Delta
Environmental
Consultants, Inc.

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U.S.A.
916/638-2085
FAX: 916/638-8385

December 20, 2000

Mr. Paul Supple
ARCO Products Company
P.O. Box 6549
Moraga, CA 94570

Subject: *Quarterly Groundwater Monitoring Report, Third Quarter 2000*
ARCO Service Station No. 2162
15135 Hesperian Boulevard
San Leandro, California
Project No. D000-310

Dear Mr. Supple:

Delta Environmental Consultants, Inc. is submitting the attached report that presents the results of the third quarter 2000 groundwater monitoring program at ARCO Products Company Service Station No. 2162, located at 15135 Hesperian Boulevard, San Leandro, California. The monitoring program complies with the Alameda County Health Care Services Agency requirements regarding underground tank investigations.

The interpretations contained in this report represent our professional opinions and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeological and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions concerning this project, please contact Steven W. Meeks at (916) 536-2613.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Trevor L. Atkinson
Project Engineer

Steven W. Meeks, P.E.
Project Manager
California Registered Civil Engineer No. C057461

TLA (Lrp002.310.doc)
Enclosures

cc: Mr. Scott Seery – Alameda County Health Care Services Agency
Mr. John Jang – California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Mike Makaldin – City of San Leandro Fire Department

Date: December 20, 2000

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 2162 Address:	15135 Hesperian Boulevard, San Leandro, CA
ARCO Environmental Engineer/Phone No.:	Paul Supple 925-299-8891
Consulting Co./Contact Person	Delta Environmental Consultants, Inc. Steven W. Meeks, P.E.
Consultant Project No.:	D000-310
Primary Agency/Regulatory ID No.	Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER

1. Performed quarterly groundwater monitoring for third quarter 2000.

WORK PROPOSED FOR NEXT QUARTER

1. Prepare and submit quarterly groundwater monitoring report for third quarter 2000.
2. Perform quarterly groundwater monitoring and sampling for fourth quarter 2000.
3. Evaluate site for closure during third quarter 2000

QUARTERLY MONITORING:

Current Phase of Project	Monitoring
Frequency of Groundwater Sampling:	Quarterly: MW-1, MW-2, MW-3, MW-4
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product (FP) Present On–Site:	No
FP Recovered this Quarter:	N/A
Cumulative FP Recovered to Date:	None
Bulk Soil Removed This Quarter:	None
Bulk Soil Removed to Date:	None
Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	8.81 feet
Groundwater Gradient:	0.01 ft/ft toward southwest

DISCUSSION:

- Methyl tertiary butyl ether (MTBE), total petroleum hydrocarbons as gasoline (TPHg) and benzene were not detected at or above the laboratory reporting limits for the sample collected from MW-1.
- Benzene was detected at 1.02 µg/L in a sample collected from MW-4. MTBE was detected at 128 and 12.2 µg/L in samples collected from MW-3 and MW-4, respectively. TPHg was detected at 266 µg/L in a sample collected from MW-2.

ATTACHMENTS:

- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Groundwater Flow Direction and Gradient
- Figure 1 Groundwater Analytical Summary Map
- Figure 2 Groundwater Elevation Contour Map
- Appendix A Sampling and Analysis Procedures
- Appendix B Historical Data Tables (IT Corporation)
- Appendix C Certified Analytical Reports with Chain–of–Custody Documentation
- Appendix D Field Sampling Data

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station No. 2162
15135 Hesperian Boulevard
San Leandro, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH as Gasoline (µg/L)	MTBE (µg/L)
MW-1	6/20/00	31.19	8.33	22.86	<0.5	0.8	<0.5	<1.0	<50	<10
	9/29/00		9.07	22.12	<0.5	<0.5	<0.5	<0.5	<50	<2.5
MW-2	6/20/00	30.38	7.38	23.00	NS	NS	NS	NS	NS	NS
	9/29/00		8.08	22.30	<0.5	<0.5	<0.5	<0.5	266	<2.5
MW-3	6/20/00	30.30	7.75	22.55	NS	NS	NS	NS	NS	NS
	9/29/00		8.46	21.84	<0.5	<0.5	<0.5	<0.5	<50	128
MW-4	6/20/00	30.39	8.87	21.52	NS	NS	NS	NS	NS	NS
	9/29/00		9.61	20.78	1.02	<0.5	<0.5	<0.5	<50	12.2

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted

µg/L = Micrograms per liter

NS = Not sampled

Note: Please refer to Appendix B for Historical Groundwater Elevation and Analytical Data Tables developed by IT Corporation

