January 31, 2003

Mr. Scott Seery Alameda County Health Care Services Agency Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Re: Third Quarter 2002 Groundwater Monitoring Report ARCO Service Station # 4977 2770 Castro Valley Blvd Castro Valley, California URS Project # 38486032

Dear Mr. Seery

On behalf of Atlantic Richfield Company (ARCO - an affiliated company of the Group Environmental Management Company), URS Corporation (URS) is submitting the *Third Quarter 2002 Groundwater Monitoring Report* at ARCO Service Station # 4977, located at 2770 Castro Valley Blvd, Castro Valley, California.

If you have any questions regarding this submission, please

Sincerely,

URS CORPORATION

Seat Robin

Scott Robinson Project Manager Amy P. Brekenridge, P.E. Portfolio Manager

Totalio Manag

Enclosure: Third Quarter 2002 Groundwater Monitoring Report

cc: Mr. Paul Supple, ARCO, PO Box 6549, Moraga, California 94570

ARCO Products Company

4 Centerpointe Drive La Palma, California 90623-1066 Telephone 714 670 5300

Mailing Address: P.O. Box 6549 Moraga, California 94549



January 31, 2003

Re: ARCO Station # 4977 • 2770 Castro Valley Boulevard • Castro Valley, CA
Third Quarter 2002 Quarterly Monitoring Report

"I declare, that to the best of my knowledge a the present time, that the information and/or recommendations contained in the attached proposal or report are true and correct."

Submitted by:

Paul Supple

Environmental Engineer

REPORT

THIRD QUARTER 2002 GROUNDWATER MONITORING

ARCO SERVICE STATION # 4977 2770 CASTRO VALLEY BLVD CASTRO VALLEY, CALIFORNIA

Prepared for Atlantic Richfield Company

January 31, 2003

URS

URS Corporation 500 12th Street, Suite 200 Oakland, California 94607



Date:	January 31, 2003
Quarter:	3Q 02

ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.: 4977	Address:	2770 Castro Valley Blvd, Castro Valley, CA					
ARCO Environmental Engineer:		Paul Supple					
Consulting Co./Contact Person:		URS Corporation / Scott Robinson / (510) 874-3280					
Consultant Project No.:		38486032					
Primary Agency:		Alameda County Health Care Services Agency					

WORK PERFORMED THIS QUARTER

(Third - 2002):

1. Performed third quarter 2002 groundwater monitoring event.

WORK PROPOSED FOR NEXT QUARTER (Fourth – 2002):

- Prepare third quarter 2002 groundwater monitoring report.
- 2. Perform fourth quarter 2002 groundwater monitoring event.

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Wells MW-1 through MW-3
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product (FP) Present On-Site:	No
Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	7.18 ft (MW-2) to 9.29 ft (MW-1)
Groundwater Gradient (direction):	Southwest
Groundwater Gradient (magnitude):	0.021 feet per foot

DISCUSSION:

TPH-g was detected in all three wells at concentrations ranging from 130 micrograms per liter (μ g/L) in well MW-1 to 17,000 μ g/L in well MW-2. Benzene was detected in all three wells at concentrations ranging from 7.7 μ g/L in well MW-1 to 1,400 μ g/L in well MW-2. MTBE was detected in all three wells at concentrations ranging from 39 μ g/L in well MW-1 to 1,400 μ g/L in well MW-2.



ATTACHMENTS:

- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Summary of Groundwater Flow Direction and Gradient
- Figure 1 Groundwater Elevation Contour and Analytical Summary Map September 27, 2002
- Attachment A Field Procedures and Field Data Sheets
- Attachment B Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody Records
- Attachment C EDCC Report

Table 1 Groundwater Elevation and Analytical Data

ARCO Service Station #4977 2770 Castro Valley Road Castro Valley, California

Sample ID	Date	Top of Casing Elevation (ft amsl)	Depth to Groundwater (ft. btc)	Groundwater Elevation (ft amsl)	TPH-g (μg/L)	Benzene (µg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)
MW-1	04/19/02 09/27/02	161.11	11.21 9 .2 9	149.90 151.82	660 130	12 7.7	1.3 0.87	4.3 5.4	0.80 0.79	38 39
MW-2	04/19/02 09/27/02	161.87	6.59 7 .18	155,28 154.69	28,000 17,000	970 1,400	120 ND<50	860 1,200	6,900 3,700	760 1,400
MW-3	04/19/02 09/27/02	162.14	6.94 8.26	155,20 153.88	1,200 740	29 7.8	1.1 ND<2.5	43 6.8	62 4.4	1,700 1,100

amsl = above mean sea level

btc = below top of casing

TPHg = Total petroleum hydrocarbons in the gasoline range (C5-C9).

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

μg/L = micrograms per liter

ND = Not detected at or above laboratory reporting limits

Source: The data within this table collected prior to September 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2 Groundwater Flow Direction and Gradient

ARCO Service Station #4977 2770 Castro Valley Road Castro Valley, California

Date Measured	Average Flow Direction	Average Hydraulic Gradien		
04-19-02	Southwest	0,038		
09-27-02	Southwest	0.021		

Source: The data within this table collected prior to September 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

ATTACHMENT A FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear TeflonTM bailer or an oil-water interface probe. Wells not containing free product are purged approximately three casing volumes of water (or until dewatered) using a centrifugal pump, gas displacement pump, or bailer. Equipment and purging method used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially (approximately 80%) recover. Groundwater samples (both purge and no purge) are collected using a Teflon bailer, placed into appropriate Environmental Protection Agency- (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California State-certified laboratory. Wells with free product are not sampled and free product is removed according to California Code of Regulation, Title 23, Div. 3, Chap. 16, Section 2655, UST Regulations.

WELL GAUGING DATA

Project # 020923-551 Date 9/23/02 Client 5387	·
Site 20200 HESDERIAN HATMAGO 1A.	

