# GETTLER-RYAN INC.

November 5, 2007
Job #387100

Mr. Brett Hunter
Chevron Environmental Management Company
P.O. Box 6012, Room K2252
San Ramon, CA 94583

**RE: Event of October 3, 2007**
Groundwater Monitoring & Sampling Report
Former Chevron Service Station #305192
9816 271st Street Northwest
Stanwood, Washington

Dear Mr. Hunter:

This report documents the groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

Static groundwater levels were measured and the wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any wells. Static water level data and groundwater elevations are presented in Table 1. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. Purge water was treated by filtering the water through granular activated carbon and was subsequently discharged. The chain of custody document and laboratory analytical reports are attached.

Please call if you have any questions or comments regarding this report. Thank you.

Sincerely,

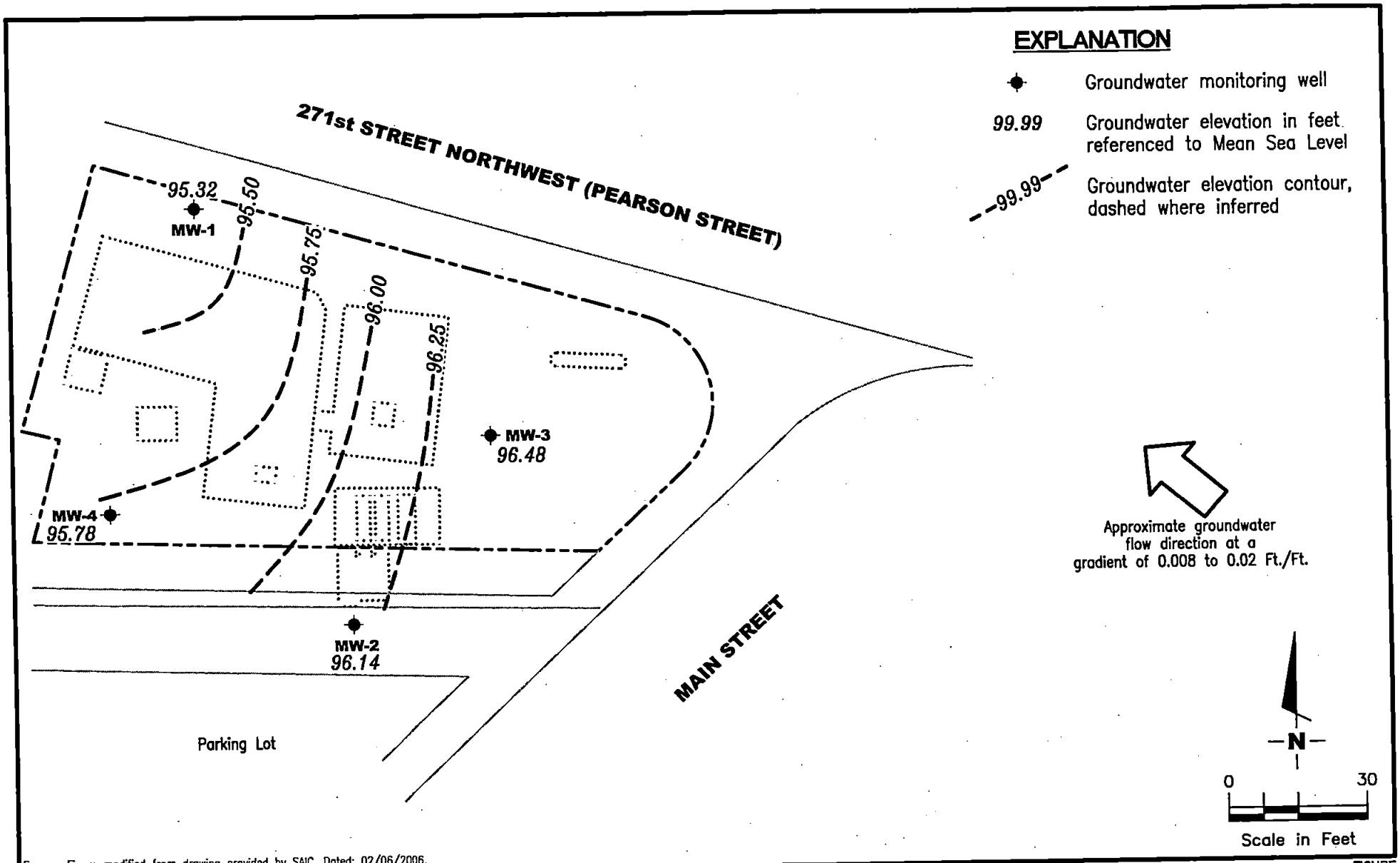
Deanna L. Harding
Project Coordinator

Douglas J. Lee
Senior Geologist, L.G. No. 2660

State of Washington
2660
Licensed Geologist
Douglas J. Lee

Figure 1: Potentiometric Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results
Table 3: Field Measurements
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

6747 Sierra Court, Suite J • **Dublin**, CA 94568 • (925) 551-7555 • Fax (925) 551-7888
3140 Gold Camp Drive, Suite 170 • **Rancho Cordova**, CA 95670 • (916) 631-1300 • Fax (916) 631-1317
1364 N. McDowell Blvd., Suite B2 • **Petaluma**, CA 94954 • (707) 789-3255 • Fax (707) 789-3218




Source: Figure modified from drawing provided by SAIC, Dated: 02/06/2006.

