APPENDIX A

IDW DOCUMENTATION

SAME

T-14

DOCUMENT NO. 105758

PPW 08/27/2007
WORK ORDER NO. D0108003

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Env Services Inc
EPA ID # MAD039322250

VEHICLE ID # P-30
TRANS. 1 PHONE (781) 792-6300

TRANSPORTER 2
EPA ID #

VEHICLE ID #
TRANS. 2 PHONE

DESIGNATED FACILITY	SHIPPER
Clean Harbors Arizona LLC	UNIVERSAL PROPULSION CO.
FACILITY EPA ID # AZD049318008	SHIPPER EPA ID # AZD980814479
ADDRESS 1340 West Lincoln Street	ADDRESS 25401 N CENTRAL
CITY Phoenix STATE AZ ZIP 85007	CITY PHOENIX STATE AZ ZIP 85027

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
1	TT	NA	A. NON RCRA HAZARDOUS WASTE LIQUIDS, (WATER), NONE	1000	G
			B.		
			C.		
			D. CR ✓		
			E. FS ✓		
			F. OFFC		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS EMERGENCY PHONE #: (800) 483-3718
A: 3008705

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

	PRINT	SIGN	DATE
SHIPPER	Jerry McPherson		19 Sep 07
TRANSPORTER 1	John Ellison		9-19-07
TRANSPORTER 2			
RECEIVED BY	J. de Jesus		9-19-07

CHI 198

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DOCUMENT NO. 105757

WORK ORDER NO. [redacted]

STRAIGHT BILL OF LADING

TRANSPORTER 1 [redacted] VEHICLE ID # P-30
EPA ID # [redacted] TRANS. 1 PHONE [redacted]

TRANSPORTER 2 _____ VEHICLE ID # _____
EPA ID # _____ TRANS. 2 PHONE _____

DESIGNATED FACILITY	SHIPPER
[redacted]	[redacted]
FACILITY EPA ID # [redacted]	SHIPPER EPA ID # [redacted]
ADDRESS [redacted]	ADDRESS [redacted]
CITY [redacted] STATE AZ ZIP [redacted]	CITY [redacted] STATE [redacted] ZIP [redacted]

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
1	TT	N/A	A. [redacted] NONE	5000	G
			B.		
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		

CR	✓
FS	✓
OFFC	

SPECIAL HANDLING INSTRUCTIONS [redacted]
A: [redacted]

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT Ryan Schaefer	SIGN Ryan	DATE 1/19/07
TRANSPORTER 1	PRINT John Ellison	SIGN John Ellison	DATE 1/19/07
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT J. de Jesus	SIGN	DATE 1/19/07

CHI 190

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CleanHarbors
ENVIRONMENTAL SERVICES®
1-800-444-4244

Bulk Load Worksheet

Run #: TANKer	Sales Order #: 091605003	Tractor #: P-30	Trailer #: T-14
Job Date: 9-19-07	Customer / Generator Name: Universal Propulsion Co.		
Expected Arrival Time: 700	Address: 25401 N. CENTRAL, PHOENIX, AZ		
Start Odometer: 68187	Manifest #: 105757		Gallons/ Pounds/Tons:
End Odometer: 68365	Container Drop: #	#	# #
Employee ID#: 014018	Container Pick Up: #	#	# #
Driver Name: John Ellison			Total Number of Liners Used:

Please Use Military Hrs for Start/End Times

Activity Code	Start Time	End Time	Reason Code	Hours (H)	Minutes (M)	Comments:
015	0600	0630				
017	0630	0730				
029	0730	0830				
082	0830	1000	049		.30	
083	1000	1100				PHOENIX, AZ Yard Remarkist
082	1100	1115				
083	1115	1200	033			UNLoading

Customer's signature verifies arrival and departure times and authorizes any demurrage charges to be billed by Clean Harbors when applicable as outlined in your quote or contract.

Customer's Signature:	Date:
Driver's Signature: John Ellison	Date: 9-19-07

CLEAN HARBORS COPY

Rev. 08/06

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CleanHarbors
ENVIRONMENTAL SERVICES®

Bulk Load Worksheet

1-800-444-4244

	Sales Order #: D91605003	Tractor #: P-30	Trailer #: T-14
Job Date: 9-19-07	Customer / Generator Name: Universal Propulsion Co.		
Expected Arrival Time:	Address: 25401 N. Central.		
Start Odometer:	Manifest #: 105758		Gallons/Pounds/Tons:
End Odometer:	Container Drop: #	#	# #
Employee ID#: 014018	Container Pick Up: #	#	# #
Driver Name: John Ellison			Total Number of Liners Used:

Please Use Military Hrs for Start/End Times

Activity Code	Start Time	End Time	Reason Code	Hours (H)	Minutes (M)	Comments:
017	1200	1230				
079	1230	1300				Loading
082	1300	1400				
083	1400	1500				PHx CHes Samples

Customer's signature verifies arrival and departure times and authorizes any demurrage charges to be billed by Clean Harbors when applicable as outlined in your quote or contract.