	Well		Depth to	Thickness of	Volume of Immiscibles	1		Survey	
Well ID	Size (in.)	Sheen / Odor		Immiscible Liquid (ft.)	Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Point: TOB	
Mw-I		WBL 15	INACCE	SABLE					
MW-2	2					12.15	29.50		· :
MW -3	2					10.30			
A-4		WELL 19	CONBR	60 - WA	BUS TO	LO CATE			
A-5	3					12.55	29.85		
A-6	3					12-61	34-70		
A-7	3					13-78	35.00		
4-8	2					10.75	33.85		. 41
A-9	2					12-35	33.70		
A-10	2					DRY	12-75		
Ap-1	b					11-26	23.10		
AR-2	6					[2-22	35-20	v	

BTS#:	220923-	Station #	538	57						
Sampler:	SOOCH			Date: 9	Date: 9/23/02					
Well I.D.:	MW -	\		Well Diar	neter:	2 3	4	6 8		
Total Wel	l Depth:		Depth to	Water:						
Depth to l	Free Produc	ot:		Thickness	of Fre	e Product	t (feet):		
Reference	ed to:	D.O. Met	er (if re	q'd):	$\langle Y \rangle$		HAC	H		
Purge Metho		Bailer	Multiplier 0.04 0.16 0.37	Well Diameter 4" 6" Other Sampling M	0.6. 1.4 radius [†] [ethod:	7 * 0.163 Bailer				
	Elec	sposable Bad Middleburg tric Submersi traction Pum	ible		Other:	Disposable B Extraction F)		
Top of Scree	:n:			as a no-purge, co crwise, the well n			el is be	low the to	þ	
	1 Case Volu		x3	= I Volumes	· · · · · · · · · · · · · · · · · · ·		als.			
Time	Temp (°F)	pН	Conductivity (mS or μS)		ioved	Observation	ons			
] ,]	1111	NO A	encio of			CONS	2 	1,01	
Did well	dewater? 🔌	Yes	No	Gallons a	ctually	evacuate	d:			
Sampling	Time:			Sampling	Date:	9/23	102	-		
Sample I.	D.:	<u> </u>	<u></u>	Laborator	ry: P	ace Sequ	oia	Other		
Analyzed	for: TPH	I-G BTEX	мтве трн	-D Other:			Die Constitution of the Co		<u>-</u> -	
D.O. (if r	eq'd):		Pre-pur	ge:	mg/ _L	Post-p	urge:			mg/L
O.R.P. (if	freq'd):		Pre-pur	ge.	mV	Post-p	urge:			mV

BTS #:	020923-	551_		Station # 53	87				
1	SOOCH			Date: 9/23/02					
Well I.D.	. μw. 3 .	•		Well Diameter:	(2) 3 4	6 8 _			
Total We	ll Depth:	4-15	29.50	Depth to Water	12	-15			
Depth to	Free Produ	ct:		Thickness of F	ree Product (fee				
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd):	YSI HA	ACH		
	Well Diamete 1" 2" 3"	n ·	Multiplier y 0.04 0.16 0.37	4" () 6" () Other radiu	Aultiplier .65 .47 s ^I * 0.163				
Purge Meth	Qi Elec Ex	Bailer sposable Bail Middleburg aric Submers atraction Purn	ible ip		Bailer Disposable Bailer Extraction Port	>			
Top of Scree	en:			no-purge, confirm se, the well must be	that water level is b purged.	elow the top	٦		
	1 Case Volu	7.8 ime (Gals.)	xSpecified Vo	lumes = 8	Gals.				
Time	Temp (°F)	pН	Conductivity (mS or µS)	Gals. Removed	Observations		!		
1437	70-7	6.9	1016	28	15 PET /500	P			
1441	70.5	6.9	1004	5.6	k				
1446	71.0	6-9	1008	8.5	r.c				
							*		
						<u> </u>			
Did well	dewater?	Yes	No	Gallons actuall	y evacuated:	D .5			
Sampling	g Time:	1450		Sampling Date	: 9/23/02				
Sample I	.D.: Mw	2		Laboratory:	Pace Sequoia	Other			
Analyzed	l for: TPE	I-G BTEX	MTHE TPH-D	Other:					
D.O. (if r	eq'd):		Pre-purge:	mg/ _{1_}	Post-purge.	1.6	mg/L		
O.R.P. (i	f req'd):		Pre-purge:	mV	Post-purge:		mV		

BTS#:	020923	-55)		Station# 5387				
Sampler:	South			Date: 9/23/02_				
	: MW-3			Well Diameter:	~	6 8 _		
Total We	ll Depth:	28.25	•	Depth to Water	10.30			
Depth to	Free Prodi	ict:		Thickness of F	ree Product (fe	et):_		
Reference	ed to:	PVC) Grade	D.O. Meter (if	req'd):	YSI HA	ACH	
D 3.5-0	Well Diamer		Multiplier ! 0.04 0.16 0.37	<u>Veil Diameter A</u> 4" C 6" L Other radiu	<u>Vultiplier</u>).65 .47 s ² * 0.163			
Purge Meth	Ele E	Bailer isposable Bai Middleburg ctric Submers xtraction Pur	sible		Bailer Disposable Bailer Extraction Port			
Top of Scre	en:			no-purge, confirm se, the well must be		elow the top	_	
	I Case Vol	z ume (Gals.)	x3 Specified Vo	= Calc	Gals.			
Time	Temp (°F)	pН	Conductivity (mS or μS)	Gals. Removed	Observations			
1345	71:0	6-8	1000	3	tupoid			
1349	70.5	6.9	1023	b	U			
1353	71.1	6.9	1007	9	16			
						-		
Did well	dewater?	Yes (No	Gallons actuall	y evacuated:	7		
Sampling	;Time:	<u> </u>		Sampling Date:	9/23/02			
Sample I.	.D.: MV	4.3		Laboratory:	Pace Sequoia	Other		
Analyzed	l for: TPF	I-G BTEX	MTBE TPH-D	Other:				
D.O. (if r	eq'd):		Pre-purge:	mg/ _L	Post-purge:	>1.0	mg/L	
O.R.P. (il	f req'd):		Pre-purge:	mV	Post-purge:		mV	

BTS#:	BTS #: 020923-551				538	87					
Sampler:				Date: 9/.	23/	02		- .			
Well I.D.	: <u>4-</u> L	ł		Well Diam	leter:	2	3 4	6	8		
Total We	ll Depth:			Depth to W	Vater:						
Depth to	Free Produ	ıct:		Thickness	Thickness of Free Product (feet):						
Reference		PVC	Grade	D.O. Meter		<u></u>		YSI	\sum	НАСН	_
Purge Metho	Di Elec	Bailer disposable Bail Middleburg ctric Submers attraction Pure	0.04 0.16 0.37 Eller	Well Diameter 4" 6" Other Sampling Met	0.6: 1.4' radius [†] thod:	17 • 0.163 B Dispose	Bailer Sable Bailer Ction Port	5			_
Top of Scree	en:	ume (Gals.)	If well is listed as a of screen. Otherwi	ise, the well mu	ust be pi		Gals.	below t	the top	-	
Time	Temp (°F)	pН	Conductivity (mS or μS)	Gals. Remo	ved	Obse	ervations				
weu	15 00	15000	- UNABVE	TO LOCA	127	TIN	DER	DIVE	 .		_
OF.	your,	PIRT &	queeré-								
Did well	dewater?	Yes	No /	Gallons act	l hially	evac	uated:				_
Sampling	Time:			Sampling I		9,	123/02	/	<u></u>		_
Sample I.I	D.:			Laboratory	. P	ace	Sequeia	<u>O</u> 1	ther		_
Analyzed	for: тры	a-G BTEX	MTBE TPH-D	Other:			/				
D.O. (if re	eq'd):		Pre-purge:		mg/L	Po	ost-purge:			mg/	/ L.
O.R.P. (if	req'd):		Pre-purge:	,	míV	Po	ost-purge:			m\	7

