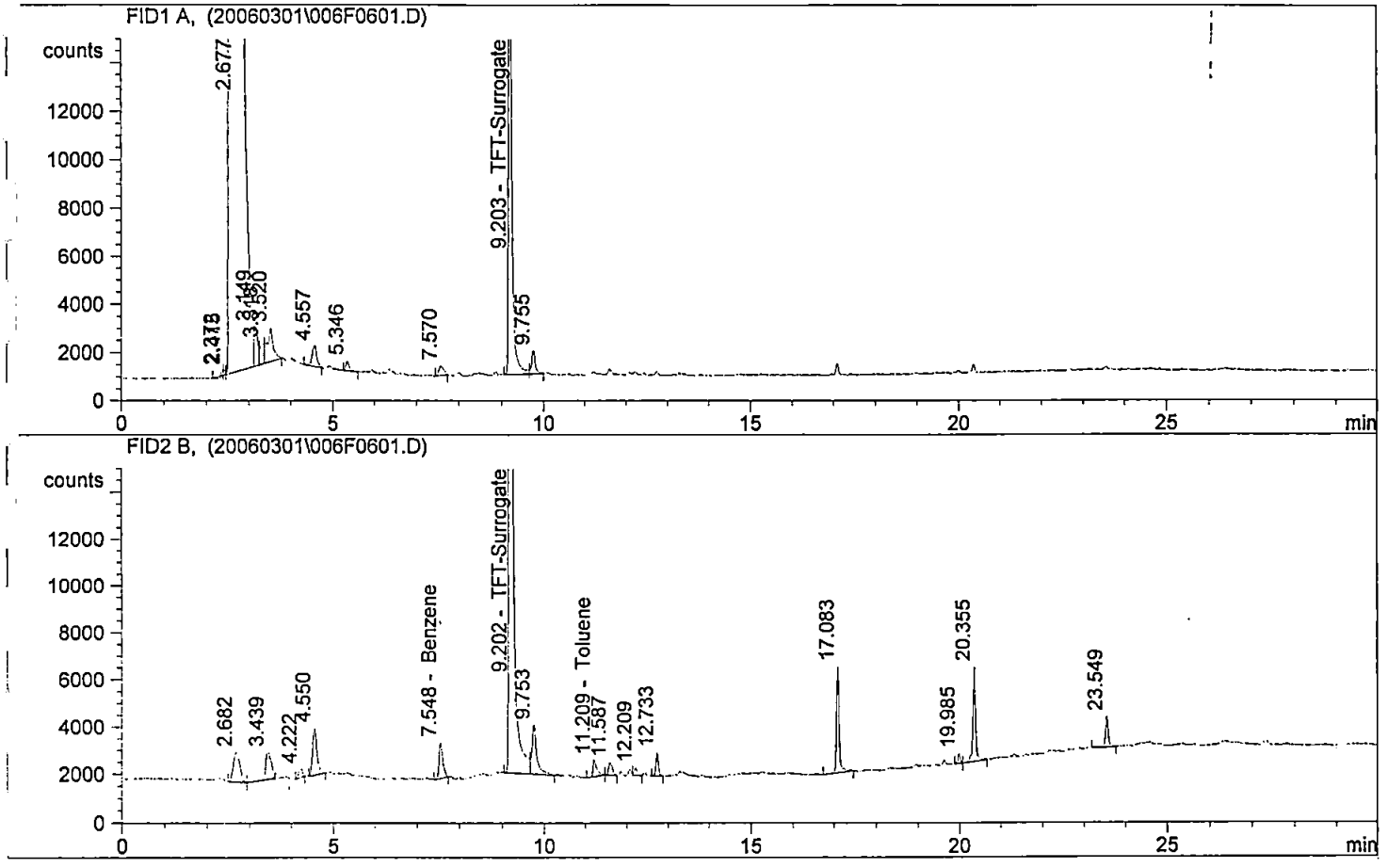
REVIEWED BY & DATE KB 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.537	Benzene	8876.831	0.048
9.199	TFT-Surrogate	295887.281	9.723 97%
11.208	Toluene	6125.956	0.038
0.000	Ethylbenzene	0.000	0.000
0.000	M&P-Xylene	0.000	0.000
14.781	O-Xylene	1266.709	0.006