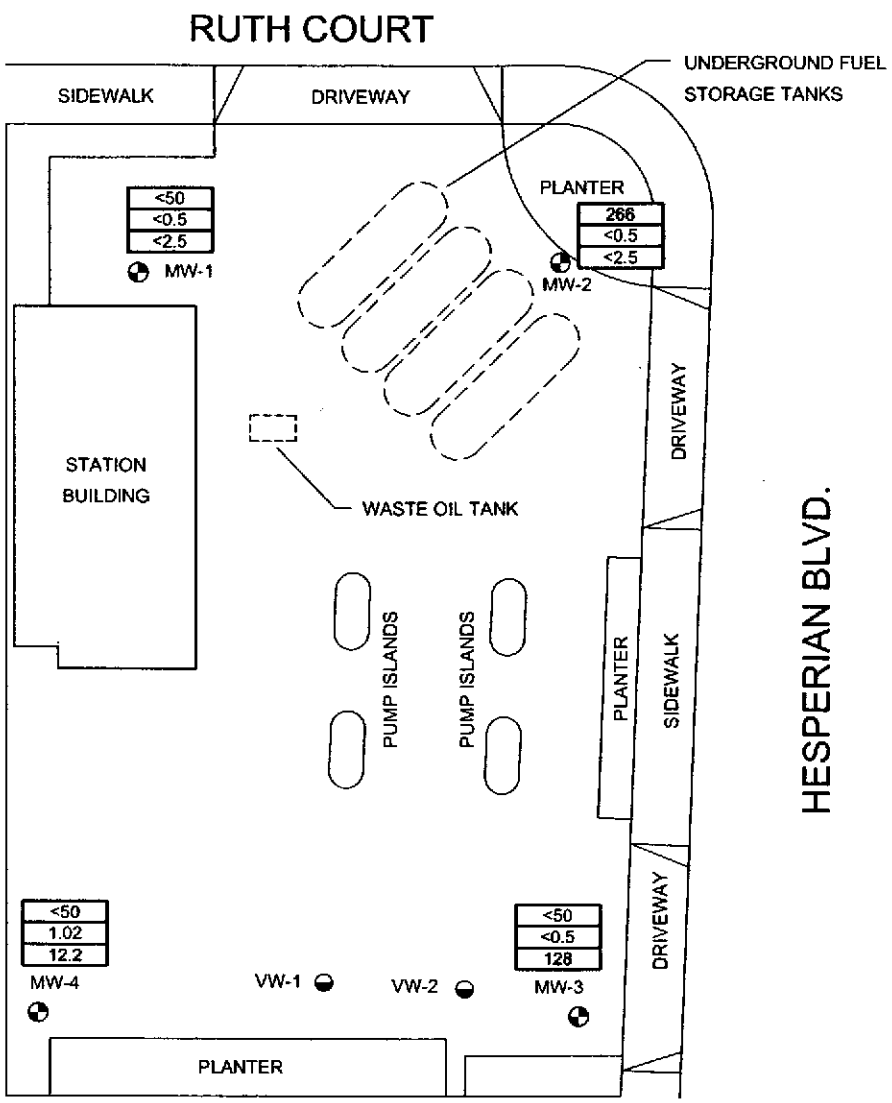
TABLE 2

GROUNDWATER FLOW DIRECTION AND GRADIENT

ARCO Service Station No. 2162
15135 Hesperian Boulevard
San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/20/00	Southwest	0.01
09/29/00	Southwest	0.01

Note: Please refer to Appendix B for Historical Groundwater Elevation and Analytical Data Tables developed by IT Corporation



NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

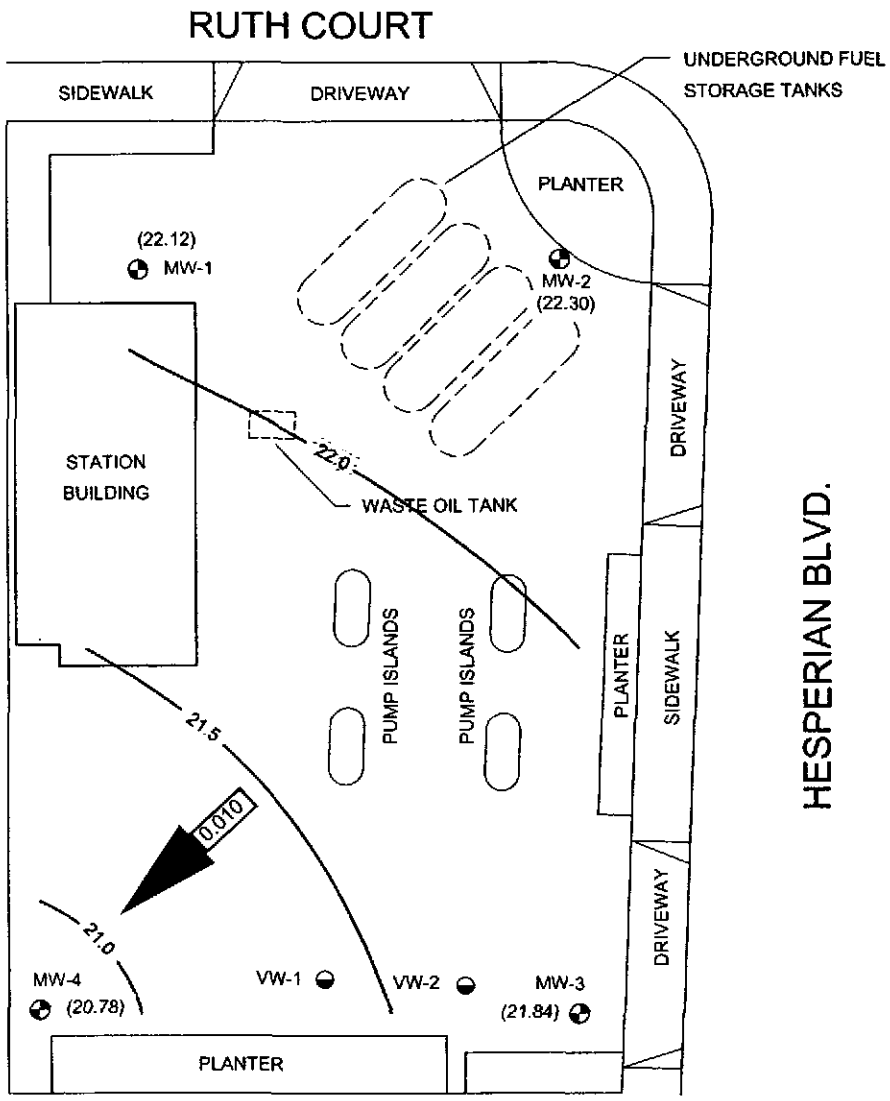
LEGEND:

MW-1	MONITORING WELL LOCATION
VW-1	SOIL VAPOR EXTRACTION WELL LOCATION
<50	TPH AS GASOLINE IN MICROGRAMS PER LITER
<0.5	BENZENE IN MICROGRAMS PER LITER
<10	MTBE IN MICROGRAMS PER LITER
NS	NOT SAMPLED

FIGURE 1
GROUND WATER ANALYTICAL SUMMARY
THIRD QUARTER 2000 (9/29/00)
ARCO STATION NO. 2162
15135 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-310	DRAWN BY TLA 11/1/00
FILE NO. 2162-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



North

0 30 FT

SCALE

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

LEGEND:

MW-1	MONITORING WELL LOCATION
VW-1	SOIL VAPOR EXTRACTION WELL LOCATION
(22.12)	GROUND WATER ELEVATION IN FEET ABOVE MEAN *SEA LEVEL (MSL)*
— 22.0 —	WATER TABLE CONTOUR IN FEET ABOVE MSL
	GROUND WATER FLOW DIRECTION
0.010	APPROXIMATE GROUND WATER FLOW GRADIENT

FIGURE 2
GROUND WATER ELEVATION CONTOUR MAP
THIRD QUARTER 2000 (9/29/00)
ARCO STATION NO. 2162
15135 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-310	DRAWN BY TLA 8/2/00
FILE NO. 2162-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

APPENDIX A

Sampling and Analysis Procedures

FIELD METHODS AND PROCEDURES

1.0 GROUND WATER AND LIQUID-PHASE HYDROCARBON DEPTH ASSESSMENT

A water/liquid-phase hydrocarbon (LPH) interface probe was used to assess the thickness of LPH, if present, and a water level indicator was used to measure ground water depth in monitoring wells that did not contain LPH. Depth to ground water was measured from the top of each monitoring well casing. The tip of the water level indicator was subjectively analyzed for LPH sheen. All measurements and physical observations were recorded in the field.

2.0 SUBJECTIVE ANALYSIS OF GROUND WATER

Prior to purging, a water sample was collected from the monitoring well for subjective analysis. The sample was retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer was then retrieved and the sample contained within the bailer was examined for LPH and the appearance of a LPH sheen.

3.0 MONITORING WELL PURGING AND SAMPLING

Monitoring wells were purged using a centrifugal pump or disposable bailers until pH, temperature, and conductivity of the purge water had stabilized and a minimum of three to four well volumes of water had been removed. Ground water removed from the wells was stored in 55-gallon barrels at the site. The barrels were labeled with corresponding monitoring well numbers and the date of purging. After purging, ground water levels were allowed to stabilize. A ground water sample was then removed from each of the wells using a dedicated disposable bailer. If the well was purged dry, it was allowed to sufficiently recharge and a sample was collected. Samples were collected in air-tight vials, appropriately labeled, and stored on ice from the time of collection through the time of delivery to the laboratory. A chain-of-custody form was completed to document possession of the samples. Ground water samples were transported to the laboratory and analyzed within the EPA-specified holding times for the requested analyses. Purge water will be collected from the storage barrels in a vacuum truck and transported to an appropriate facility for treatment and/or disposal.