BTS #:	020923-	55)		Station # 5	387				
Sampler:	SOOCH			Date: 9/23/02					
Well I.D.	: A-5			Well Diameter	: 2 (3) 4	6 8			
Total We	ll Depth:	29.85		Depth to Water	12.55				
Depth to	Free Produ	ct:		Thickness of F	ree Product (fe	et):			
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd):	YSI	насн		
	Well Diamete 1" 2" 3"		<u>Multiplier</u> <u>9</u> 0.04 0.16 0.37	4" 6"	Multiplier 0.65 1.47 1s ² * 0.163				
Purge Metho	Di Elec Ex	Bailer sposable Bai Middleburg tric Submers traction Pun	sible	Sampling Method:					
Top of Scree	en:			no-purge, confirm se, the well must be		below the top	ס		
	I Case Volu	me (Gals.)	x3 Specified Vo	= 19	Gals.				
Time	Temp (°F)	pН	Conductivity (mS of µS)	Gals. Removed	Observations		·		
1500	70.9	6.8	958	6.5	TURBUD				
1505	69.9	6.7	977	\3.0	ul				
15118	69.5	6.7	984	19-5	L.F				
Did well	dewater?	Yes (No	Gallons actuall	y evacuated:	19-5			
Sampling	Time: 15	15		Sampling Date	: 9/23/02	· ·			
Sample I.	D.: k. 5			Laboratory:	Pace Sequoia	Other_			
Analyzed	for: TPH	-G BTEX	MTBE TPH-D	Other:					
D.O. (if re	eq'd):		Pre-purge:	nig/ _{I_}	Post-purge	1.0	mg/L		
O.R.P. (if	freq'd):		Pre-purge:	mV	Post-purge		mV		

BTS #:	020923	-551		Station# 53	387
	SOOCH			Date: 9/23	1.2
Well I.D.	: A-6			Well Diameter	: 2 (3) 4 6 8
Total We	ll Depth:	34.70		Depth to Water	r. v2. 6 [
Depth to	Free Produ	ict:		Thickness of F	ree Product (feet):
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd): YSI HACH
Purge Metho	Well Diame 1" 2" 3"	ter Bailer	Multiplier 3 0.04 0.16 0.37	4" (6" !	
	Ele E	isposable Bail Middleburg ctric Submers xtraction Pun	ible	Other:	Disposable Bailer Extraction Port
Top of Scree	en:	·		no-purge, confirm ise, the well must be	that water level is below the top purged.
	1 Case Vol	ume (Gals.)	x 3 Specified Vo	= 2	Gals. culated Volume
Time	Temp (°F)	pҢ	Conductivity (mS or as)	Gals. Removed	Observations
1320	69.0	6.8	654	6.5	THEBID
1325	68.5	6.8	643	17.0	17
1330	68.2	6.8	636	26.5	15
Did well	dewater?	Yes	No)	Gallons actuall	y evacuated: 25.5
Sampling	Time: \	335		Sampling Date	: 9/23/02
Sample I.	D.: 🔭 🧳	•		Laboratory:	Pace Sequoia Other
Analyzed	for: TP	I-G BTEX	MIDE TPH-D	Other:	
D.O. (if r	eq'd):		Pre-purge:	nig/L	Post-purge: /. 4 mg/L
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge: mV

BTS#:	020923	-551		Station # 53	87		
Sampler:	020923. 500ctt	,	•	Date: 9/2-3,	102		
Well I.D.:	A-1			Well Diameter:	2 (3) 4	68_	
Total Wel	ll Depth:	35.00)	Depth to Water	: 13.78		
Depth to I	Free Produ	ct:		Thickness of F	ree Product (fee	et):	á
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd):	YSI I	IACH
Purge Metho		Bailer	0.04 0.16 0.37	4" 0 6" 1 Other radiu Sampling Method:			
	Elec E	sposable Bail Middleburg- etric Submers etraction Pun	ible	·	Disposable Bailer Extraction Port	3	
Top of Scree	en:		If well is listed as a of screen. Otherwi	no-purge, confirm se, the well must be		elow the top	
·.	l Case Vol	(Gals.)	x 3 Specified Vo	=2	1		
Time	Temp (°F)	рН	Conductivity (mS or \(\mu \)	Gals, Removed	Observations		
1215	71.9	6.7	1067	В	scientry M	PB (D	
1273	70.8	6.7	1055	16	SCIGHTLY M	AP_	
1235	70.5	6.7	1056	24	ι(·
				,			
Did well	dewater?	Yes (No	Gallons actuall	y evacuated:	24	
Sampling	Time:	235		Sampling Date	: 9/23/02		
Sample I.	D.: A-1	-		Laboratory:	Pace Sequoia	Other	
Analyzed	for; TPI	I-G BTEX	мтве трн-d	Other:			
D.O. (if re	eq'd):		Pre-purge:	mg/ _L	Post-purge:	0.8	unta \
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:		шV

BTS#:	020923.	-551		Station # 53	387		
Sampler:	020923. 500CH			Date: 9/2-3	102		
Well I.D.:	<u>-</u>			Well Diameter	: 2 3 4	68_	
Total We	ll Depth:	33.85		Depth to Water	r: 10.75		- · - · ·
Depth to	Free Produ	ct:	•	Thickness of F	ree Product (fee	et):	
Reference		PVC	Grade	D.O. Meter (if		YSI H	ACH
	Well Diametr		0.04 0.16 0.37	4" (6" i Other radiu	Multiplier 0.65 1.47 us ² * 0.163		
Purge Metho	Di	Bailer isposable Bail Middleburg ctric Submers	ler		Bailer Disposable Bailer Extraction Port	>	
Top of Scree	Other:	xtraction Pun	If well is listed as a	a no-purge, confirm	that water level is b		
•				ise, the well must be	purged.	 	7
·.	3 1 Case Volu	•	X	olumes =Cn]	Gals.		
Time	Temp (°F)	pН	Conductivity (mS or µS)	Gals. Removed	Observations		
300	71-9	6-8	945	3.7	1248 U)		
1305	71.0	6.8	942-	7.4	(I		
1310,	70.0	6.8	960	11.5	प		
, A ₁₁							
							-
Did well	dewater?	Yes (No	Gallons actuall	y evacuated:	11-5	
Sampling	Time:	1312		Sampling Date	1 /		
Sample I.	D.: 1 - 8			Laboratory:	Pace Sequoia	Other	, <u></u>
Analyzed	for: TPH	I-G BTEX	MTBE TPH-D	Other:		<u>_</u>	
D.O. (if re	eq'd):		Рте-ритде:	ug/t-	Post-purge:	1.0	mg/L
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:		mV