B.T.E <1ug/L X<3ug/L

10-4-00LH

Data file : D:\HPCHEM\2\DATA\20060301\006F0601.D
Gas/BTEX 1 Report Created on 6/3/00 1:36:28 PM
Injection Date & Time: Sat, 3. Jun. 2000 1:06:22 PM
Sample Name : 006007-9 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.203	TFT-Surrogate	118142.953	9.236
0.000	Gasoline Envelope	0.000	0.000

92%.

Gas <50ug/L

REVIEWED BY RB
& DATE 6/5/00

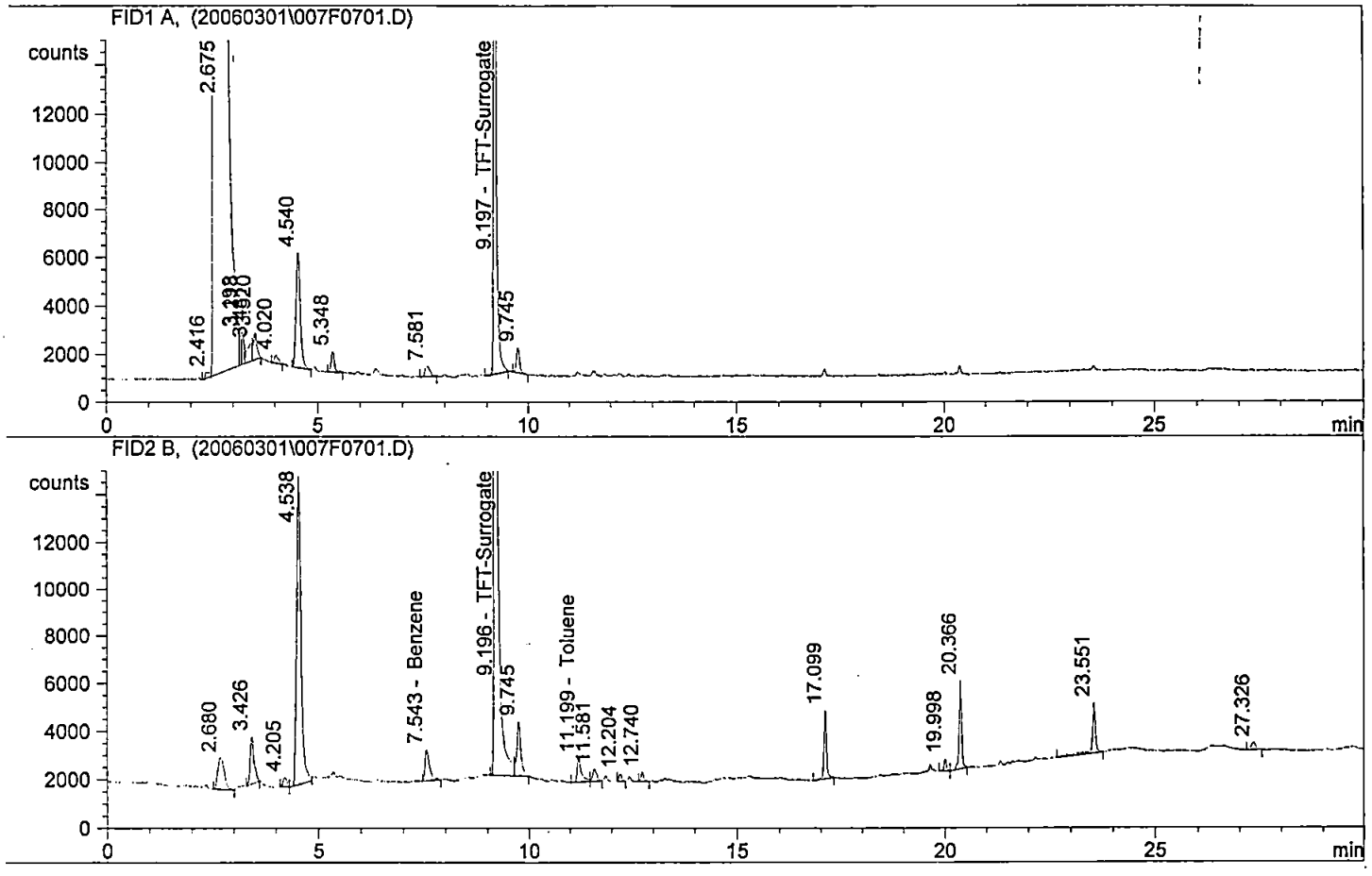
Ret.	Compound Name	Area	Amount ug/L
7.548	Benzene	9461.073	0.051
9.202	TFT-Surrogate	330910.469	11.004
11.209	Toluene	4779.829	0.030
0.000	Ethylbenzene	0.000	0.000
0.000	M&P-Xylene	0.000	0.000
0.000	O-Xylene	0.000	0.000