If the depth to groundwater was above the top of screens of the monitoring wells, then the wells were purged. Before sampling occurred, a polyvinyl chloride (PVC) bailer, centrifugal pump, low–flow submersible pump, or Teflon bailer was used to purge standing water in the casing and gravel pack from the monitoring well. Monitoring wells were purged according to the protocol previously stated in the first paragraph of this sub-section. In most monitoring wells, the amount of water purged before sampling was greater than or equal to three casing volumes. Some monitoring wells were expected to be evacuated to dryness after removing fewer than three casing volumes. These low–yield monitoring wells were allowed to recharge for up to 24 hours. Samples were obtained as soon as the monitoring wells recharged to a level sufficient for sample collection. If insufficient water recharged after 24 hours, the monitoring well was recorded as dry for the sampling event.

APPENDIX B

Historical Data Tables

IT Corporation

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 2162
15135 Hesperian Boulevard, San Leandro, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-1	02/26/96	31.19	7.14	24.05	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
MW-1	05/23/96	31.19	7.70	23.49	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
MW-1	08/21/96	31.19	8.75	22.44	210	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	
MW-1	11/20/96	31.19	8.62	22.57	91	<0.5	<0.5	<0.5	<0.5	2.6	NA	NA	
MW-1	04/01/97	31.19	8.70	22.49	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NP
MW-1	06/10/97	31.19	8.45	22.74	94	<0.5	<0.5	0.68	0.56	6.4	NA	NA	NP
MW-1	09/17/97	31.19	9.20	21.99	<50	<0.5	<0.5	<0.5	<0.5	10	NA	1.0	NP
MW-1	12/12/97	31.19	8.00	23.19	<200	<2	<2	<2	<2	180	NA	2.0	NP
MW-1	03/25/98	31.19	7.00	24.19	<200	<2	<2	3	<2	180	NA	2.0	
MW-1	05/14/98	31.19	7.46	23.73	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.17	P
MW-1	07/31/98	31.19	8.10	23.09	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP
MW-1	10/12/98	31.19	8.60	22.59	<50	<0.5	<0.5	<0.5	<0.5	9	NA	2.5	NP
MW-1	02/11/99	31.19	7.32	23.87	<50	<0.5	<0.5	<0.5	<0.5	25	NA	1.0	P
MW-1	06/23/99	31.19	8.40	22.79	55	<0.5	<0.5	<0.5	<0.5	<3	NA	1.36	NP
MW-1	08/23/99	31.19	8.85	22.34	<50	<0.5	0.6	<0.5	<0.5	5	NA	1.42	NP
MW-1	10/27/99	31.19	8.50	22.69	<50	<0.5	<0.5	<0.5	<1	90	NA	0.83	NP
MW-1	02/09/00	31.19	8.11	23.08	<50	<0.5	<0.5	<0.5	<1	9	NA	0.77	NP
MW-2	02/26/96	30.38	6.41	23.97	770	<0.5	<0.5	45	28	NA	NA	NA	
MW-2	05/23/96	30.38	6.80	23.58	590	0.50	<0.5	35	18	NA	NA	NA	
MW-2	08/21/96	30.38	7.80	22.58	170	<0.5	<0.5	21	6.3	<2.5	NA	NA	
MW-2	11/20/96	30.38	7.73	22.65	88	<0.5	<0.5	7.9	1.1	<2.5	NA	NA	
MW-2	04/01/97	30.38	7.83	22.55	66	<0.5	<0.5	3.6	0.56	33	NA	NA	
MW-2	06/10/97	30.38	7.52	22.86	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NP
MW-2	09/17/97	30.38	8.24	22.14	<50	<0.5	<0.5	<0.5	<0.5	<3.0	NA	0.6	NP
MW-2	12/12/97	30.38	7.10	23.28	<50	<0.5	<0.5	<0.5	<0.5	<3.0	NA	1.2	NP
MW-2	03/25/98	30.38	6.27	24.11	<50	<0.5	<0.5	0.7	0.5	55	NA	1.0	
MW-2	05/14/98	30.38	6.54	23.84	210	<0.5	<0.5	3.3	<0.5	42	NA	1.47	P
MW-2	07/31/98	30.38	7.14	23.24	230	<0.5	<0.5	3.9	<0.5	6	NA	1.0	P