BTS#:	020923	-551		Station# 5	387		
Sampler:	SOOCH			Date: 9/23,	102		
Well I.D.:	•			Well Diameter	: (2) 3 4	68_	
Total Wel	il Depth:	33.20		Depth to Water	12.35		
Depth to l	Free Produ	ıct:	ţ/	Thickness of F	ree Product (f	eet):	
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd):	YSI F	IACH
Purge Metho	Well Diame: 1" 2" 3"	Bailer	Multiplier 3 0.04 0.16 0.37	4" { 6"	Multiplier 0.65 1.47 15 ² * 0.163 Bailer		
v area tyronic	Ele E	isposable Bai Middleburg ctric Submers extraction Pun	ลัble กุp		Disposable Bailer Extraction Port	-	
Top of Scree	en:			no-purge, confirm se, the well must be		below the top	
	1 Case Vol	ume (Gals.)	X		Gals.		
Time	Temp (°F)	• pH	Conductivity (mS or uS)	Gals. Removed	Observations		
1530	11.3	6.8	699	3.5	MABIO	grown	
1535	70.8	6-8	681	7.0	REOUN		
1540	10.5	6-8	660	10-5	U		
!							
Did well	dewater?	Yes (No	Gallons actuall	y evacuated:	10.5	
Sampling	Time: [5	542		Sampling Date	9/23/02		
Sample I.	D.: 👃	9		Laboratory:	Pace Sequoia	Other	
Analyzed	for TPI	I-G BTEX	мтве угрн -р	Other:			
D.O. (if re	eq'd):		Pre-purge:	m <u>e</u> /L	Post-purge	1.6	mg/L
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge	:	, mV

				······			
BTS#: 0	020923	551		Station# 53	87		
Sampler:	Sooct			Date: 9/23,	102		
Well I.D.:	A-10			Well Diameter:	(2) 3 4	68_	
Total Wel	l Depth:	12.75		Depth to Water	: Dev	• •	,
Depth to I	Free Produ	ct:		Thickness of F	ree Product (fee	et):	
Reference	d to:	PVC	Grade	D.O. Meter (if	rea'd):	ysi) ha	CH
	Well Diamet				fultiplier		
	1"	0.0)4	4" 0	1,65		
	2" 3"	0.1 0.3			.47 s ² * 0.1 6 3		
Purge Metho		Bailer	/	Sampling Method:	Bailer		
Lett Re Intento		sposable Bailer	•	Sampling Method.	Disposable Railer		
		Middleburg			Extraction Port		
	Elas	tric Submersible		Other:	Extraction Full		
		etraction Pump	-	Onici.			
	Other:	сцасной г шир					
	Omer.	<u> </u>					
Top of Scree	en:	If	well is listed as a	no-purge, confirm	that water level is b	elow the top	
		of	screen. Otherwi	se, the well must be	purged.		
		X		-	Gals.		
	1 Case Volu	ıme (Gals.)	Specified Vo	lumes Calc	ulated Volume		
·			Conductivity				·
Time	Temp (°F)	pН	(mS or μS)	Gals. Removed	Observations		
were	is the	@ 12 -	75 Ff.	of operen	com)		
•	T T						
UN-PAG	LE TO	TRUPLE	/				
		• *					
'			i				•
					· · · · · · · · · · · · · ·		
Did well o	lewater?	Yes No	。 /	Gallons actuall	y evacuated:	/	
Sampling	Time:	,		Sampling Date	: 9/23/02	-/	
Sample I.	D.: *	io /		Laboratory:	Pace Sequoia	Other	
Analyzed	for: TPI	I-G BTEX I	MTBE TPH-D	Other:			
D.O. (if re	eq'd):		Pre-purge:	nig, /1_	Post-purge:		· mg/L
O.R.P. (if	req'd):		Pre-purge:	mV	/ Post-purge:		mV

BTS#:	020923	-551		Station# 53	387						
Sampler:				Date: 9/23/02							
Well I.D.:	AR-1			Well Diameter: 2 3 4 6 8 Depthsto Water: 11.26 Thickness of Free Product (feet):							
Total Wel	ll Depth: 7	13.70	· · · · · · · · · · · · · · · · · · ·								
	Free Produ	•	,								
Reference	ed to:	PVC) Grade	D.O. Meter (if	reg'd):	YSI) HA	CH				
	Well Diame			<u> </u>	Multiplier						
	į#		0.04	4" (0.65						
	2* 3*		0.16 0.37		1.47 µs ² ≠ 0.163						
Duran Mathe		Bailer	U.P.		· ····						
Purge Metho		isposable Bai	lae	Sampling Method:	Bailer Disposable Bailer						
		Middleburg	167		Extraction Port						
	سيسم دا 0	ctric Submers	313	Other:							
	~	xtraction Pun		Offici.		•					
		хцасцоп гил	•		•						
	Offici.										
Top of Scree	en:		If well is listed as a	a no-purge, confirm	that water level is b	elow the top					
			of screen. Otherwi	ise, the well must be	purged.						
		2-			_]				
		<u> </u>	x3_		Gals.						
	l Case Vol	ume (Gals.)	Specified Vo	olumes Cali	culated Volume		<u></u>				
			Conductivity	V.							
Time	Temp (°F)	рĦ	(mS ox µS)	Gals. Removed	Observations						
	69.9	7.0	1011	33							
1405	\$11.	(-0	1511	97	CRANGE TINS						
1411	69-5	1-0	1000	66							
1417	69-3	6.9	1019	99	MARIO						
						· <u>- '</u>					
Did well	dewater?	Yes /	No)	Gallons actuall	y evacuated:	99					
Sampling	Time:	420		Sampling Date	: 9/22/02		· · · · · ·				
Sample I.		- 1	· · · · · · · · · · · · · · · · · · ·	Laboratory:	Pace Sequoia	Other					
Analyzed		I-G BTEX	MTBE TPH-D	Other:		<u> </u>					
				1777.		5	mg/ _{[.}				
D.O. (if re			Pre-purge:								
O.R.P. (if	req'a):		Pre-purge:	mV	Post-purge:		mV				