FIGURE 1

**GETTLER - RYAN INC.**
6747 Sierra Court, Suite J
Dublin, CA 94568 (925) 551-7555

**POTENTIOMETRIC MAP**
Former Chevron Service Station #305192
9816 271st Street Northwest
Stanwood, Washington

| PROJECT NUMBER | REVIEWED BY | DATE | REVISED DATE |
|---|---|---|---|
| 387100 | | October 3, 2007 | |

FILE NAME: P:\Enviro\Chevron\305192\Q07-305192.dwg | Layout Tab: Pot3

# Table 1

## Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #305192

9816 271st Street Northwest

Stanwood, Washington

| WELL ID/ DATE | | TOC* (ft.) | DTW (ft.) | GWE (ft.) | TPH-D (ppb) | TPH-O (ppb) | TPH-G (ppb) | B (ppb) | T (ppb) | E (ppb) | X (ppb) | MTBE (ppb) | D. LEAD (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-1** | | | | | | | | | | | | | |
| 04/10/06 | | 98.32 | 1.81 | 96.51 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 05/03/06 | | 98.32 | -- | -- | 310[1] | 120[1] | <240 | <2.5 | <2.5 | 4.7 | 11 | <13 | <0.87 |
| 08/02/06 | PER | 98.32 | 2.96 | 95.36 | 260[1] | 330[1] | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 10/10/06 | PER | 98.32 | 2.55 | 95.77 | 150[1] | <100[1] | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 01/15/07 | PER | 98.32 | 1.64 | 96.68 | <160[1] | <200[1] | <240 | <2.5 | <2.5 | <2.5 | <7.5 | <13 | -- |
| 04/25/07 | PER | 98.32 | 1.58 | 96.74 | 190[1] | 130[1] | <50 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 07/15/07 | PER | 98.32 | 2.58 | 95.74 | <81[1] | <100[1] | <500 | <5.0 | <5.0 | <5.0 | <15 | <25 | -- |
| **10/03/07** | **PER** | **98.32** | **3.00** | **95.32** | **130[1]** | **<100[1]** | **<250** | **<2.5** | **<2.5** | **<2.5** | **<7.5** | **<13** | -- |
| **MW-2** | | | | | | | | | | | | | |
| 04/10/06 | | 99.58 | 2.29 | 97.29 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 05/03/06 | | 99.58 | -- | -- | 1,400[1] | 560[1] | <240 | 13 | <2.5 | <2.5 | <7.5 | <13 | <0.87 |
| 08/02/06 | PER | 99.58 | 2.98 | 96.60 | 2,000[1] | 1,800[1] | 220 | 20 | <0.5 | <0.5 | 1.6 | <2.5 | -- |
| 10/10/06 | PER | 99.58 | 3.64 | 95.94 | 1,400[1] | 790[1] | <240 | 16 | <2.5 | <2.5 | <7.5 | <13 | -- |
| 01/15/07 | PER | 99.58 | 2.08 | 97.50 | 810[1] | 270[1] | <240 | 9.3 | <2.5 | <2.5 | <7.5 | <13 | -- |
| 04/25/07 | PER | 99.58 | 2.16 | 97.42 | 830[1] | 480[1] | 250 | 13 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 07/15/07 | PER | 99.58 | 2.95 | 96.63 | 7,800[1,3] | <1,000[1,3] | <500 | 13 | <5.0 | <5.0 | <15 | <25 | -- |
| **10/03/07** | **PER** | **99.58** | **3.44** | **96.14** | **1,600[1]** | **1,100[1]** | **<250** | **4.9** | **<2.5** | **<2.5** | **<7.5** | **<13** | -- |
| **MW-3** | | | | | | | | | | | | | |
| 04/10/06 | | 99.16 | 0.40 | 98.76 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 05/03/06 | | 99.16 | -- | -- | 580[1] | 240[1] | <240 | <2.5 | <2.5 | <2.5 | <7.5 | <13 | <0.87 |
| 08/02/06 | PER | 99.16 | 2.61 | 96.55 | 350[1] | 380[1] | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 10/10/06 | PER | 99.16 | 2.75 | 96.41 | 310[1] | 140[1] | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 01/15/07 | PER | 99.16 | 0.50 | 98.66 | 250[1] | <100[1] | <240 | <2.5 | <2.5 | <2.5 | <7.5 | <13 | -- |
| 04/25/07 | PER | 99.16 | 0.84 | 98.32 | 260[1] | 110[1] | <50 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 07/15/07 | PER | 99.16 | 2.16 | 97.00 | 250[1] | 150[1] | <500 | <5.0 | <5.0 | <5.0 | <15 | <25 | -- |
| **10/03/07** | **PER** | **99.16** | **2.68** | **96.48** | **330[1]** | **260[1]** | **<250** | **<2.5** | **<2.5** | **<2.5** | **<7.5** | **<13** | -- |
| **MW-4** | | | | | | | | | | | | | |
| 04/10/06 | | 100.00 | 2.08 | 97.92 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 05/03/06 | | 100.00 | -- | -- | 7,900[1] | <1,000[1] | <240 | <2.5 | <2.5 | <2.5 | <7.5 | <13 | <0.87 |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #305192