Customer's Signature:	Date:
Driver's Signature:	Date:

APPENDIX B

WATER LEVEL DATA

Appendix B
Water Level Data

Well Identification	Date of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-1	10/15/07	1557.22	208.16	1349.06
	7/30/07	1557.22	207.84	1349.38
	4/9/07	1557.22	208.03	1349.19
	2/12/2007	1557.22	208.08	1349.14
	11/13/2006	1557.22	208.04	1349.18
	8/28/2006	1557.22	208.04	1349.18
	5/22/2006	1557.22	208.08	1349.14
	3/20/2006	1557.22	207.98	1349.24
	12/22/2005	1557.22	208.15	1349.07
	12/2/2005	1557.22	207.97	1349.25
	10/24/2005	1557.22	208.03	1349.19
	9/22/2005	1557.22	208.03	1349.19
	8/22/2005	1557.22	208.04	1349.18
	7/18/2005	1557.22	208.13	1349.09
	6/27/2005	1557.22	207.82	1349.40
	5/20/2005	1557.22	207.69	1349.53
	4/25/2005	1557.22	207.47	1349.75
	3/15/2005	1557.22	207.36	1349.86
	2/14/2005	1557.22	207.52	1349.70
	1/17/2005	1557.22	207.62	1349.60
	12/7/2004	1557.22	207.80	1349.42
	11/22/2004	1557.22	207.71	1349.51
	10/22/2004	1557.22	207.42	1349.80
	9/7/2004	1557.22	207.79	1349.43
	4/16/2004	1557.22	206.66	1350.61
	3/19/2004	1557.22	206.70	1350.57
	1/6/2004	1557.19	206.64	1350.55
MW-2	10/15/07	1567.62	218.45	1349.17
	7/30/07	1567.62	218.19	1349.43
	4/9/07	1567.62	218.41	1349.21
	2/12/2007	1567.62	218.48	1349.14
	11/13/2006	1567.62	218.38	1349.24
	8/28/2006	1567.62	218.35	1349.27
	5/22/2006	1567.62	218.43	1349.19
	3/20/2006	1567.62	218.33	1349.29
	12/22/2005	1567.62	218.48	1349.14
	12/2/2005	1567.62	218.34	1349.28
	10/24/2005	1567.62	218.44	1349.18
	9/22/2005	1567.62	218.44	1349.18
	8/22/2005	1567.62	218.43	1349.19
	7/18/2005	1567.62	218.53	1349.09
	6/27/2005	1567.62	218.20	1349.42
	5/20/2005	1567.62	218.06	1349.56
	4/25/2005	1567.62	217.88	1349.74
	3/15/2005	1567.62	217.83	1349.79
	2/14/2005	1567.62	217.93	1349.69
	1/17/2005	1567.62	218.02	1349.60
	12/7/2004	1567.62	218.15	1349.47
	11/22/2004	1567.62	218.10	1349.52
	10/22/2004	1567.62	217.62	1350.00
	9/7/2004	1567.62	218.06	1349.56
	4/16/2004	1567.67	217.06	1350.61
	3/19/2004	1567.67	217.40	1350.27
	1/6/2004	1567.51	216.90	1350.61

Appendix B
Water Level Data

Well Identification	Date of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-3	10/15/07	1583.59	234.45	1349.14
	7/30/07	1583.59	233.52	1350.07
	4/9/07	1583.59	233.11	1350.48
	2/12/2007	1583.59	232.76	1350.83
	11/13/2006	1583.59	232.82	1350.77
	8/28/2006	1583.59	232.24	1351.35
	5/22/2006	1583.59	231.91	1351.68
	3/21/2006	1583.59	231.59	1352.00
	12/22/2005	1583.59	231.15	1352.44
	11/30/2005	1583.59	231.12	1352.47
	10/24/2005	1583.59	230.94	1352.65
	9/22/2005	1583.59	231.67	1351.92
	8/22/2005	1583.59	230.63	1352.96
	7/18/2005	1583.59	230.61	1352.98
	6/27/2005	1583.59	230.30	1353.29
	5/20/2005	1583.59	230.21	1353.38
	4/25/2005	1583.59	229.94	1353.65
	3/15/2005	1583.59	229.86	1353.73
	2/14/2005	1583.59	229.73	1353.86
	1/17/2005	1583.59	229.35	1354.24
	12/7/2004	1583.59	229.03	1354.56
	11/22/2004	1583.59	228.91	1354.68
	10/22/2004	1583.59	227.92	1355.67
	9/7/2004	1583.59	229.10	1354.50
MW-4	10/15/07	1620.34	273.35	1346.99
	7/30/07	1620.34	272.63	1347.71
	4/9/07	1620.34	271.66	1348.68
	2/12/2007	1620.34	271.51	1348.83
	11/13/2006	1620.34	271.33	1349.01
	8/28/2006	1620.34	271.82	1348.52
	5/22/2006	1620.34	271.43	1348.91
	3/20/2006	1620.34	271.28	1349.06
	12/22/2005	1620.34	270.80	1349.54
	11/30/2005	1620.34	270.82	1349.52
	10/24/2005	1620.34	270.78	1349.56
	9/22/2005	1620.34	270.44	1349.90
	8/22/2005	1620.34	270.40	1349.94
	7/18/2005	1620.34	270.56	1349.78
	6/27/2005	1620.34	270.26	1350.08
	5/20/2005	1620.34	270.22	1350.12
	4/25/2005	1620.34	270.12	1350.22
	3/15/2005	1620.34	270.15	1350.19
	2/14/2005	1620.34	270.04	1350.30
	1/17/2005	1620.34	269.84	1350.50
	12/7/2004	1620.34	269.83	1350.51
	11/22/2004	1620.34	269.58	1350.76
	10/22/2004	1620.34	268.92	1351.42
	9/7/2004	1620.34	269.13	1351.21