BTS#:	220923	55)	· · ·	Station # 53	87	, 150 / Al A A A	
Sampler:				Date: 9/2-3/	102		
Well I.D.:	•	2		Well Diameter:	2 3 4	6 8 _	
Total Wel	ll Depth:	45 - 00		Depth to Water	12.22		
Depth to I	Free Produ	ct:		Thickness of F	ree Product (fe	et):	
Reference	ed to:	PVC	Grade	D.O. Meter (if	req'd):	YSI H.	CH
	Well Diametr l" 2" 3"	er &	viultiplier <u>y</u> 0.04 0.16 0.37	4" 0 6" l	Aultiplier .65 .47 ₉ 2 * 0.163		,
Purge Metho		Bail a r		Sampling Method:		5	
		sposable Bail Middlehure	er	,	CDisposable Bailer. Extraction Port		
	7	Middlehurg tric Submersi	ible	Other:	Extraction For		
	•	straction Pum				•	
	Other:						
Top of Scree	en:			no-purge, confirm se, the well must be		below the top	
				•			7
	33.	· 5	X	= -[0]	O.5 Gals.		
	1 Case Volu	ime (Gais.)	Specified Vo	nines Care	Juliated Volume		
Time	Temp (°F)	pH	Conductivity (mS or uS)	Gals. Removed	Observations		
1431	69.9	7.2	1062	23.5	prost u	exp	
1437	69-2	7.1	1046	67.0	.1		
1443	69.5	7.1	1074	100.5	ιt		
			•		,		
Did well	dewater?	Yes	No	Gallons actuall	y evacuated:	100.5	
Sampling	; Time:	1445		Sampling Date	: 9/23/02		
Sample I.		2		Laboratory:	Pace Sequoia	Other	
Analyzed		I-G BTEX	MTBE TPH-D	Other:			
D.O. (if r	eq'd):		Pre-purge:	mg _{/L}	Post-purge	1.0	m g /1
O.R.P. (if	f req'd):		Pre-purge:	mV	Post-purge	:	mV



	* bp					Chain of				Rec	coı	rd						On-	site T	ime:				Temp:	
						Apro #	<u> </u>	87	<u>*</u>									OIF-	site T	ime	: ·			Temp:	
	•	BP BU	I/GEI	M (CO I	Portfolio:												Sky	Condit	ions	:				
		BP Lai	jorate	ory I	Con	tract Number:_												Met	orolog	ical	Ever	ıts:			
)ate:	9/23/02	_				Requested Due I	Date ((मा ११४/च	⊮уу)									Win	d Speed	1:				Direction:	
nd To						BP/GEM Facility N	io.:	·										Con	sultant/	Con	irnet	or: l	JRS		
b Name	:: SEQUOIA					BP/GEM Facility A	ddres	s: 2	0200	Hes	peri	an Blvd	d, I-	IAYWA	٩RD	, CA		Add	ress:	500	12th	St.	Ste	. 200	
b Addre	ess: 885 Jarvis Dr.					Site ID No.		- /	ARCO	O 538	17								(Oak	land	, CA	946	09-4014	
	Morgaл Hill, CA 95	5037				Site <u>Lat/L</u> nng·						-						e-me	iil EDD); s	yed	reh:	an@	urscorp.co	m
					(California Global II	D#:	\supset	02	_ O T	2-3	-55	7												005387.01 00427
PM:	Latonya Pelt					BP/GEM PM Conta	act:			JL SU								Cons	ultant	Tele	/Fax:	: 51	0-87	74-1735/51	0-874-3268
e/Fax:	408-776-9600 / 408	-782-630	3			Address:								_				Cons	oltant/	Con	tracto	or PN	Λ: E	Scott Robin	son
port Ty	pe & QC Level: Send ED	F Reports																Invoi	ce to; C	onst	ıltont/	Cont	nictor	r or (BP/CEM	(Lircle one)
/GEM	Account No.:				i	Tele/Fax:												BP/C	EM W	ork	Rele	ase ì	Vo: I	NTRIM -50:	591
Bottle	: Order No:		M	latriz	<u> </u>] -		_ Pr	reserv	vatív	/es					Requi	ested.	Analys	ÍS					
m No.	Sample Description	Time		Water/Liquid	Setiments Air	Laboratory No.	No. of containers	Unpreserved	H,SO,	I:INO,	HCI			TPH-G/BTEX (8015/8021)	TPH-D (8015)	MTBE (8021)	MTBE, TAME, ETBE DIPE, TBA (8260)	1,2-DCA & EDB (8260)						Sample Po Ca	int Lat/Long and omments
1	MW-2-	1450	\				3				X			X		X						\neg	\neg		
2	MW-3	1355	7			\	3				X			又		X									
3	A-5	1515	7	(3				K			X		X				Ť					
4	16	1335	у				3				X			X		Y									1117 721-144
5	<u> </u>	1235	7				3			- 1	X			X		文				7					
6	A-8	1312	7				3		1		X			X		X			-	1		7			
7	A-9	1542	7				3			1	又			X		Ż				+		十			1,
8	MR-	1420	Ý	7			3				C		_	Z		X				_		_			
9	NR-2	1445			╗		3				X			Z		刘		_		十	\dashv	+			
10						,				<u> </u>			\exists							<u>†</u>	十	十	1		···
npler's	Name: Suchard	SUNG	<u> </u>		Rel	inquished By / Affilia	tion					Date		Time		Acce	oted B	v Affi	liation		. <u></u>			Date	Time
•	Company: BLAINE					50 - 2-						7/23/	=					,		-			⇥		
pment					1							-1/200		_						-					
	Method:																· · · · · · · · · · · · · · · · · · ·		•••						
	Tracking No:														_								1		
	tructions: Address Inv	oice to BP	/GEM	but !	send	to URS for approv	al						IT												<u> </u>
+l - 5	1 (1 71) 35	N 1.	<u>.</u>	~		The first					· ·							<i>a</i> -							
топу 5	leals In Place Yes	No		I G.	mpe	ature Blank Yes	£.	Vo.		(-001	ler Tem	TDC:	rature	on F	Lecei	pt	٦F	ī/C		Trin	Bla	nk \	řes No	3

WELLHEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client	AREO S	5387	inspection Date_	1/23/02
Site Addr	ess 20 71	TO HEADER HOW	inspection Date	DOCH
1. Lid on bo 2. Lid broker 3. Lid bolls a 4. Lid bolls s 5. Lid seal in	n? nissing? stripped?	6. Casing secure?7. Casing cut level?8. Debris in wellbox?9. Wellbox is too far above grade?10. Wellbox is too far below grade?11. Wellbox is crushed/damaged?	12. Water standing in wellbox? 12a. Standing above the top of casing? 12b. Standing below the top of casing? 12c. Water even with the top of casing? 13. Well cap present?	15. Well cap functional? 16. Can cap be pulled loose? 17. Can cap seal out water? 18. Padlock present? 19. Padlock functional?
Well I,D,	Check box	if no deficiencies were found.	Note below deficiencles you were Corrective Action Taken	re able to correct.
<u> </u>		· · · · · · · · · · · · · · · · · · ·	OUTOUTE / HUNGIT HANGIT	
				
	1	7 11 - 11	W	
	1	1017-48L-		· · · · · · · · · · · · · · · · · · ·
		~~, ,		
	1			<u> </u>
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
		The state of the s		
Note belo	w all defiencle	s that could not be corrected and	d still need to be corrected.	
Well I ₋ D,	Persisting De	eficiency	BTS Office assigns or defers Correction to:	Date Date assigned corrected
A:5	corner	HOL BY U.D. SCOOL	BIS will replace	CP
-	Batt	HI' WELL CARP	cals	
A-9	W220C 2"	HALL CAP	<u> </u>	
	I.		1	1 1