9816 271st Street Northwest

Stanwood, Washington

| WELL ID/ DATE | | TOC* (ft.) | DTW (ft.) | GWE (ft.) | TPH-D (ppb) | TPH-O (ppb) | TPH-G (ppb) | B (ppb) | T (ppb) | E (ppb) | X (ppb) | MTBE (ppb) | D. LEAD (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-4 (cont)** | | | | | | | | | | | | | |
| 08/02/06 | PER | 100.00 | 3.57 | 96.43 | 7,300[1] | <1,000[1] | 73 | <0.5 | <0.5 | <0.5 | 2.8 | <2.5 | -- |
| 10/10/06[2] | PER | 100.00 | 4.28 | 95.72 | 7,900[1] | 2,200[1] | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 01/15/07[2] | PER | 100.00 | 2.98 | 97.02 | 8,300[1] | 3,000[1] | <240 | <2.5 | <2.5 | <2.5 | <7.5 | <13 | -- |
| 04/25/07[2] | PER | 100.00 | 4.35 | 95.65 | 9,300[1] | 2,000[1] | 89 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 07/15/07 | PER | 100.00 | 4.06 | 95.94 | 850[1,3] | 320[1,3] | <500 | <5.0 | <5.0 | <5.0 | <15 | <25 | -- |
| **10/03/07** | **PER** | **100.00** | **4.22** | **95.78** | **8,500[1]** | **<2,100[1]** | **<250** | **<2.5** | **<2.5** | **<2.5** | **<7.5** | **<13** | -- |
| **TRIP BLANK** | | | | | | | | | | | | | |
| **QA** | | | | | | | | | | | | | |
| 05/03/06 | | -- | -- | -- | -- | -- | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 08/02/06 | | -- | -- | -- | -- | -- | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 10/10/06 | | -- | -- | -- | -- | -- | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 01/15/07 | | -- | -- | -- | -- | -- | <48 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 04/25/07 | | -- | -- | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| 07/15/07 | | -- | -- | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <1.5 | <2.5 | -- |
| **10/03/07** | | -- | -- | -- | -- | -- | **<50** | **<0.5** | **<0.5** | **<0.5** | **<1.5** | **<2.5** | -- |

| | TPH-D | TPH-O | TPH-G | B | T | E | X | MTBE | D. LEAD |
|---|---|---|---|---|---|---|---|---|---|
| Standard Laboratory Reporting Limits: | 250 | 250 | 48 | 0.5 | 0.5 | 0.5 | 1.5 | 2.5 | 0.001 |
| MTCA Method A Cleanup Levels: | 500 | 500 | 800/1,000 | 5 | 1,000 | 700 | 1,000 | 20 | -- |
| Current Method: | NWTPH-D + Extended | | NWTPH-G and EPA 8021B | | | | | | EPA 7421 |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #305192

9816 271st Street Northwest

Stanwood, Washington

**EXPLANATIONS:**

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-O = Total Petroleum Hydrocarbons as Oil
TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether
D. LEAD = Dissolved Lead

(ppb) = Parts per billion
-- = Not Measured/Not Analyzed
PER = Peristaltic Pump used for Purging
QA = Quality Assurance/Trip Blank
MTCA = Model Toxics Control Act Cleanup Regulations [WAC 173-340-720(2)(a)(I), as amended 02/01].

* TOC elevations are expressed in feet relative to an arbitrary datum.

[1] TPH-D and TPH-O with silica gel cleanup.

[2] Incorrect TOC used to calculate GWE in past reports (99.16). Correct TOC is shown.

[3] Current laboratory analytical results do not coincide with historical data, samples may have been switched in the field.

# Table 2

## Groundwater Analytical Results

Former Chevron Service Station #305192
9816 271st Street Northwest
Stanwood, Washington

| WELL ID | DATE | ETHANOL (ppb) | TBA (ppb) | MTBE (ppb) | DIPE (ppb) | ETBE (ppb) | TAME (ppb) | FULL SCAN EPA 8260 (ppb) |
|---|---|---|---|---|---|---|---|---|
| MW-4 | 05/03/06 | <500 | <50 | <5 | <5 | <5 | <5 | <5 - <60 |

**EXPLANATIONS:**

TBA = Tertiary butyl alcohol
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
(ppb) = Parts per billion

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

# Table 3

## Field Measurements

Former Chevron Service Station #305192
9816 271st Street Northwest
Stanwood, Washington