Appendix B
Water Level Data

Well Identification	Date of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-5	10/15/07	1590.45	241.12	1349.33
	7/30/07	1590.45	240.81	1349.64
	4/9/07	1590.45	241.10	1349.35
	2/12/2007	1590.45	241.09	1349.36
	11/13/2006	1590.45	241.04	1349.41
	8/28/2006	1590.45	240.97	1349.48
	5/22/2006	1590.45	241.07	1349.38
	3/20/2006	1590.45	240.92	1349.53
	12/22/2005	1590.45	240.90	1349.55
	11/30/2005	1590.45	240.81	1349.64
	10/24/2005	1590.45	240.85	1349.60
	9/22/2005	1590.45	240.81	1349.64
	8/22/2005	1590.45	240.81	1349.64
	7/18/2005	1590.45	240.90	1349.55
	6/27/2005	1590.45	240.58	1349.87
	5/20/2005	1590.45	240.48	1349.97
	4/25/2005	1590.45	240.38	1350.07
	3/15/2005	1590.45	240.36	1350.09
	2/14/2005	1590.45	240.44	1350.01
	1/17/2005	1590.45	240.47	1349.98
	12/7/2004	1590.45	240.49	1349.96
	11/22/2004	1590.45	240.40	1350.05
	10/22/2004	1590.45	239.67	1350.78
	9/7/2004	1590.45	240.17	1350.28
MW-6	10/15/07	1548.22	163.95	1385.30
	7/30/07	1548.22	162.92	1385.30
	4/9/07	1548.22	161.63	1386.59
	2/12/2007	1548.22	161.95	1386.27
	11/13/2006	1548.22	161.11	1387.11
	8/28/2006	1548.22	159.64	1388.58
	5/22/2006	1548.22	157.80	1390.42
	3/20/2006	1548.22	156.61	1391.61
	12/22/2005	1548.22	154.68	1393.54
	11/30/2005	1548.22	154.16	1394.06
	10/24/2005	1548.22	153.11	1395.11
	9/22/2005	1548.22	151.89	1396.33
	8/22/2005	1548.22	150.88	1397.34
	7/18/2005	1548.22	149.61	1398.61
	6/27/2005	1548.22	148.82	1399.40
	5/20/2005	1548.22	148.31	1399.91
	4/25/2005	1548.22	149.74	1398.48
	3/15/2005	1548.22	160.38	1387.84
	2/14/2005	1548.22	162.50	1385.72
	1/17/2005	1548.22	162.32	1385.90
	12/7/2004	1548.22	161.99	1386.23
	11/22/2004	1548.22	161.77	1386.45
	10/22/2004	1548.22	161.27	1386.95
	9/7/2004	1548.22	162.22	1386.00

Appendix B
Water Level Data

Well Identification	Date of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-7	10/15/07	1541.35	160.12	1381.23
	7/30/07	1541.35	159.48	1381.87
	4/9/07	1541.35	159.30	1382.05
	2/12/2007	1541.35	159.37	1381.98
	11/13/2006	1541.35	159.48	1381.87
	8/28/2006	1541.35	159.54	1381.81
	5/22/2006	1541.35	159.39	1381.96
	3/20/2006	1541.35	158.83	1382.52
	12/22/2005	1541.35	157.73	1383.62
	11/30/2005	1541.35	157.41	1383.94
	10/24/2005	1541.35	157.01	1384.34
	9/22/2005	1541.35	156.37	1384.98
	8/22/2005	1541.35	156.09	1385.26
	7/18/2005	1541.35	155.94	1385.41
	6/27/2005	1541.35	155.60	1385.75
	5/20/2005	1541.35	155.56	1385.79
	4/25/2005	1541.35	155.56	1385.79
	3/15/2005	1541.35	155.48	1385.87
	2/14/2005	1541.35	155.20	1386.15
	1/17/2005	1541.35	155.02	1386.33
	12/7/2004	1541.35	154.55	1386.80
	11/22/2004	1541.35	154.14	1387.21
	10/22/2004	1541.35	157.21	1384.14
MW-8	10/15/07	1542.18	193.18	1349.00
	7/30/07	1542.18	192.71	1349.47
	4/9/07	1542.18	192.79	1349.39
	2/12/2007	1542.18	193.01	1349.17
	11/13/2006	1542.18	192.98	1349.20
	8/28/2006	1542.18	192.95	1349.23
	5/22/2006	1542.18	192.97	1349.21
	3/20/2006	1542.18	192.83	1349.35
	12/22/2005	1542.18	192.91	1349.27
	11/30/2005	1542.18	192.84	1349.34
	10/24/2005	1542.18	192.89	1349.29
	9/22/2005	1542.18	192.84	1349.34
	8/22/2005	1542.18	192.90	1349.28
	7/18/2005	1542.18	192.88	1349.30
	6/27/2005	1542.18	192.57	1349.61
	5/20/2005	1542.18	192.50	1349.68
	4/25/2005	1542.18	192.29	1349.89
	3/15/2005	1542.18	192.27	1349.91
	2/14/2005	1542.18	192.29	1349.89
	1/17/2005	1542.18	192.27	1349.91
	12/7/2004	1542.18	192.29	1349.89
	11/22/2004	1542.18	192.27	1349.91
	10/22/2004	1542.18	193.21	1348.97