BP GEM OIL COMPANY TYPE A BILL OF LADING

BILL OF LADING FOR NON-SOURCE RECORD PURGEWATER FROM HAZARDOUS RECOVERED GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility; from a BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This Source Record BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

5387	_
Station #	
20200 HESPERIAN	HAYWARD, OH.
Station Address	,
Total Gallons Collected From Gr	oundwater Monitoring Wells:
added equip.	any other
rinse water	adjustments
TOTAL GALS. RECOVERED	loaded onto BTS vehicle #
BTS event#	time date
020923-551	1600 9/23/02
signature	
*****	******
REC'D AT	time date
unloaded by	
signature	

ATTACHMENT B

LABORATORY PROCEDURES, CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY RECORDS

LABORATORY PROCEDURES

Laboratory Procedures

The groundwater samples were analyzed for the presence of the chemicals mentioned in the chain of custody using standard EPA methods. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical reports and chain-of-custody record are presented in this attachment. The analytical data provided by the laboratory approved by Group Environmental Management Company have been reviewed and verified by that laboratory.



9 October, 2002

Scott Robinson URS Corporation 500 12th Street, Suite 100 Oakland, CA 94607

RE: ARCO #5387, Hayward, Ca Sequoia Report: MLI0633

Johnya K. Pell

Enclosed are the results of analyses for samples received by the laboratory on 09/24/02 10:02. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt Project Manager

CA ELAP Certificate #1210



URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca Project Number: ARCO #5387, Hayward, CA

Project Manager: Scott Robinson

Reported: 10/09/02 14:49

ANALYTICAL REPORT FOR SAMPLES

MW-2 MLI0633-01 Water 09/23/02 14:50 09/24/02 MW-3 MLI0633-02 Water 09/23/02 13:55 09/24/02 A-5 MLI0633-03 Water 09/23/02 15:15 09/24/02 A-6 MLI0633-04 Water 09/23/02 13:35 09/24/02 A-7 MLI0633-05 Water 09/23/02 12:35 09/24/02 A-8 MLI0633-06 Water 09/23/02 13:12 09/24/02 A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02				Y . 4 . C	Data Dandard
MW-3 A-5 MLI0633-02 Water 09/23/02 13:55 09/24/02 A-6 MLI0633-04 Water 09/23/02 15:15 09/24/02 A-7 MLI0633-05 Water 09/23/02 12:35 09/24/02 A-8 MLI0633-06 Water 09/23/02 13:55 09/24/02 A-9 MLI0633-07 Water 09/23/02 13:55 09/24/02 09/23/02 13:55 09/24/02 09/23/02 13:55 09/24/02 09/23/02 13:55 09/24/02 09/23/02 13:55 09/24/02		Laboratory ID	MIATTIX	Date Sampled	Date Received
A-5 MLI0633-03 Water 09/23/02 15:15 09/24/02 A-6 MLI0633-04 Water 09/23/02 13:35 09/24/02 A-7 MLI0633-05 Water 09/23/02 12:35 09/24/02 A-8 MLI0633-06 Water 09/23/02 13:12 09/24/02 A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02		MLI0633-01	Water	09/23/02 14:50	09/24/02 10:02
A-6 MLI0633-04 Water 09/23/02 13:35 09/24/02 A-7 MLI0633-05 Water 09/23/02 12:35 09/24/02 A-8 MLI0633-06 Water 09/23/02 13:12 09/24/02 A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02		MLI0633-02	Water	09/23/02 13:55	09/24/02 10:02
A-7 MLI0633-05 Water 09/23/02 12:35 09/24/02 A-8 MLI0633-06 Water 09/23/02 13:12 09/24/02 A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02		MLI0633-03	Water	09/23/02 15:15	09/24/02 10:02
A-8 MLI0633-06 Water 09/23/02 13:12 09/24/02 A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02		MLI0633-04	Water	09/23/02 13:35	09/24/02 10:02
A-9 MLI0633-07 Water 09/23/02 15:42 09/24/02		MLI0633-05	Water	09/23/02 12:35	09/24/02 10:02
Marie San		MLI0633-06	Water	09/23/02 13:12	09/24/02 10:02
NATIONAL DO 1811 - 00/03/03 14:30 00/03/03	•	MLI0633-07	Water	09/23/02 15:42	09/24/02 10:02
AR-1 MLI0633-08 Water 09/23/02 14:20 09/24/02		MLI0633-08	Water	09/23/02 14:20	09/24/02 10:02
AR-2 MLI0633-09 Water 09/23/02 14:45 09/24/02		MLI0633-09	Water	09/23/02 14:45	09/24/02 10:02

Sequoia Analytical - Morgan Hill

Sporya K. Pett

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca Project Number: ARCO #5387, Hayward, CA

Project Manager: Scott Robinson

Reported: 10/09/02 14:49

Gasoline Hydrocarbons (C6-C12), BTEX and MTBE by EPA 8015M and 8021B Star Analytical, Inc.

Reporting Limit Units Dilution Batch				
Gasoline Range Hydrocarbons 1440 50.0 ug/L 1 V2J042 Benzene 11.2 0.500 " " " " Toluene 0.730 0.500 " " " " Ethylbenzene ND 0.500 " " " Xylenes (fotal) ND 1.50 " " " Methyl tert-butyl ether 228 0.500 " " "	Prepared	Analyzed	Method	Notes
Gasoline Range Hydrocarbons 1440 50.0 ug/L 1 V2J042 Benzene 11.2 0.500 " " " " Toluene 0.730 0.500 " " " " Ethylbenzene ND 0.500 " " " Xylenes (total) ND 1.50 " " " Methyl tert-butyl ether 228 0.500 " " "				
Toluene 0.730 0.500 " " " Ethylbenzene ND 0.500 " " " Xylenes (total) ND 1.50 " " " Methyl tert-butyl ether 228 0.500 " " "	0 10/04/02	10/05/02	EPA 8015M/8020	
Ethylbenzene ND 0.500 " " " Xylenes (total) ND 1.50 " " " Methyl tert-butyl ether 228 0.500 " " "	n	Ħ	Ŧ	
Ethyloenzene ND 0.500 Xylenes (total) ND 1.50 " " Methyl tert-butyl ether 228 0.500 " " "	"	*1	11	
Methyl tert-butyl ether 228 0.500 " "	*	**	"	
Methyl tert-outyl etner 228 0.500	"	D	16	
Compared to a 7 TET (BID) 012 9/ 70 120 "	В	п	11	
Surrogaie: a,a,a-171 (71D) 91.3 % /0-130	W	"	#	
Surrogate: 1.4-Difluorobenzene 353 % 70-130 "	n	n	"	S-04
MW-3 (MLI0633-02) Water Sampled: 09/23/02 13:55 Received: 09/24/02 10:02				
Gasoline Range Hydrocarbons ND 50.0 ug/L 1 V2J042	20 10/04/02	10/05/02	EPA 8015M/8020	
Benzene ND 0.500 " " "	n	44	n	
Toluene ND 0.500 " " "	q	а	II .	
Ethylbenzene ND 0.500 " " "	71	**	ii	
Xylenes (total) ND 1.50 " "	11	**	я	
Methyl tert-butyl ether ND 0.500 " " "	*	17	11	
Surrogate: a.a.a-TFT (PID) 109 % 70-130 "	"	"	e e	
Surrogate: 1,4-Difluorobenzene 105 % 70-130 "	"	"	"	
A-5 (ML10633-03) Water Sampled: 09/23/02 15:15 Received: 09/24/02 10:02				
Gasoline Range Hydrocarbons ND 50.0 ug/L 1 V2J042	20 10/04/02	10/05/02	EPA 8015M/8020	
Benzene ND 0.500 " " "	n	D	46	
Toluene ND 0.500 " " "	11	п	11	
Ethylbenzene ND 0.500 " " "	II	u	b)	
Xylenes (total) ND 1.50 " "	u			
Methyl tert-butyl ether 1.30 0.500 " " "		11	,,	
Surrogate: a,a,a-TFT (PID) 110 % 70-130 "	"	11	n	
Surrogate: 1,4-Difluorobenzene 107 % 70-130 "	u u			



URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca

Project Number: ARCO #5387, Hayward, CA Project Manager: Scott Robinson Reported: 10/09/02 14:49

Gasoline Hydrocarbons (C6-C12), BTEX and MTBE by EPA 8015M and 8021B Star Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-6 (MLI0633-04) Water Sampled: 0	9/23/02 13:35 F	Received: 09/2	24/02 10:	02					
Gasoline Range Hydrocarbons	ND	50.0	ug/L	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	II.	11	D	u	**	**	
Toluene	ND	0.500	n	Ħ	11	Ħ	**	11	
Ethylbenzene	ND	0.500	u	**	n	#	n	u	
Xylenes (total)	ND	1.50	11	D	п	11	n	"	
Methyl tert-butyl ether	ND	0.500	**	11	jı.	p	П	tt	
Surrogate: a,a,a-TFT (PID)		109 %	70-	130	n	ı)	"	"	
Surrogate: 1,4-Difluorobenzene		106 %	70-	130	rt	ıı	n	"	
A-7 (MLI0633-05) Water Sampled: 0	9/23/02 12:35 H	Received: 09/	24/02 10:	02					
Gasoline Range Hydrocarbons	ND	50.0	ug/L	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	n	**	o	**	n	ш	
Toluene	ND	0.500		**	*	**	**	"	
Ethylbenzene	ND	0.500	n	0	n	11	n	**	
Xylenes (total)	ND	1.50		"	11	"	11	tt.	
Methyl tert-butyl ether	3.48	0.500		4	D	"	**	**	
Surrogate: a,a,a-TFT (PID)		110 %	70-	-130	"	"	"	п	
Surrogate: 1,4-Difluorobenzene		111 %	70-	130	"	"	"	n	
A-8 (MLI0633-06) Water Sampled: 0	9/23/02 13:12	Received: 09/	24/02 10:	02					
Gasoline Range Hydrocarbons	ND	50.0	ug/L	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	"	n	а	II .	μ	D.	
Toluene	ND	0.500	**	II .	**	u	u	"	
Ethylbenzene	ND	0.500	и	ч	**	u	**	,,	
Xylenes (total)	ND	1.50	18	a	n	a	ч	II .	
Methyl tert-butyl ether	ND	0.500	**	"	11	11	п		
Surrogate: a,a,a-TFT (PID)		111 %	70-	-130	"	"	"	H	
Surrogate: 1,4-Difluorobenzene		107 %	70	-130	"	"	H	n	



URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca Project Number: ARCO #5387, Hayward, CA

Project Manager: Scott Robinson

Reported: 10/09/02 14:49

Gasoline Hydrocarbons (C6-C12), BTEX and MTBE by EPA 8015M and 8021B Star Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-9 (MLI0633-07) Water Sampled: (9/23/02 15:42 R	eceived: 09/2	24/02 10:	02					
Gasoline Range Hydrocarbons	ND	50.0	ug/l_	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	ıı	U	11	"	"	**	
Toluene	ND	0.500	п	a	D	a	**	**	
Ethylbenzene	ND	0.500	***	Ħ	"	**	**	v	
Xylenes (total)	ND	1.50	11	**	n	n	"	w	
Methyl tert-butyl ether	ND	0.500	11	12	11	"	n	10	
Surrogate: a,a,a-TFT (PID)		110 %	70-	130	ď	"	"	"	
Surrogate: 1,4-Difluorobenzene		107 %	70-	130	n	n	n	"	
AR-1 (MLI0633-08) Water Sampled	: 09/23/02 14:20	Received: 09	/24/02 10):02					
Gasoline Range Hydrocarbons	ND	50.0	ug/L	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	11	a	n	11	11	n .	
Toluene	ND	0.500	**	"	,,	11	*	II .	
Ethylbenzene	ND	0.500	11	11	a	**	n	ц	
Xylenes (total)	ND	1.50	11	57	11	**	11	и	
Methyl tert-butyl ether	20.2	0.500	n	n	n		0	"	
Surrogate: a.a.a-TFT (PID)		110 %	70-	130	"	**	"	u	
Surrogate: 1,4-Difluorobenzene		111 %	70-	130	"	n	"	"	
AR-2 (MLI0633-09) Water Sampled	: 09/23/02 14:45	Received: 09	0/24/02 10	0:02					
Gasoline Range Hydrocarbons	ND	50.0	ug/L	1	V2J0420	10/04/02	10/05/02	EPA 8015M/8020	
Benzene	ND	0.500	**	ņ	u	O	n	n	
Toluene	ND	0.500	v	н	11	ıı	u	II.	
Ethylbenzene	ND	0.500	**	, a	0	"	71	u u	
Xylenes (total)	ND	1.50	**	11	a	п	**	u	
Methyl tert-butyl ether	4.43	0.500	n	9	Ħ	n	n	u	
Surrogate: a,a,a-TFT (PID)		110 %	70-	-130	"	"	n	а	
Surrogate: 1,4-Difluorobenzene		112 %	70	-130	"	tt	#	#	

URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca Project Number: ARCO #5387, Hayward, CA