| WELL ID | DATE | Time (2400 hr.) | pH | Conductivity (µmhos/cm) | Temperature (°C/F°) | Turbidity (NTU) |
|---|---|---|---|---|---|---|
| MW-1 | 08/02/06 | 1055 | 6.72 | 401 | 15.4/-- | 93 |
| | 01/15/07 | 1140 | 6.79 | 412 | 12.0/-- | -- |
| | | 1144 | 6.72 | 408 | 11.8/-- | -- |
| | | 1149 | 6.68 | 403 | 11.7/-- | -- |
| | 04/25/07 | 1259 | 6.39 | 752 | 13.5/-- | -- |
| | 07/15/07 | 1542 | 6.31 | 589 | 17.8/-- | -- |
| | **10/03/07** | **1204** | **6.46** | **436** | **15.7/--** | **--** |
| | | **1208** | **6.42** | **430** | **15.6/--** | **--** |
| | | **1214** | **6.39** | **426** | **15.5/--** | **--** |
| MW-2 | 08/02/06 | 1017 | 6.49 | 430 | 15.2/-- | 371 |
| | | 1025 | 6.47 | 421 | 15.1/-- | 78 |
| | 01/15/07 | 1106 | 6.82 | 404 | 11.8/-- | -- |
| | | 1111 | 6.76 | 398 | 11.7/-- | -- |
| | | 1116 | 6.75 | 393 | 11.6/-- | -- |
| | 04/25/07 | 1158 | 6.60 | 856 | 12.8/-- | -- |
| | 07/15/07 | 1442 | 6.56 | 572 | 17.5/-- | -- |
| | **10/03/07** | **1349** | **6.46** | **429** | **15.8/--** | **--** |
| | | **1355** | **6.37** | **426** | **15.7/--** | **--** |
| | | **1401** | **6.36** | **421** | **15.7/--** | **--** |
| MW-3 | 08/02/06 | 957 | 6.56 | 412 | 15.5/-- | 83 |
| | 01/15/07 | 1041 | 6.70 | 407 | 11.9/-- | -- |
| | | 1046 | 6.65 | 401 | 11.8/-- | -- |
| | | 1051 | 6.62 | 397 | 11.7/-- | -- |
| | 04/25/07 | 1227 | 6.52 | 1266 | 12.3/-- | -- |
| | 07/15/07 | 1512 | 6.58 | 687 | 17.7/-- | -- |
| | **10/03/07** | **1314** | **6.37** | **456** | **15.9/--** | **--** |
| | | **1319** | **6.32** | **451** | **15.7/--** | **--** |
| | | **1323** | **6.31** | **446** | **15.7/--** | **--** |
| MW-4 | 08/02/06 | 920 | 6.76 | 433 | 15.6/-- | 176 |
| | | 926 | 6.73 | 429 | 15.5/-- | 72 |
| | 01/15/07 | 958 | 6.77 | 402 | 11.9/-- | -- |
| | | 1002 | 6.70 | 394 | 11.8/-- | -- |
| | | 1007 | 6.63 | 391 | 11.7/-- | -- |
| | 04/25/07 | 1337 | 7.38 | 620 | 12.8/-- | -- |
| | 07/15/07 | 1617 | 6.20 | 593 | 14.9/-- | -- |
| | **10/03/07** | **1240** | **6.52** | **426** | **15.9/--** | **--** |
| | | **1246** | **6.48** | **422** | **15.6/--** | **--** |

**EXPLANATIONS:**

pH = Potential Hydrogen Ions
(µmhos/cm) = Micromhos per cubic centimeter
(°C/F°) = Degrees Celsius/ Fahrenheit
(NTU) = Nephelometric Turbidity Unit
-- = Not Measured

# STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or disposable bailers. The measurements are taken a minimum of three times during the purging. Purging continues until these parameters stabilize. Purge water is treated by filtering the water through granular activated carbon and is subsequently discharged to the ground surface at the site.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used for all samples. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Chevron #305192 | Job Number: 386515
Site Address: 9816 271st Street | Event Date: 10-3-07 (inclusive)
City: Stanwood, WA | Sampler: Ben W. Newton

Well ID MW- 1 | Date Monitored: 10-3-07 | Well Condition: Replaced lock
Well Diameter 1.5 in.
Total Depth 14.14 ft.
Depth to Water 3.00 ft.
11.14 xVF .092 = 1 x3 case volume= Estimated Purge Volume: 3 gal.

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

☐ Check if water column is less that 0.50 ft.

**Purge Equipment:**
Disposable Bailer
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Other: Peristaltic

**Sampling Equipment:**
Disposable Bailer
Pressure Bailer
Discrete Bailer
Other: Peristaltic

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1159 | Weather Conditions: Cloudy
Sample Time/Date: 1217 / 10-3 | Water Color: Clear | Odor: no
Purging Flow Rate: gpm. | Sediment Description:
Did well de-water? no | If yes, Time: | Volume: gal.

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (umhos/cm) | Temperature ( C / F ) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1204 | 1 | 6.46 | 436 | 15.7 | | |
| 1209 | 2 | 6.42 | 430 | 15.6 | | |
| 1214 | 3 | 6.39 | 426 | 15.5 | | |

LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW- 1 | 3 x voa vial | YES | HCL | LANCASTER | NWTPH-Gx(8015)/BTEX/MTBE(8021) |
| ↓ | 2 x 1 liter ambers | YES | HCL | LANCASTER | NWTPH-Dx w/sgc(8015) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

COMMENTS:

Add/Replaced Lock: X | Add/Replaced Plug: Size:

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Chevron #305192 Job Number: 386515
Site Address: 9816 271st Street Event Date: 10-3-07 (inclusive)
City: Stanwood, WA Sampler: Brian W. Newton

Well ID MW-2 Date Monitored: 10-3-07 Well Condition: ok
Well Diameter 1.5 in.
Total Depth 14.21 ft.
Depth to Water 3.44 ft.
10.77 xVF .092 = 1 x3 case volume= Estimated Purge Volume: 3 gal.