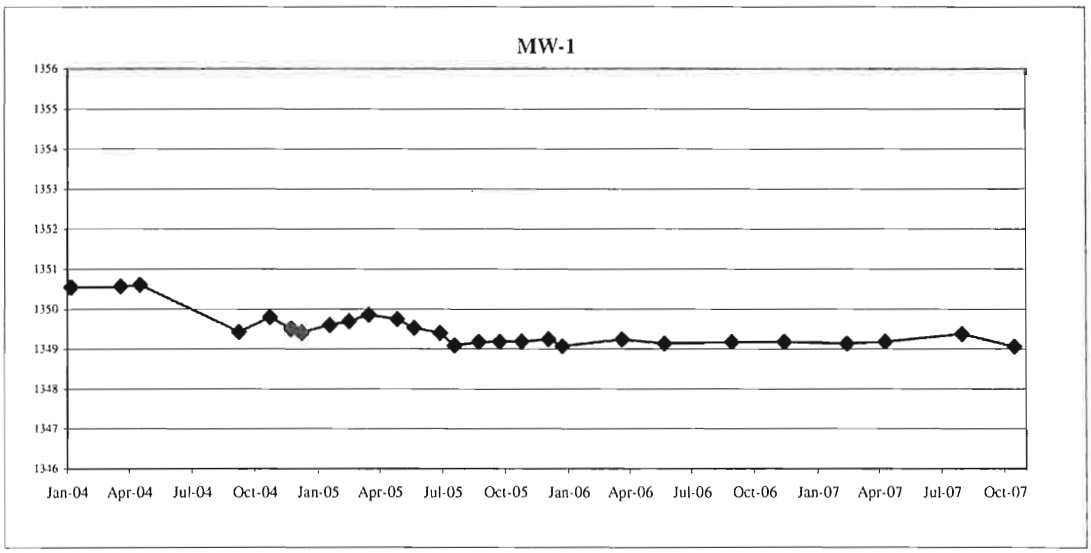
Appendix B
Water Level Data

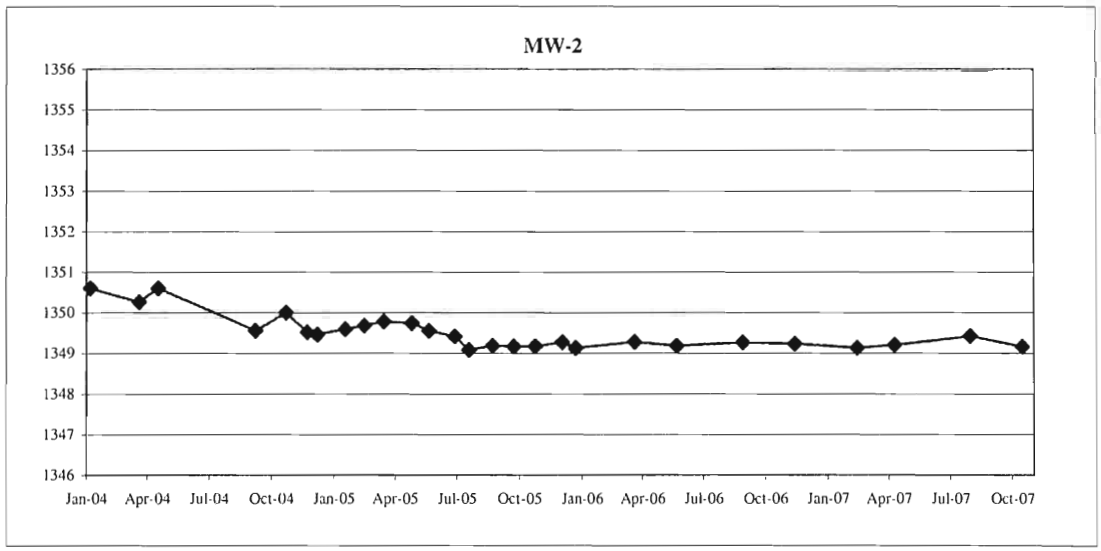
Well Identification	Date of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-9	10/15/07	1565.60	216.16	1349.44
	7/30/07	1565.60	215.83	1349.77
	4/9/07	1565.60	216.19	1349.41
	2/12/2007	1565.60	216.12	1349.48
	11/13/2006	1565.60	216.07	1349.53
	8/28/2006	1565.60	215.95	1349.65
	5/22/2006	1565.60	216.03	1349.57
	3/20/2006	1565.60	215.82	1349.78
	12/22/2005	1565.60	215.64	1349.96
	11/30/2005	1565.60	215.70	1349.90
	10/24/2005	1565.60	215.72	1349.88
	9/22/2005	1565.60	215.59	1350.01
	8/22/2005	1565.60	215.57	1350.03
	7/18/2005	1565.60	215.68	1349.92
	6/27/2005	1565.60	215.41	1350.19
	5/20/2005	1565.60	215.36	1350.24
	4/25/2005	1565.60	215.34	1350.26
	3/15/2005	1565.60	215.36	1350.24
	2/14/2005	1565.60	215.29	1350.31
MW-10	10/15/07	1536.11	151.45	1384.66
	7/30/07	1536.11	150.88	1385.23
	4/9/07	1536.11	150.75	1385.36
	2/12/2007	1536.11	150.63	1385.48
	11/13/2006	1536.11	150.45	1385.66
	8/28/2006	1536.11	150.05	1386.06
	5/22/2006	1536.11	149.66	1386.45
	3/20/2006	1536.11	149.54	1386.57
	12/22/2005	1536.11	149.33	1386.78
	11/30/2005	1536.11	149.27	1386.84
	10/24/2005	1536.11	149.20	1386.91
	9/22/2005	1536.11	148.88	1387.23
	8/22/2005	1536.11	149.02	1387.09
	7/18/2005	1536.11	149.08	1387.03
	6/27/2005	1536.11	149.04	1387.07
	5/20/2005	1536.11	149.33	1386.78
	4/25/2005	1536.11	149.56	1386.55
	3/15/2005	1536.11	149.71	1386.40
	2/14/2005	1536.11	149.92	1386.19
MW-11	10/15/07	1603.35	253.90	1349.45
	7/30/07	1603.35	253.51	1349.84
	4/9/07	1603.35	253.87	1349.48
	2/12/2007	1603.35	253.86	1349.49
	11/13/2006	1603.35	253.80	1349.55
	8/28/2006	1603.35	253.78	1349.57
	5/22/2006	1603.35	253.83	1349.52
	3/20/2006	1603.35	253.71	1349.64
	12/22/2005	1603.35	253.68	1349.67
MW-12	10/15/07	1557.46	209.23	1348.23
	7/30/07	1557.46	208.85	1348.61
	4/9/07	1557.46	209.16	1348.30
	2/12/2007	1557.46	209.23	1348.23
	11/13/2006	1557.46	209.14	1348.32
	8/28/2006	1557.46	209.12	1348.34
	5/22/2006	1557.46	209.17	1348.29
	3/20/2006	1557.46	209.09	1348.37
	12/22/2005	1557.46	209.16	1348.30