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 2162
15135 Hesperian Boulevard, San Leandro, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-2	10/12/98	30.38	7.65	22.73	110	<0.5	<0.5	1.5	<0.5	<3	NA	1.0	P
MW-2	02/11/99	30.38	6.55	23.83	660	<0.5	<0.5	6.7	0.7	3	NA	1.0	P
MW-2	06/23/99	30.38	7.48	22.90	270	<0.5	<0.5	2.2	0.8	<3	NA	NM	P
MW-2	08/23/99	30.38	7.89	22.49	200	<0.5	0.9	1.8	<0.5	<3	NA	1.17	P
MW-2	10/27/99	30.38	8.30	22.08	2,100	1.0	2.5	14	3	3	NA	0.75	NP
MW-2	02/09/00	30.38	8.02	22.36	<50	<0.5	<0.5	<0.5	<1	5	NA	0.69	NP
MW-3	02/26/96	30.30	6.72	23.58	120	5.0	<0.5	<0.5	<0.5	NA	NA	NA	
MW-3	05/23/96	30.30	7.18	23.12	140	12	<0.5	<0.5	<0.5	NA	NA	NA	
MW-3	08/21/96	30.30	8.17	22.13	<50	1.1	<0.5	<0.5	<0.5	130	NA	NA	
MW-3	11/20/96	30.30	8.03	22.27	55	<0.5	<0.5	<0.5	<0.5	59	NA	NA	
MW-3	04/01/97	30.30	8.09	22.21	<50	<0.5	<0.5	<0.5	<0.5	180	NA	NA	NP
MW-3	06/10/97	30.30	7.97	22.33	<50	<0.5	<0.5	<0.5	<0.5	1,900	NA	NA	NP
MW-3	09/17/97	30.30	8.54	21.76	<5,000	<50	<50	<50	<50	1,100	860	2.2	NP
MW-3	12/12/97	30.30	7.50	22.80	560	<5.0	<5.0	<5.0	5.0	370	NA	1.4	NP
MW-3	03/25/98	30.30	6.60	23.70	<500	<5	<5	<5	<5	470	NA	1.0	
MW-3	05/14/98	30.30	7.13	23.17	750	<5	<5	<5	<5	630	NA	1.97	P
MW-3	07/31/98	30.30	7.58	22.72	<500	<5	<5	<5	<5	590	NA	1.0	P
MW-3	10/12/98	30.30	8.00	22.30	<500	<5	<5	<5	<5	600	NA	2.0	P
MW-3	02/11/99	30.30	6.90	23.40	<500	<5	<5	<5	<5	280	NA	1.0	P
MW-3	06/23/99	30.30	7.82	22.48	220	<0.5	3.2	<0.5	<0.5	740	NA	1.98	P
MW-3	08/23/99	30.30	8.28	22.02	<50	<0.5	1.1	<0.5	<0.5	230	NA	1.20	P
MW-3	10/27/99	30.30	9.27	21.03	<50	<0.5	<0.5	<0.5	<1	<3	NA	0.81	NP
MW-3	02/09/00	30.30	7.45	22.85	<50	<0.5	<0.5	<0.5	<1	80	NA	0.81	P
MW-4	02/26/96	30.39	7.59	22.80	110	9.9	<0.5	<0.5	<0.5	NA	NA	NA	
MW-4	05/23/96	30.39	8.22	22.17	69	8.0	<0.5	<0.5	<0.5	NA	NA	NA	
MW-4	08/21/96	30.39	9.28	21.11	<50	6.8	<0.5	<0.5	<0.5	<2.5	NA	NA	
MW-4	11/20/96	30.39	9.12	21.27	95	10	0.59	<0.5	0.52	3.8	NA	NA	

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 2162
15135 Hesperian Boulevard, San Leandro, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-4	04/01/97	30.39	8.45	21.94	73	5.7	<0.5	<0.5	<0.5	<2.5	NA	NA	
MW-4	06/10/97	30.39	9.00	21.39	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NP
MW-4	09/17/97	30.39	9.76	20.63	<50	3.2	<0.5	<0.5	<0.5	8.0	NA	0.2	NP
MW-4	12/12/97	30.39	8.45	21.94	<50	2.9	<0.5	<0.5	<0.5	14	NA	1.0	NP
MW-4	03/25/98	30.39	7.52	22.87	58	2.8	<0.5	<0.5	<0.5	<3	NA	3.0	
MW-4	05/14/98	30.39	8.03	22.36	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	3.24	NP
MW-4	07/31/98	30.39	8.67	21.72	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP
MW-4	10/12/98	30.39	9.15	21.24	<50	<0.5	<0.5	<0.5	<0.5	4	NA	1.5	NP
MW-4	02/11/99	30.39	7.80	22.59	61	2.5	<0.5	<0.5	<0.5	6	NA	1.0	P
MW-4	06/23/99	30.39	9.00	21.39	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.42	NP
MW-4	08/23/99	30.39	9.31	21.08	<50	<0.5	<0.5	<0.5	<0.5	6	NA	1.53	NP
MW-4	10/27/99	30.39	9.80	20.59	<50	<0.5	<0.5	<0.5	<1	6	NA	0.98	NP
MW-4	02/09/00	30.39	8.63	21.76	<50	<0.5	<0.5	<0.5	<1	7	NA	0.74	NP