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

☐ Check if water column is less that 0.50 ft.

**Purge Equipment:**
Disposable Bailer
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Other: Peristaltic

**Sampling Equipment:**
Disposable Bailer
Pressure Bailer
Discrete Bailer
Other: Peristaltic

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1343 Weather Conditions: Cloudy
Sample Time/Date: 1405 / 10-3 Water Color: clear Odor: no
Purging Flow Rate: gpm. Sediment Description:
Did well de-water? no If yes, Time: Volume: gal.

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (umhos/cm) | Temperature ( C / F ) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1349 | 1 | 6.40 | 429 | 15.8 | | |
| 1355 | 2 | 6.37 | 426 | 15.7 | | |
| 1401 | 3 | 6.36 | 421 | 15.7 | | |

**LABORATORY INFORMATION**

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-2 | 3 x voa vial | YES | HCL | LANCASTER | NWTPH-Gx(8015)/BTEX/MTBE(8021) |
| ↓ | 2 x 1 liter ambers | YES | HCL | LANCASTER | NWTPH-Dx w/sgc(8015) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

COMMENTS:

Add/Replaced Lock: Add/Replaced Plug: Size:

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Chevron #305192 | Job Number: 386515
Site Address: 9816 271st Street | Event Date: 10-3-07 (inclusive)
City: Stanwood, WA | Sampler: BEN NEWTON

Well ID MW-3 | Date Monitored: 10-3-07 | Well Condition: ~~X~~ LID BROKEN
Well Diameter 1.5 in.
Total Depth 13.65 ft.
Depth to Water 2.68 ft.
10.97 xVF .092 = 1 x3 case volume= Estimated Purge Volume: 3 gal.
☐ Check if water column is less that 0.50 ft.

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

**Purge Equipment:**
Disposable Bailer
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Other: peristaltic

**Sampling Equipment:**
Disposable Bailer
Pressure Bailer
Discrete Bailer
Other: Peristaltic

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1310 | Weather Conditions: Cloudy
Sample Time/Date: 1329 / 10-3 | Water Color: clear | Odor: no
Purging Flow Rate: gpm. | Sediment Description:
Did well de-water? no | If yes, Time: | Volume: gal.

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (umhos/cm) | Temperature ( C / F ) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1314 | 1 | 6.37 | 456 | 15.9 | | |
| 1319 | 2 | 6.32 | 451 | 15.7 | | |
| 1323 | 3 | 6.31 | 446 | 15.7 | | |

**LABORATORY INFORMATION**

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-3 | 3 x voa vial | YES | HCL | LANCASTER | NWTPH-Gx(8015)/BTEX/MTBE(8021) |
| " | 2 x 1 liter ambers | YES | HCL | LANCASTER | NWTPH-Dx w/sgc(8015) |

COMMENTS: Lid broken picture sent to Deanna + Bob H 10-3-07

Add/Replaced Lock: Add/Replaced Plug: Size:

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Chevron #305192 Job Number: 386515
Site Address: 9816 271st Street Event Date: 10-3-07 (inclusive)
City: Stanwood, WA Sampler: Ben W. Newton

Well ID MW-4 Date Monitored: 10-3-07 Well Condition: Replaced lock

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

Well Diameter 1.5 in.
Total Depth 13.78 ft.
Depth to Water 4.22 ft.
9.56 xVF .092 = .88 x3 case volume= Estimated Purge Volume: 2.5 gal.
☐ Check if water column is less that 0.50 ft.

**Purge Equipment:**
Disposable Bailer
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Other: Peristaltic

**Sampling Equipment:**
Disposable Bailer
Pressure Bailer
Discrete Bailer
Other: Peristaltic

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1235 Weather Conditions: Cloudy
Sample Time/Date: 1254 / 10-3 Water Color: clear Odor: no
Purging Flow Rate: gpm. Sediment Description:
Did well de-water? no If yes, Time: Volume: gal.

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (umhos/cm) | Temperature ( C / F ) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1240 | 1 | 6.52 | 426 | 15.9 | | |
| 1246 | 2.5 | 6.48 | 422 | 15.6 | | |
| | | | | | | |

LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-4 | 3 x voa vial | YES | HCL | LANCASTER | NWTPH-Gx(8015)/BTEX/MTBE(8021) |
| " | 2 x 1 liter ambers | YES | HCL | LANCASTER | NWTPH-Dx w/sgc(8015) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

COMMENTS:

Add/Replaced Lock: X Add/Replaced Plug: Size:

# Chevron Northwest Region Analysis Request/Chain of Custody

Lancaster Laboratories
*Where quality is a science.*

For Lancaster Laboratories use only
Acct. #: 12160 Sample #: 517571O-14 SCR#:

Group# 1059392

Facility #: SS#305192-OML G-R#387100
Site Address: 9816 271st Street NW, STANWOOD, WA
Chevron PM: BH Lead Consultant: SAICPC
Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite J, Dublin, Ca. 94568
Consultant Prj. Mgr.: Deanna L. Harding (deanna@grinc.com)
Consultant Phone #: 925-551-7555 Fax #: 925-551-7899
Sampler: Ben Newton
Service Order #: ☐ Non SAR:

**Preservative Codes**
H = HCl T = Thiosulfate
N = $HNO_3$ B = NaOH
S = $H_2SO_4$ O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy s on highest hit
☐ Run ____ oxy s on all hits

| Sample Identification | Date Collected | Time Collected | Grab | Composite | Matrix: Soil | Matrix: Water | Matrix: Oil | Matrix: Air | Total Number of Containers | Analyses Requested / Preservation Codes: BTEX + MTBE 8021 ☒ 8260 ☐ Naphth ☐ | 8260 full scan | Oxygenates ___ | TPH G | TPH D Extended Rng. ☒ Silica Gel Cleanup ☒ | Lead Total ☐ Diss. ☐ Method ___ | VPH/EPH | NWTPH H HCID ☐ quantification |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QA | 10-30-07 | — | X | | | X | | | 2 | X | | | X | | | | |
| MW-1 | | 1217 | X | | | X | | | 5 | X | | | X | X | | | |
| MW-2 | | 1405 | X | | | X | | | 5 | X | | | X | X | | | |
| MW-3 | | 1329 | X | | | X | | | 5 | X | | | X | X | | | |
| MW-4 | | 1254 | X | | | X | | | 5 | X | | | X | X | | | |

**Comments / Remarks**

**Turnaround Time Requested (TAT)** (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

**Data Package Options** (please circle if required) **EDF/EDD**
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other.

| | Date | Time | | Date | Time |
|---|---|---|---|---|---|
| Relinquished by: Ben Newton | 10-30 | 1533 | Received by: | | |
| Relinquished by: | | | Received by: | | |
| Relinquished by: | | | Received by: | | |
| Relinquished by Commercial Carrier: UPS FedEx Other | | | Received by: Kathy Binkley | 10-31-07 | 0910 |
| Temperature Upon Receipt 2°-5.3°C° Range | | | Custody Seals Intact? Yes No | | |

3468 Rev. 8/6/01

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

# Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

925-842-8582

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1059392. Samples arrived at the laboratory on Thursday, October 04, 2007. The PO# for this group is 0015014990 and the release number is HUNTER.

| Client Description | Lancaster Labs Number |
|---|---|
| QA Water Sample | 5175710 |
| MW-1 Grab Water Sample | 5175711 |
| MW-2 Grab Water Sample | 5175712 |
| MW-3 Grab Water Sample | 5175713 |
| MW-4 Grab Water Sample | 5175714 |

ELECTRONIC COPY TO SAIC c/o Gettler-Ryan Attn: Cheryl Hansen

Lancaster Laboratories

# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Questions? Contact your Client Services Representative
Lynn M Frederiksen at (717) 656-2300

Respectfully Submitted,

Susan M Goshert

Susan M. Goshert
Group Leader

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175710

QA Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

271QA
I 5E w

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | | | | | |
| 02161 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 02164 | Toluene | 108-88-3 | N.D. | 0.5 | ug/l | 1 |
| 02166 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 02171 | Total Xylenes | 1330-20-7 | N.D. | 1.5 | ug/l | 1 |
| 02172 | Methyl tert-Butyl Ether | 1634-04-4 | N.D. | 2.5 | ug/l | 1 |
| 08274 | TPH by NWTPH-Gx waters | | | | | |
| 01648 | TPH by NWTPH-Gx waters | n.a. | N.D. | 50. | ug/l | 1 |

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | SW-846 8021B | 1 | 10/08/2007 13:59 | K. Robert Caulfeild-James | 1 |
| 08274 | TPH by NWTPH-Gx waters | ECY 97-602 NWTPH-Gx modified | 1 | 10/08/2007 13:59 | K. Robert Caulfeild-James | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 10/08/2007 13:59 | K. Robert Caulfeild-James | 1 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175711

MW-1 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 12:17 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

271M1
I 5E w

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | | | | | |
| 02161 | Benzene | 71-43-2 | N.D. | 2.5 | ug/l | 5 |
| 02164 | Toluene | 108-88-3 | N.D. | 2.5 | ug/l | 5 |
| 02166 | Ethylbenzene | 100-41-4 | N.D. | 2.5 | ug/l | 5 |
| 02171 | Total Xylenes | 1330-20-7 | N.D. | 7.5 | ug/l | 5 |
| 02172 | Methyl tert-Butyl Ether | 1634-04-4 | N.D. | 13. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | | | | | |
| 02095 | Diesel Range Organics | n.a. | 130. | 81. | ug/l | 1 |
| 02096 | Heavy Range Organics | n.a. | N.D. | 100. | ug/l | 1 |
| 08274 | TPH by NWTPH-Gx waters | | | | | |
| 01648 | TPH by NWTPH-Gx waters | n.a. | N.D. | 250. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | SW-846 8021B | 1 | 10/08/2007 19:13 | K. Robert Caulfeild-James | 5 |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | ECY 97-602 NWTPH-Dx modified | 1 | 10/10/2007 01:26 | Heather E Williams | 1 |
| 08274 | TPH by NWTPH-Gx waters | ECY 97-602 NWTPH-Gx modified | 1 | 10/08/2007 19:13 | K. Robert Caulfeild-James | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 10/08/2007 19:13 | K. Robert Caulfeild-James | 5 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175711