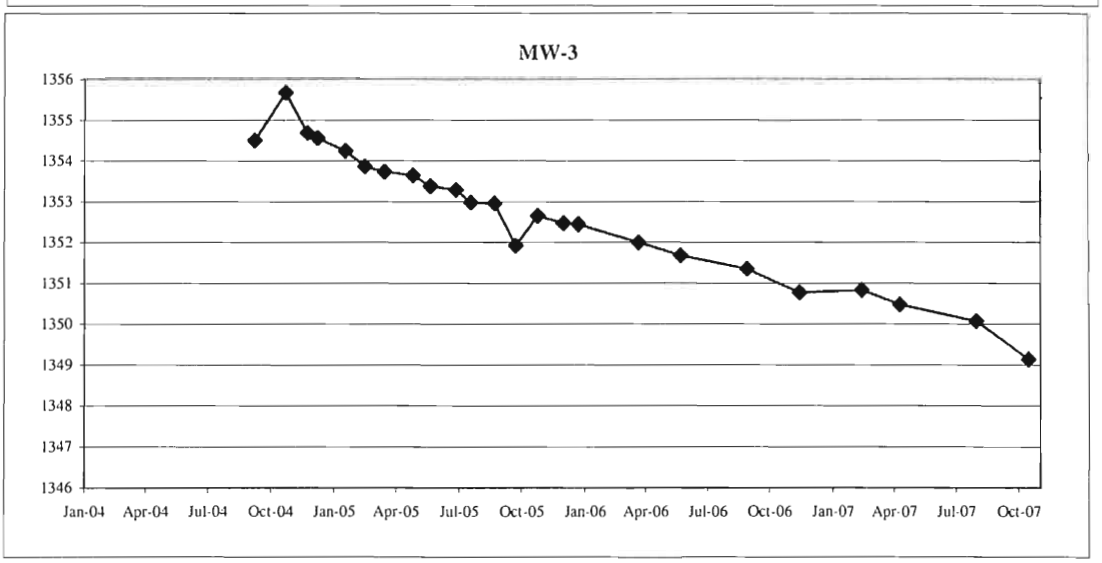
APPENDIX C

MONITOR WELL HYDROGRAPHS

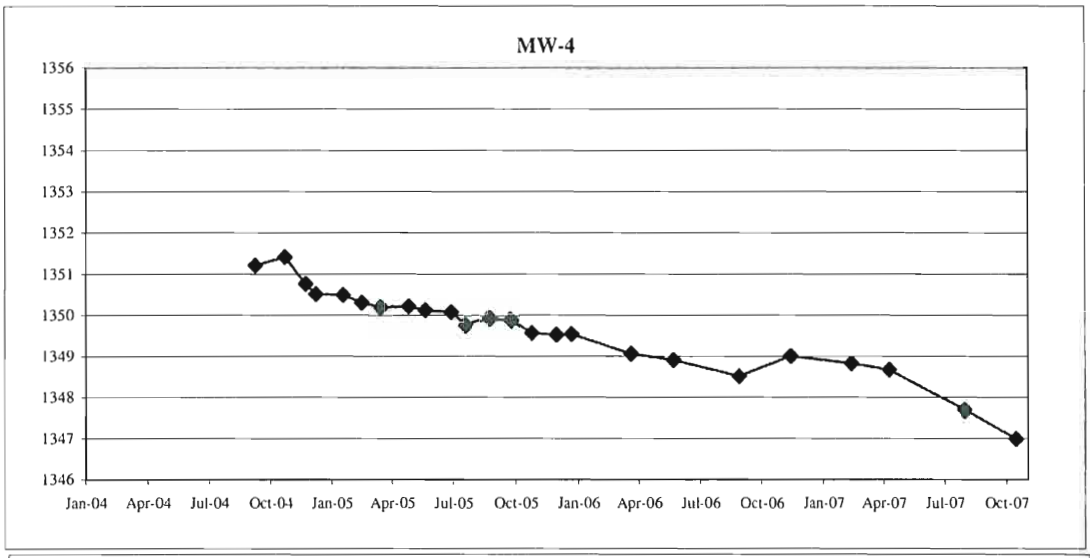
Appendix C
Well Hydrographs (feet amsl)