Project Manager: Scott Robinson

Reported: 10/09/02 14:49

Gasoline Hydrocarbons (C6-C12), BTEX and MTBE by EPA 8015M and 8021B - Quality Control Star Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V2J0420 - EPA 5030										
Blank (V2J0420-BLK1)				Prepared:	10/04/02	Analyzed	: 10/05/02			
Gasoline Range Hydrocarbons	ND	50.0	ug/L							
Benzene	ND	0.500	**							
Soluene	ND	0.500	a							
Ethylbenzene	ND	0.500	11							
(ylenes (total)	ND	1.50	44							
Methyl tert-butyl ether	ND	0.500	Tf							
Surrogate: a,a,a-TFT (PID)	32.3		н	30.0		108	70-130			
urrogate: 1,4-Difluorobenzene	32.0		n	30.0		107	70-130			
.CS (V2J0420-BS1)				Prepared:	10/04/02	Analyzed	: 10/05/02			
Benzene	18.4	0.500	ug/L	20.0		92.0	80-120			
`oluene	19.2	0.500	n	20.0		96.0	80-120			
thylbenzene	19.1	0.500	n	20.0		95.5	80-120			
Cylenes (total)	58.6	1.50	"	60.0		97.7	80-120			
Methyl tert-butyl ether	22.7	0.500	p	20.0		114	80-120			
Surrogate: a,a,a-TFT (PID)	31.0		v	30.0		103	70-130			
Surrogate: 1,4-Difluorobenzene	31.4		n	30.0		105	70-130			
CS (V2J0420-BS2)				Prepared:	10/04/02	Analyzed	l: 10/05/0 <u>2</u>			
rasoline Range Hydrocarbous	500	50.0	ug/L	500		100	70-130			
LCS Dup (V2J0420-BSD1)				Prepared:	10/04/02	Analyzed	1: 10/05/02			
Benzene	18.8	0.500	ug/L	20.0		94.0	80-120	2.15	30	
Coluene	19.5	0.500	10	20.0		97.5	80-120	1.55	30	
Ethylbenzene	19.3	0.500	••	20.0		96.5	80-120	1.04	30	
(Y)lenes (total)	59.8	1.50	11	60.0		99.7	80-120	2.03	30	
Methyl tert-butyl ether	23.1	0.500	***	20.0		116	80-120	1.75	30	
Surrogate: a,a,a-TFT (PID)	30.6		Ħ	30.0		102	70-130			
Surrogate: 1,4-Difluorobenzene	31.0		"	30.0		103	70-130			



URS Corporation 500 12th Street, Suite 100 Oakland CA, 94607 Project: ARCO #5387, Hayward, Ca

Project Number: ARCO #5387, Hayward, CA Project Manager: Scott Robinson Reported: 10/09/02 14:49

Gasoline Hydrocarbons (C6-C12), BTEX and MTBE by EPA 8015M and 8021B - Quality Control Star Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V2J0420 - EPA 5030						<u> </u>			-	
LCS Dup (V2J0420-BSD2)				Prepared:	10/04/02	Analyzed	: 10/05/02			
Gasoline Range Hydrocarbons	530	50.0	ug/L	500		106	70-130	5.83	30	
Duplicate (V2J0420-DUP1)	Sou	rce: V21001	17-06	Prepared:	10/04/02	Analyzed	: 10/05/02			
Gasoline Range Hydrocarbons	23000	2500	ug/L		22600			1.75	30	
Benzene	2660	25.0	II .		2690			1.12	30	
Toluene	36.0	25.0	11		36.0			0.00	30	
Ethylbenzene	644	25.0	11		648			0.619	30	
Xylenes (total)	870	75.0	**		880			1.14	30	
Methyl tert-butyl ether	46.5	25.0	**		64.0			31.7	30	Q-03
Surrogate: a,a,a-TFT (PID)	31.0		п	30.0		103	70-130			
Surrogate: 1,4-Difluorobenzene	34.2		н	30.0		114	70-130			
Matrix Spike (V2J0420-MS1)	Sou	rce: V21001	17-06	Prepared:	10/04/02	Analyzed	: 10/05/02			
Gasoline Range Hydrocarbons	45400	2500	ug/L		22600		0-200			
Benzene	3600	25.0	**	1000	2690	91.0	70-130			
Toluene	939	25.0	#	1000	36.0	90.3	70-130			
Ethylbenzene	1590	25.0	11	1000	648	94.2	70-130			
Xylenes (total)	3740	75.0	**	3000	880	95.3	70-130			
Methyl tert-butyl ether	1140	25.0	11	1000	64.0	108	70-130			
Surrogate: a,a,a-TFT (PID)	1530		"	1500		102	70-130			
Surrogate: 1,4-Difluorohenzene	1750		u	1500		117	70-130			



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Project Manager: Scott Robinson

Reported: 10/09/02 14:49

Notes and Definitions

Q-03 The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

RPD Relative Percent Difference

ATTACHMENT C EDCC REPORT

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Chain of Custody Record On-site Time: Temp: ARCO # 5387 Project Name Off-site Time: Temp: BP BU/CEM CO Portfolio: Sky Conditions: BP Laboratory Contract Number: Meteorological Events: Date: Requested Due Date (mm/dd/yy) HULOG33 Wind Speed: Directions Send To: BP/GEM Facility No.: Consultant/Contractor: URS ab Name: SEQUOIA BP/GEM Facility Address: 20200 Hesperian Blvd, HAYWARD, CA Address: 500 12th St., Sto. 200 ab Address: 885 Jarvis Or. Site ID No. ARCO 5387 Oakland, CA 94609-4014 Morgan Hill, CA 95037 Sita <u>Latri ong:</u> _ c-mail RDD: syed_rehan@urscorp.com California Global ID #: 020923-551 Consultant/Contractor Project No.: 15-00005387.01 00-127 ab PM: Latonya Pett BP/GEM PM Contact: PAUL SUPPLE Consultent Tele/Pax: 510-874-1735/510-874-3268 Tele Fax: 408-776-9600 / 408-782-6308 Address: Consultant/Contractor PM: Scott Robinson Report Type & QC Level: Send EDF Reports davoice to: Consultant/Contractor or BP/GEM (Directions) BIYGEM Account No.: Tele/Fax: BP/GEM Work Release No: IN IRIM -50591 Lab Bottle Order No: Matrix Preservatives Requested Analysis MTBE, TAME, BTBE DIPE, TEA (8260) of containers TPH-D (8015) Soil/Solid Water/Liquid MTBE (8021) Ittem No. Sediments Air Sample Description Time Sample Point Lat/Long and Laboratory No. Comments MW-2-ነዛፍው -1 3 MW·3 1355 •3 1515 1235 1312 3 1542 3 14/20 1445 Sampler's Name: Swatzer Sun G Relinguished By / Affiliation Accepted By / Appliation Date Lime Sampler's Company: BLANS well 1/24/02 2/2010 0908 903 Muchin Juner Shipment Date: 1/24/01/002 glosloz Shipment Method: Shipment Tracking No: Special Instructions: Address Invoice to BIVGEM but send to URS for approval Custody Seals in Place Yes OL/C Temperature Blank Yes Cooler Temperature on Receipt No Trip Blank Yes