MW-1 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 12:17 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

| | | | | | | |
|---|---|---|---|---|---|---|
| 271M1<br>02135 | Extraction - DRO Water Special | ECY 97-602 NWTPH-Dx 06/97 | 1 | 10/08/2007 08:15 | Jason A Heisey | 1 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175712

MW-2 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 14:05 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

271M2
I 5E w

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | | | | | |
| 02161 | Benzene | 71-43-2 | 4.9 | 2.5 | ug/l | 5 |
| 02164 | Toluene | 108-88-3 | N.D. | 2.5 | ug/l | 5 |
| 02166 | Ethylbenzene | 100-41-4 | N.D. | 2.5 | ug/l | 5 |
| 02171 | Total Xylenes | 1330-20-7 | N.D. | 7.5 | ug/l | 5 |
| 02172 | Methyl tert-Butyl Ether | 1634-04-4 | N.D. | 13. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | | | | | |
| 02095 | Diesel Range Organics | n.a. | 1,600. | 80. | ug/l | 1 |
| 02096 | Heavy Range Organics | n.a. | 1,100. | 100. | ug/l | 1 |
| 08274 | TPH by NWTPH-Gx waters | | | | | |
| 01648 | TPH by NWTPH-Gx waters | n.a. | N.D. | 250. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | SW-846 8021B | 1 | 10/08/2007 19:34 | K. Robert Caulfeild-James | 5 |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | ECY 97-602 NWTPH-Dx modified | 1 | 10/10/2007 02:05 | Heather E Williams | 1 |
| 08274 | TPH by NWTPH-Gx waters | ECY 97-602 NWTPH-Gx modified | 1 | 10/08/2007 19:34 | K. Robert Caulfeild-James | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 10/08/2007 19:34 | K. Robert Caulfeild-James | 5 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175712

MW-2 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 14:05 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

| | | | | | | |
|---|---|---|---|---|---|---|
| 271M2<br>02135 | Extraction - DRO Water Special | ECY 97-602 NWTPH-Dx 06/97 | 1 | 10/08/2007 08:15 | Jason A Heisey | 1 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175713

MW-3 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 13:29 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

271M3
I 5E w

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | | | | | |
| 02161 | Benzene | 71-43-2 | N.D. | 2.5 | ug/l | 5 |
| 02164 | Toluene | 108-88-3 | N.D. | 2.5 | ug/l | 5 |
| 02166 | Ethylbenzene | 100-41-4 | N.D. | 2.5 | ug/l | 5 |
| 02171 | Total Xylenes | 1330-20-7 | N.D. | 7.5 | ug/l | 5 |
| 02172 | Methyl tert-Butyl Ether | 1634-04-4 | N.D. | 13. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | | | | | |
| 02095 | Diesel Range Organics | n.a. | 330. | 81. | ug/l | 1 |
| 02096 | Heavy Range Organics | n.a. | 260. | 100. | ug/l | 1 |
| 08274 | TPH by NWTPH-Gx waters | | | | | |
| 01648 | TPH by NWTPH-Gx waters | n.a. | N.D. | 250. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | SW-846 8021B | 1 | 10/08/2007 19:55 | K. Robert Caulfeild-James | 5 |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | ECY 97-602 NWTPH-Dx modified | 1 | 10/10/2007 02:44 | Matthew E Barton | 1 |
| 08274 | TPH by NWTPH-Gx waters | ECY 97-602 NWTPH-Gx modified | 1 | 10/08/2007 19:55 | K. Robert Caulfeild-James | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 10/08/2007 19:55 | K. Robert Caulfeild-James | 5 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175713

MW-3 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 13:29 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

| | | | | | | |
|---|---|---|---|---|---|---|
| 271M3<br>02135 | Extraction - DRO Water Special | ECY 97-602 NWTPH-Dx 06/97 | 1 | 10/08/2007 08:15 | Jason A Heisey | 1 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175714

MW-4 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 12:54 by BN

Account Number: 11260

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

271M4
I 5E w

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | | | | | |
| 02161 | Benzene | 71-43-2 | N.D. | 2.5 | ug/l | 5 |
| 02164 | Toluene | 108-88-3 | N.D. | 2.5 | ug/l | 5 |
| 02166 | Ethylbenzene | 100-41-4 | N.D. | 2.5 | ug/l | 5 |
| 02171 | Total Xylenes | 1330-20-7 | N.D. | 7.5 | ug/l | 5 |
| 02172 | Methyl tert-Butyl Ether | 1634-04-4 | N.D. | 13. | ug/l | 5 |
| | Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | | | | | |
| 02095 | Diesel Range Organics | n.a. | 8,500. | 1,700. | ug/l | 20 |
| 02096 | Heavy Range Organics | n.a. | N.D. | 2,100. | ug/l | 20 |
| 08274 | TPH by NWTPH-Gx waters | | | | | |
| 01648 | TPH by NWTPH-Gx waters | n.a. | N.D. | 250. | ug/l | 5 |