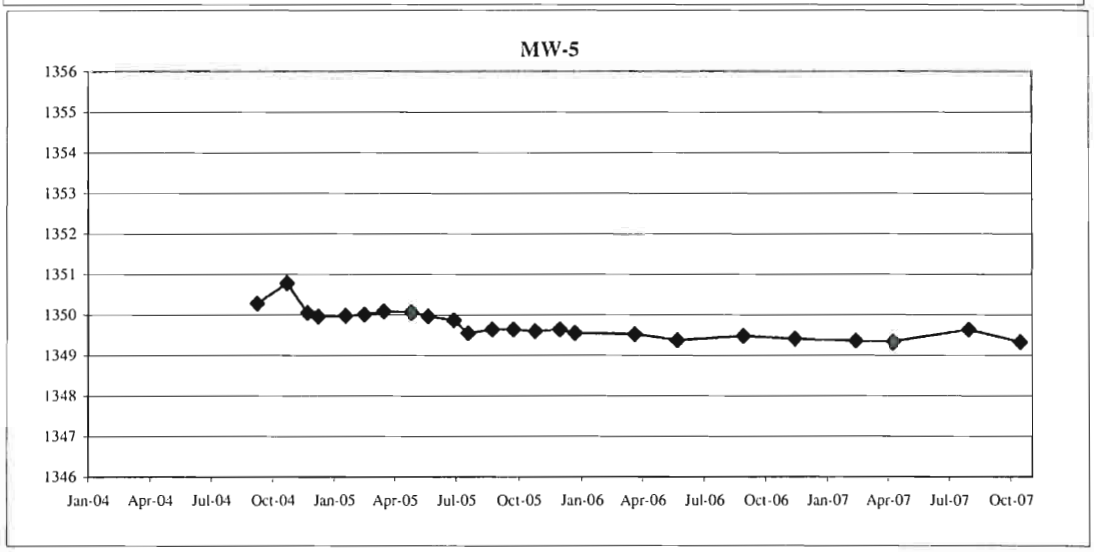


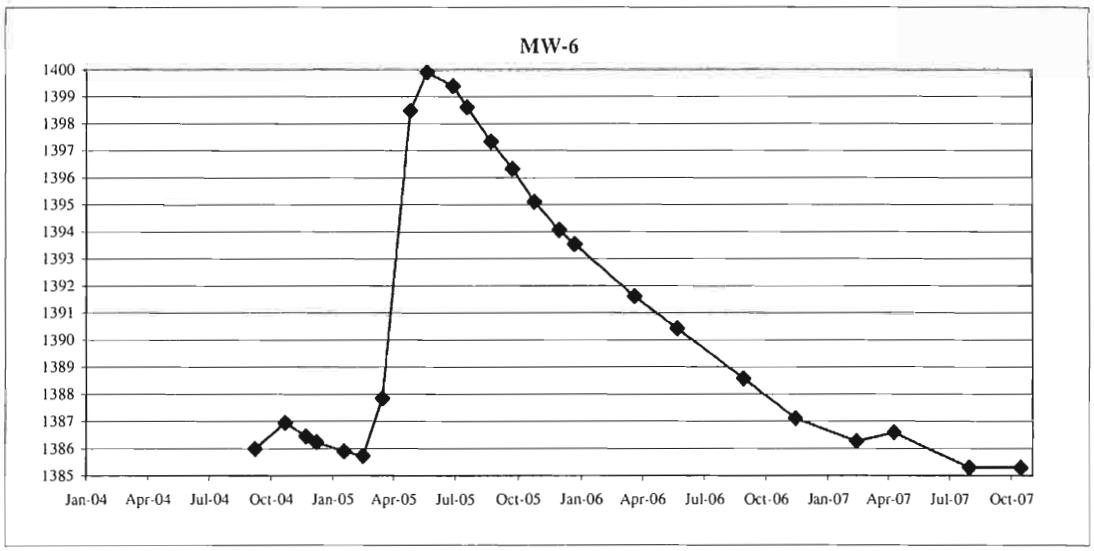




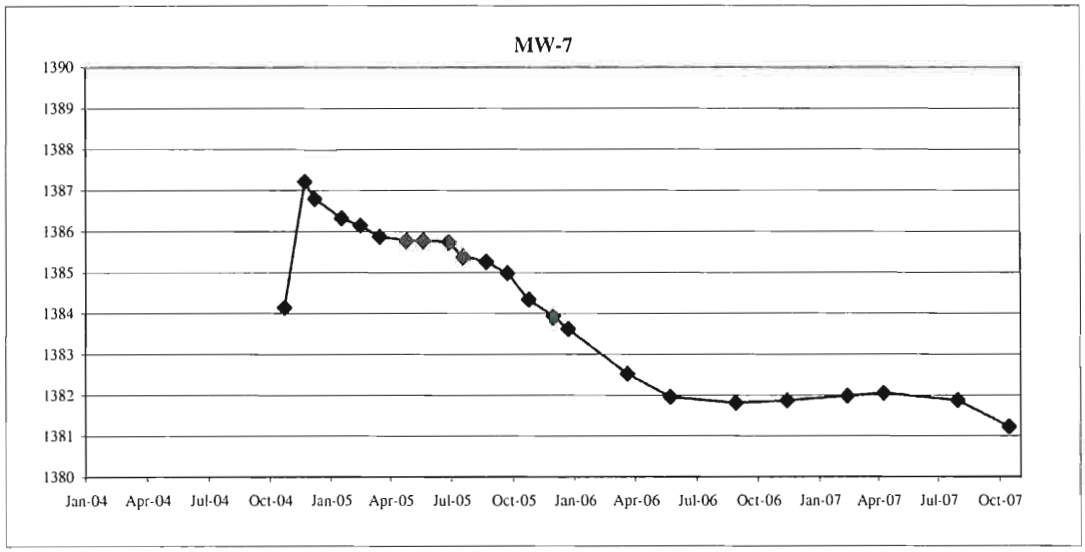
Appendix C
Well Hydrographs (feet amsl)