110%.

B, T, E <1ug/L X <3ug/L

6-4-00LH

ata file : D:\HPCHEM\2\DATA\20060301\007F0701.D
as/BTEX 1 Report Created on 6/3/00 2:12:47 PM
Injection Date & Time: Sat, 3. Jun. 2000 1:42:43 PM
ample Name : 006007-10 5ML
cq Operator : LAH
Acq. Method : GBTEX040.M
nalysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
ID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L	
9.197	TFT-Surrogate	102464.859	8.010	80%
0.000	Gasoline Envelope	0.000	0.000	

Gas < 50ug/L

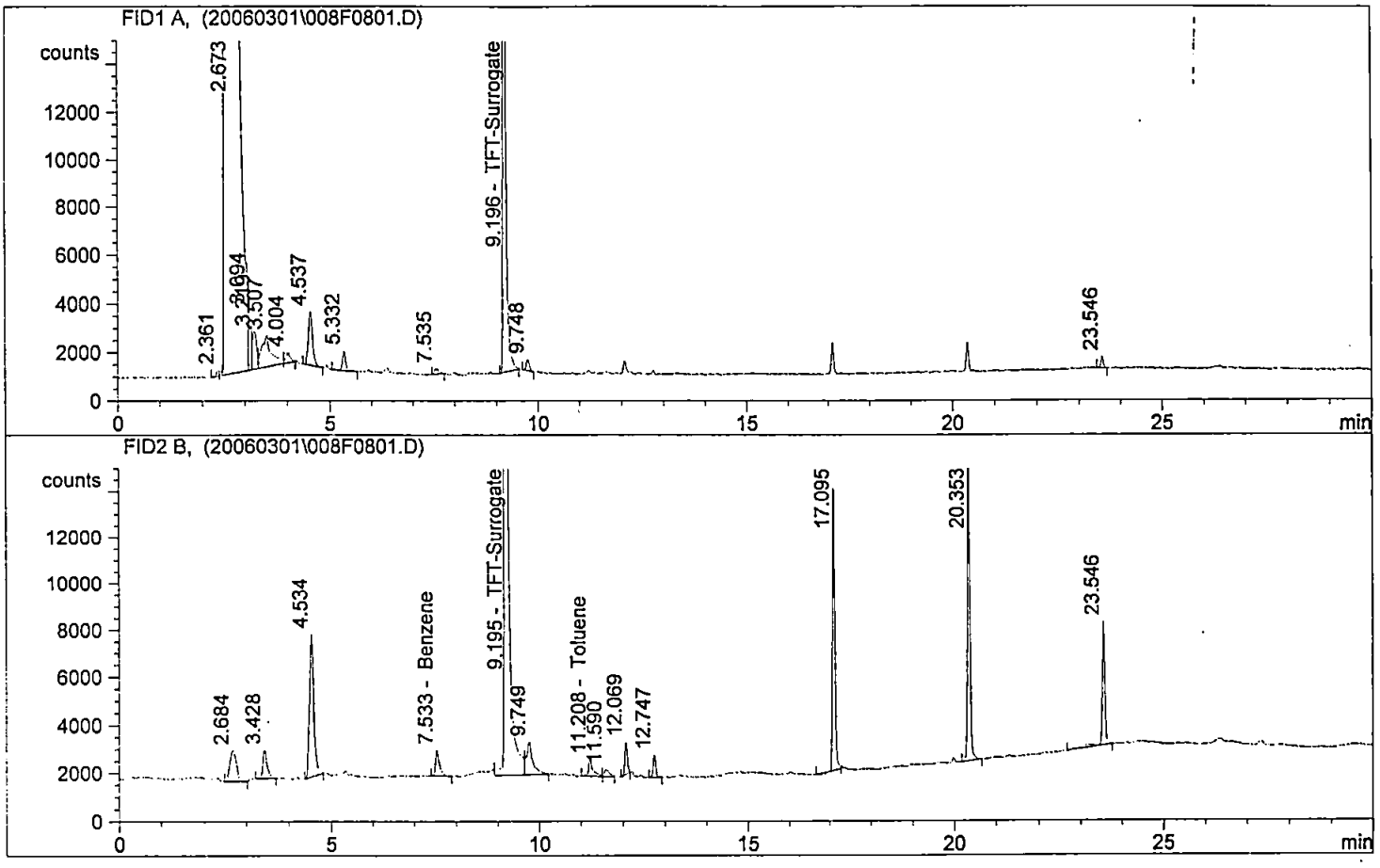
REVIEWED BY RB
& DATE 6/5/00

Ret.	Compound Name	Area	Amount ug/L	
7.543	Benzene	9616.516	0.052	
9.196	TFT-Surrogate	294536.562	9.673	97%
11.199	Toluene	7207.544	0.045	
0.000	Ethylbenzene	0.000	0.000	
0.000	M&P-Xylene	0.000	0.000	
0.000	O-Xylene	0.000	0.000	

B.T.E < 1ug/L X < 3ug/L

6-3-00 LH

Data file : D:\HPCHEM\2\DATA\20060301\008F0801.D
Gas/BTEX 1 Report Created on 6/3/00 2:48:43 PM
Injection Date & Time: Sat, 3. Jun. 2000 2:18:36 PM
Sample Name : 006007-11 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L
9.196	TFT-Surrogate	113008.906	8.834
0.000	Gasoline Envelope	0.000	0.000