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02159 | BTEX, MTBE | SW-846 8021B | 1 | 10/08/2007 20:16 | K. Robert Caulfeild-James | 5 |
| 02211 | TPH by NWTPH-Dx(water) w/SiGel | ECY 97-602 NWTPH-Dx modified | 1 | 10/15/2007 15:57 | Heather E Williams | 20 |
| 08274 | TPH by NWTPH-Gx waters | ECY 97-602 NWTPH-Gx modified | 1 | 10/08/2007 20:16 | K. Robert Caulfeild-James | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 10/08/2007 20:16 | K. Robert Caulfeild-James | 5 |
| 02135 | Extraction - DRO Water Special | ECY 97-602 NWTPH-Dx 06/97 | 1 | 10/08/2007 08:15 | Jason A Heisey | 1 |

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

# Analysis Report



Lancaster Laboratories Sample No. WW 5175714

MW-4 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st St NW - Stanwood, WA
Collected:10/03/2007 12:54 by BN

Submitted: 10/04/2007 09:10
Reported: 10/16/2007 at 16:35
Discard: 11/16/2007

271M4

Account Number: 11260

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



## Quality Control Summary

Client Name: Chevron
Group Number: 1059392
Reported: 10/16/07 at 04:35 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 072790020A | Sample number(s): 5175711-5175714 | | | | | | | |
| Diesel Range Organics | N.D. | 80. | ug/l | 74 | | 61-106 | | |
| Heavy Range Organics | N.D. | 100. | ug/l | | | | | |
| Batch number: 07281A54A | Sample number(s): 5175710-5175714 | | | | | | | |
| TPH by NWTPH-Gx waters | N.D. | 50. | ug/l | 87 | 87 | 75-135 | 0 | 30 |
| Benzene | N.D. | 0.5 | ug/l | 92 | 94 | 86-119 | 2 | 30 |
| Toluene | N.D. | 0.5 | ug/l | 100 | 102 | 82-119 | 2 | 30 |
| Ethylbenzene | N.D. | 0.5 | ug/l | 97 | 99 | 81-119 | 2 | 30 |
| Total Xylenes | N.D. | 1.5 | ug/l | 98 | 100 | 82-120 | 1 | 30 |
| Methyl tert-Butyl Ether | N.D. | 2.5 | ug/l | 93 | 92 | 82-124 | 1 | 30 |

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 072790020A | Sample number(s): 5175711-5175714 | | | | | BKG: P175717 | | | |
| Diesel Range Organics | | | | | | 2,400. | 2,400. | 0 (1) | 20 |
| Heavy Range Organics | | | | | | 1,300. | 1,400. | 7 (1) | 20 |
| Batch number: 07281A54A | Sample number(s): 5175710-5175714 UNSPK: P175700, P175702 | | | | | | | | |
| TPH by NWTPH-Gx waters | 75 | | 63-154 | | | | | | |
| Benzene | 106 | | 78-131 | | | | | | |
| Toluene | 114 | | 78-129 | | | | | | |
| Ethylbenzene | 113 | | 75-133 | | | | | | |
| Total Xylenes | 113 | | 84-131 | | | | | | |
| Methyl tert-Butyl Ether | 98 | | 70-134 | | | | | | |

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Dx(water) w/SiGel
Batch number: 072790020A

| | Orthoterphenyl |
|---|---|
| 5175711 | 90 |
| 5175712 | 98 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report



## Quality Control Summary

Client Name: Chevron
Reported: 10/16/07 at 04:35 PM

Group Number: 1059392

### Surrogate Quality Control

| | |
|---|---|
| 5175713 | 96 |
| 5175714 | 5* |
| Blank | 92 |
| DUP | 91 |
| LCS | 99 |
| Limits: | 50-150 |

Analysis Name: BTEX, MTBE
Batch number: 07281A54A

| | Trifluorotoluene-P | Trifluorotoluene-F |
|---|---|---|
| 5175710 | 95 | 90 |
| 5175711 | 96 | 89 |
| 5175712 | 96 | 86 |
| 5175713 | 96 | 88 |
| 5175714 | 97 | 88 |
| Blank | 97 | 88 |
| LCS | 95 | 79 |
| LCSD | 96 | 79 |
| MS | 94 | 81 |
| Limits: | 69-129 | 63-135 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Lancaster Laboratories
# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | |
|---|---|
| **N.D.** | none detected |
| **TNTC** | Too Numerous To Count |
| **IU** | International Units |
| **umhos/cm** | micromhos/cm |
| **C** | degrees Celsius |
| **Cal** | (diet) calories |
| **meq** | milliequivalents |
| **g** | gram(s) |
| **ug** | microgram(s) |
| **ml** | milliliter(s) |
| **m3** | cubic meter(s) |

| | |
|---|---|
| **BMQL** | Below Minimum Quantitation Level |
| **MPN** | Most Probable Number |
| **CP Units** | cobalt-chloroplatinate units |
| **NTU** | nephelometric turbidity units |
| **F** | degrees Fahrenheit |
| **lb.** | pound(s) |
| **kg** | kilogram(s) |
| **mg** | milligram(s) |
| **l** | liter(s) |
| **ul** | microliter(s) |
| **fib >5 um/ml** | fibers greater than 5 microns in length per ml |

**<** less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**ppm** parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

*U.S. EPA data qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quatitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **J** | Estimated value |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike amount not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

**WARRANTY AND LIMITS OF LIABILITY** – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.