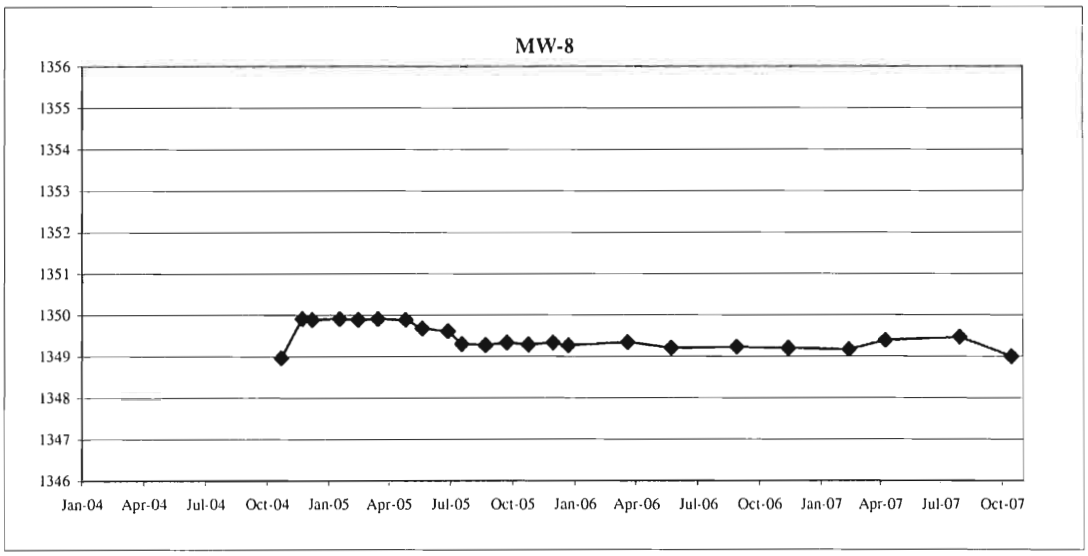


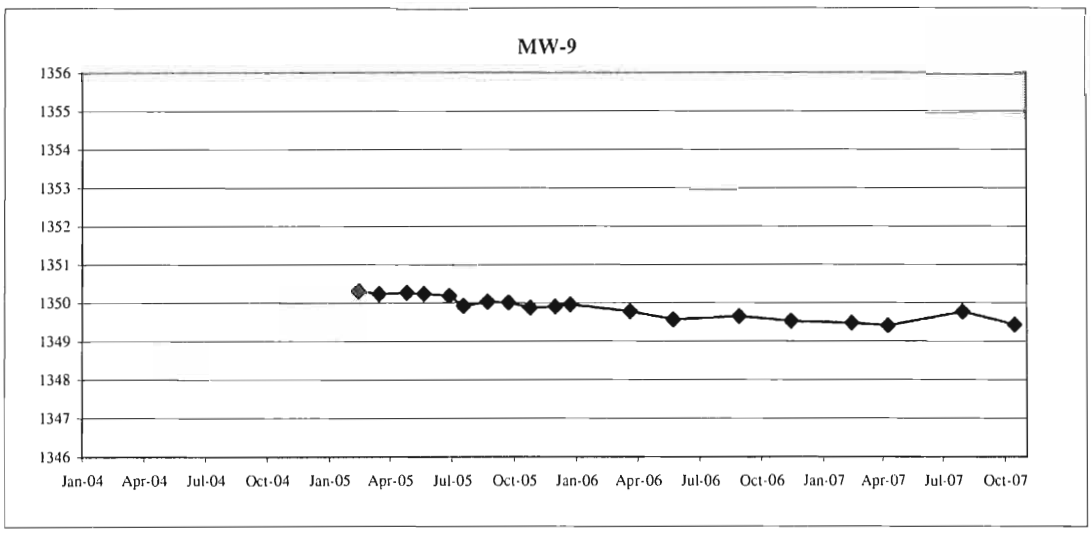




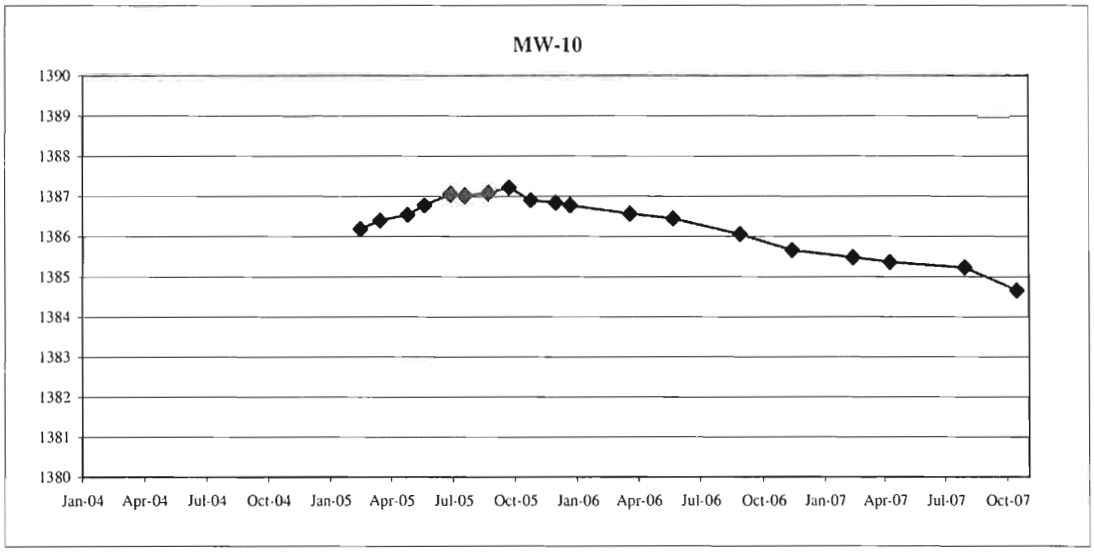