TPPH = Total purgeable petroleum hydrocarbons by modified EPA method 8015
BTEX = Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/27/99).
MTBE = Methyl tert -Butyl Ether
* = EPA method 8020 prior to 10/27/99
MSL = Mean sea level
TOC = Top of casing
ppb = Parts per billion
ppm = Parts per million
NA = Not analyzed
NM = Not measured
< = Denotes concentration not present above laboratory detection limited stated to the right

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station 2162
15135 Hesperian Boulevard, San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
02/26/96	Southwest	0.009
05/23/96	South-Southwest	0.010
08/21/96	South-Southwest	0.01
11/20/96	South-Southwest	0.011
04/01/97	South-Southwest	0.004
06/10/97	South-Southwest	0.010
09/17/97	South-Southwest	0.01
12/12/97	Southwest	0.01
03/25/98	South-Southwest	0.008
05/14/98	Southwest	0.01
07/31/98	Southwest	0.01
10/12/98	Southwest	0.01
02/11/99	Southwest	0.008
06/23/99	Southwest	0.02
08/23/99	Southwest	0.013
10/27/99	South-Southwest	0.02
02/09/00	**Southwest**	**0.01**

APPPENDIX C

Certified Analytical Reports
And
Chain-of-Custody Documentation

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequoialabs.com

October 16, 2000

Steven Meeks
Delta Environmental Consultants - Rancho Cordova
3164 Gold Camp Drive Ste. 200
Rancho Cordova, CA 95670

RE: ARCO 2162, San Leandro, CA/S010028

Dear Steven Meeks

Enclosed are the results of analyses for sample(s) received by the laboratory on October 2, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sandra R. Hanson
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate Number 1624

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
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Delta Environmental Consultants - Rancho Cordova	Project:	ARCO 2162, San Leandro, CA	Sampled:	9/28/00 to 9/29/00
3164 Gold Camp Drive Ste. 200	Project Number:	N/A	Received:	10/2/00
Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported:	10/16/00

ANALYTICAL REPORT FOR S010028

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1-9	S010028-01	Water	9/29/00
MW-2-8	S010028-02	Water	9/29/00
MW-3-8	S010028-03	Water	9/29/00
MW-4-9	S010028-04	Water	9/29/00
TB	S010028-05	Water	9/28/00

Sequoia Analytical

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3164 Gold Camp Drive Ste. 200	Project Number:	N/A	Received: 10/2/00
Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported: 10/16/00

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Sacramento

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1-9			**S010028-01**				**Water**	
Purgeable Hydrocarbons	0100145	10/13/00	10/16/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*60.0-140*		*97.9*	%	
MW-2-8			**S010028-02**				**Water**	
Purgeable Hydrocarbons	0100145	10/13/00	10/16/00		50.0	**266**	ug/l	1
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*60.0-140*		*89.8*	%	
MW-3-8			**S010028-03**				**Water**	
Purgeable Hydrocarbons	0100145	10/13/00	10/16/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	**128**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*60.0-140*		*99.3*	%	
MW-4-9			**S010028-04**				**Water**	
Purgeable Hydrocarbons	0100145	10/13/00	10/16/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	**1.02**	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	**12.2**	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*60.0-140*		*89.2*	%	
TB			**S010028-05**				**Water**	
Purgeable Hydrocarbons	0100124	10/12/00	10/12/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	

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Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported: 10/16/00

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Sacramento

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
TB (continued)			**S010028-05**				**Water**	
Methyl tert-butyl ether	0100124	10/12/00	10/12/00		2.50	ND	ug/l	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*60.0-140*		*93.3*	%	

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3164 Gold Camp Drive Ste. 200	Project Number:	N/A	Received: 10/2/00
Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported: 10/16/00