88%

Gas <50µg/L

REVIEWED BY RB
DATE 6/5/00

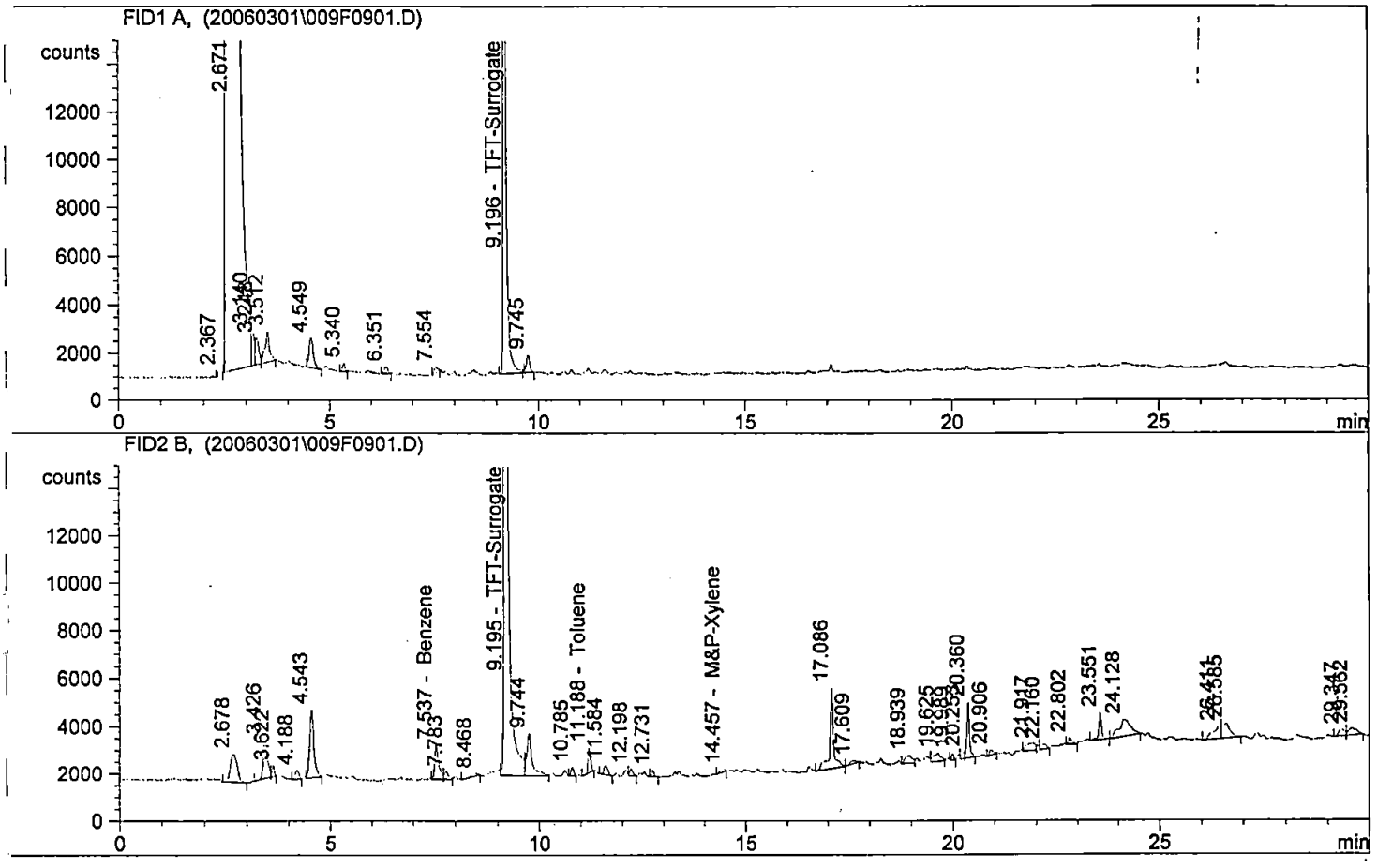
Ret.	Compound Name	Area	Amount ug/L
7.533	Benzene	7592.904	0.041
9.195	TFT-Surrogate	336555.062	11.211
11.208	Toluene	5502.385	0.034
0.000	Ethylbenzene	0.000	0.000
0.000	M&P-Xylene	0.000	0.000
0.000	O-Xylene	0.000	0.000

112%

B, T, E <1µg/L X<3µg/L

6-3-00LH

Data file : D:\HPCHEM\2\DATA\20060301\009F0901.D
Gas/BTEX 1 Report Created on 6/3/00 3:25:00 PM
Injection Date & Time: Sat, 3. Jun. 2000 2:54:54 PM
Sample Name : 005007-12 5ML
Acq Operator : LAH
Acq. Method : GBTEX040.M
Analysis Method : D:\HPCHEM\5\METHODS\GBTEX040.M
FID1 A equivalent to FID analysis.
FID2 B equivalent to PID analysis.



Ret.	Compound Name	Area	Amount ug/L	
9.196	TFT-Surrogate	117396.430	9.177	92%
0.000	Gasoline Envelope	0.000	0.000	

Gas < 50 ug/L

REVIEWED BY & DATE RB 6/5/00

Ret.	Compound Name	Area	Amount ug/L
7.537	Benzene	10440.491	0.057
9.195	TFT-Surrogate	336843.875	11.221 112%
11.188	Toluene	4703.646	0.029
0.000	Ethylbenzene	0.000	0.000
14.457	M&P-Xylene	1210.501	0.006
0.000	O-Xylene	0.000	0.000

B, T, E < 1 ug/L X < 3 ug/L

6-5-00 LH