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - Sacramento

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0100124	**Date Prepared: 10/12/00**					**Extraction Method: EPA 5030B (MeOH)**				
Blank	**0100124-BLK1**									
Purgeable Hydrocarbons	10/12/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	2.50				
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.40*	"	*60.0-140*	*94.0*			
LCS	**0100124-BS1**									
Benzene	10/12/00	10.0		11.4	ug/l	70.0-130	114			
Toluene	"	10.0		11.0	"	70.0-130	110			
Ethylbenzene	"	10.0		10.9	"	70.0-130	109			
Xylenes (total)	"	30.0		32.7	"	70.0-130	109			
Methyl tert-butyl ether	"	10.0		11.1	"	70.0-130	111			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.98*	"	*60.0-140*	*99.8*			
Matrix Spike	**0100124-MS1**		**S010018-01**							
Benzene	10/12/00	10.0	ND	10.7	ug/l	60.0-140	**107**			
Toluene	"	10.0	ND	10.7	"	60.0-140	**107**			
Ethylbenzene	"	10.0	ND	10.7	"	60.0-140	**107**			
Xylenes (total)	"	30.0	ND	32.1	"	60.0-140	**107**			
Methyl tert-butyl ether	"	10.0	ND	10.4	"	60.0-140	**104**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.52*	"	*60.0-140*	*95.2*			
Matrix Spike Dup	**0100124-MSD1**		**S010018-01**							
Benzene	10/12/00	10.0	ND	11.0	ug/l	60.0-140	**110**	25.0	**2.76**	
Toluene	"	10.0	ND	11.0	"	60.0-140	**110**	25.0	**2.76**	
Ethylbenzene	"	10.0	ND	10.8	"	60.0-140	**108**	25.0	**0.930**	
Xylenes (total)	"	30.0	ND	32.6	"	60.0-140	**109**	25.0	**1.85**	
Methyl tert-butyl ether	"	10.0	ND	10.1	"	60.0-140	**101**	25.0	**2.93**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*9.42*	"	*60.0-140*	*94.2*			
Batch: 0100145	**Date Prepared: 10/13/00**					**Extraction Method: EPA 5030B (MeOH)**				
Blank	**0100145-BLK1**									
Purgeable Hydrocarbons	10/16/00			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	2.50				

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3164 Gold Camp Drive Ste. 200	Project Number:	N/A	Received: 10/2/00
Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported: 10/16/00

Total Purgeable Hydrocarbons (C6-C12) BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - Sacramento

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**0100145-BLK1**									
Surrogate: a,a,a-Trifluorotoluene	*10/16/00*	*10.0*		*9.46*	*ug/l*	*60.0-140*	*94.6*			
LCS	**0100145-BS1**									
Benzene	10/16/00	10.0		11.2	ug/l	70.0-130	112			
Toluene	"	10.0		10.8	"	70.0-130	108			
Ethylbenzene	"	10.0		10.8	"	70.0-130	108			
Xylenes (total)	"	30.0		32.2	"	70.0-130	107			
Methyl tert-butyl ether	"	10.0		11.4	"	70.0-130	114			
Surrogate: a,a,a-Trifluorotoluene	*"*	*10.0*		*9.93*	*"*	*60.0-140*	*99.3*			
Matrix Spike	**0100145-MS1**		**S010028-01**							
Benzene	10/16/00	10.0	ND	10.6	ug/l	60.0-140	**106**			
Toluene	"	10.0	ND	10.6	"	60.0-140	**106**			
Ethylbenzene	"	10.0	ND	10.6	"	60.0-140	**106**			
Xylenes (total)	"	30.0	ND	32.1	"	60.0-140	**107**			
Methyl tert-butyl ether	"	10.0	ND	10.5	"	60.0-140	**105**			
Surrogate: a,a,a-Trifluorotoluene	*"*	*10.0*		*9.31*	*"*	*60.0-140*	*93.1*			
Matrix Spike Dup	**0100145-MSD1**		**S010028-01**							
Benzene	10/16/00	10.0	ND	10.7	ug/l	60.0-140	**107**	25.0	**0.939**	
Toluene	"	10.0	ND	10.6	"	60.0-140	**106**	25.0	**0**	
Ethylbenzene	"	10.0	ND	10.6	"	60.0-140	**106**	25.0	**0**	
Xylenes (total)	"	30.0	ND	32.2	"	60.0-140	**107**	25.0	**0**	
Methyl tert-butyl ether	"	10.0	ND	14.1	"	60.0-140	**141**	25.0	**29.3**	2
Surrogate: a,a,a-Trifluorotoluene	*"*	*10.0*		*9.38*	*"*	*60.0-140*	*93.8*			

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3164 Gold Camp Drive Ste. 200	Project Number:	N/A	Received:	10/2/00
Rancho Cordova, CA 95670	Project Manager:	Steven Meeks	Reported:	10/16/00

Notes and Definitions

#	Note
1	Chromatogram Pattern: Weathered Gasoline C6-C12
2	The RPD and/or spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 2599700

Chain of Custody

ARCO Facility no. 2162	City (Facility) SAN LEANDRO	Project manager (Consultant) Steve Meeks	Laboratory name Sequoia ~~Calscience~~
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (916) 630-2065	Fax no. (Consultant) (916) 638-8385
Consultant name Delta		Address (Consultant)	Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1-9				X		X	X	9-29-00	[redacted]		X								-01			
MW-2-8				↓		↓	↓	↓	815		↓								-02			
MW-3-8									830										-03			
MW-4-9									855										-04			
TB				↓		↓	↓	9-28-00	800		↓								-05			

Special detection Limit/reporting: 8010/8020 = 50; 8015 = 100

Method of shipment

Special QA/QC

Remarks

Lab number

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☐

Condition of sample:		Temperature received:	
Relinquished by sampler: Ky Brooks	Date 10-2-00	Time 1040	Received by:
Relinquished by:	Date 11-2-00	Time 1135	Received by: Monica Gregersen 11/2/00 1135
Relinquished by:	Date	Time	Received by laboratory: Date: Time:

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

Delta Environmental Consultants, Inc.
3164 Gold Camp Drive, Suite 200
Rancho Cordova, California 95670
Direct: (916) 638-2085
Fax: (916) 638-8385

Site Contact & Phone Number: ____

Arco Site Address:	15135 Hesperian Blvd San Leandro, California	Arco Site Number:	**Arco 2162**
		Delta Project No.:	D000-310
Arco Project Manager:	Paul Supple	Delta Project PM:	Steve Meeks
Site Sampled By:	Doulos	Date Sampled:	09/29/00

Water Level Data						Purge Volume Calculations					Sampling Analytes					Sample Record		
Well ID	Time	Depth to Water (feet)	Top of Screen Interval (feet)	Total Depth of Well (feet)	Check if Purge Not Required	Casing Water Column (A)	Well Diameter (inches)	Multiplier Value (B)	Three Casing Volumes (gallons)	Actual Water Purged (gallons)	BTEX (8020) VOA	TPH-g (8015M) VOA	MTBE (8020) VOA	Other	Dissolved Oxygen (mg/L)	Sample Freqency (A, S, Q)	Sample I.D.	Sample Time
MW-1	7:40	**9.07**	**8.0**	**15.9**	☐	6.78	**4 inch**	**2.0**	13.6	13.2	☑	☑	☑	☐	1.09	Q/5,8,11	**MW-1**	
MW-2	7:43	**8.08**	**8.0**	**15.9**	☐	7.79	**4 inch**	**2.0**	15.6	15.2	☑	☑	☑	☐	1.34	Q/5,8,11	**MW-2**	
MW-3	7:46	**8.46**	**9.0**	**14.8**	☐	6.30	**4 inch**	**2.0**	12.6	12.3	☑	☑	☑	☐	1.29	Q/5,8,11	**MW-3**	
MW-4	7:50	**9.61**	**8.0**	**17.5**	☐	7.84	**4 inch**	**2.0**	15.7	15.3	☑	☑	☑	☐	1.32	Q/5,8,11	**MW-4**	
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
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					☐						☐	☐	☐	☐				

(A)-Casing Water Column: Depth to Bottom - Depth to Water **(B)-Multiplier Values:** (2" Well: 0.5) (4" Well: 2.0) (6" Well: 4.4) **Sampling Sequence: Quarterly:** MW-3, MW-4, MW-1, MW-2

Sampling Notes: List depth of Sample on C.O.C. [I.e. MW-1(30)]. Make Sure to Note on C.O.C. "Provide Lowest Reporting Limit Available."
If the water level is below the top of the screen, take a grab sample and check box for NO PURGE (NP). If the water level is above the screen, purge as normal.

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Arco Site Address: **15135 Hesperian Blvd**
San Leandro, California
Arco Project Manager: **Paul Supple**
Site Sampled By: **Doulos**

Arco Site Number: **Arco 2162**
Delta Project No.: **D000-310**
Delta Project PM: **Steve Meeks**
Date Sampled: **09/29/00**

Site Contact & Phone Number: ______________________

Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-1	7:56	24.4	7.30	1,569	1												
	7:57	23.9	7.26	1,562	2												
	7:58	23.6	7.24	1,559	3												
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-2	8:06	23.0	7.86	219	1												
	8:07	22.6	7.79	210	2												
	8:08	22.2	7.74	203	3												
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-3	8:24	24.6	7.36	225	1												
	8:25	24.0	7.29	219	2												
	8:26	23.7	7.25	216	3												
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-4	8:46	23.4	7.58	233	1												
	8:47	22.9	7.50	227	2												
	8:48	22.3	7.47	223	3												
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons

Notes: NP = NO PURGE