Appendix C
Well Hydrographs (feet amsl)

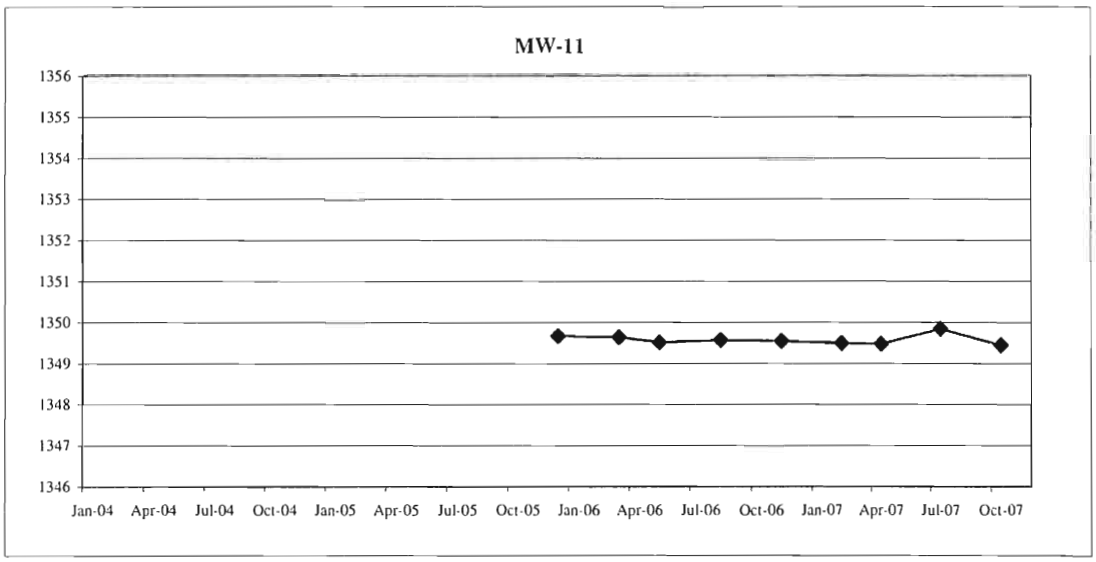


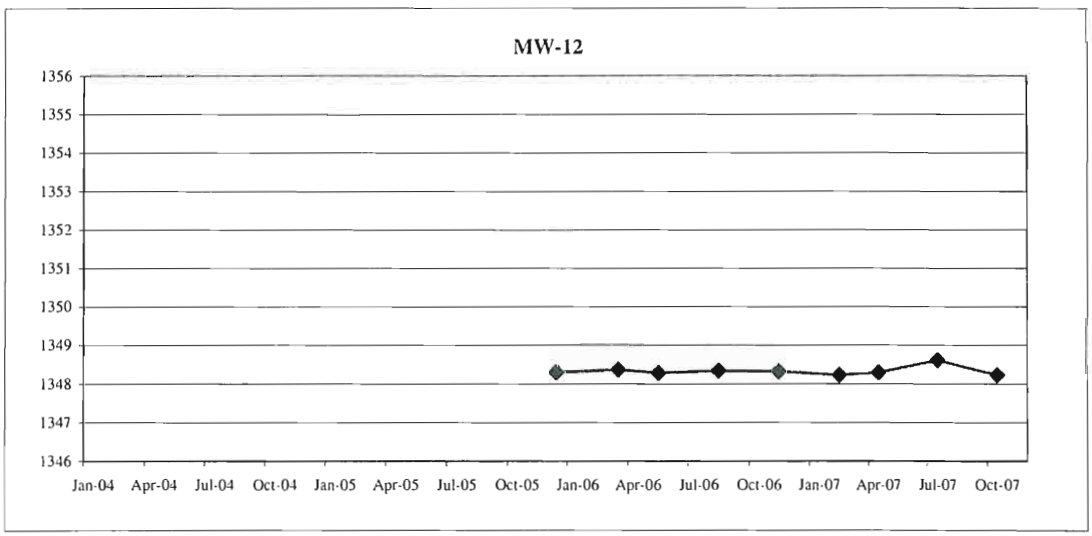


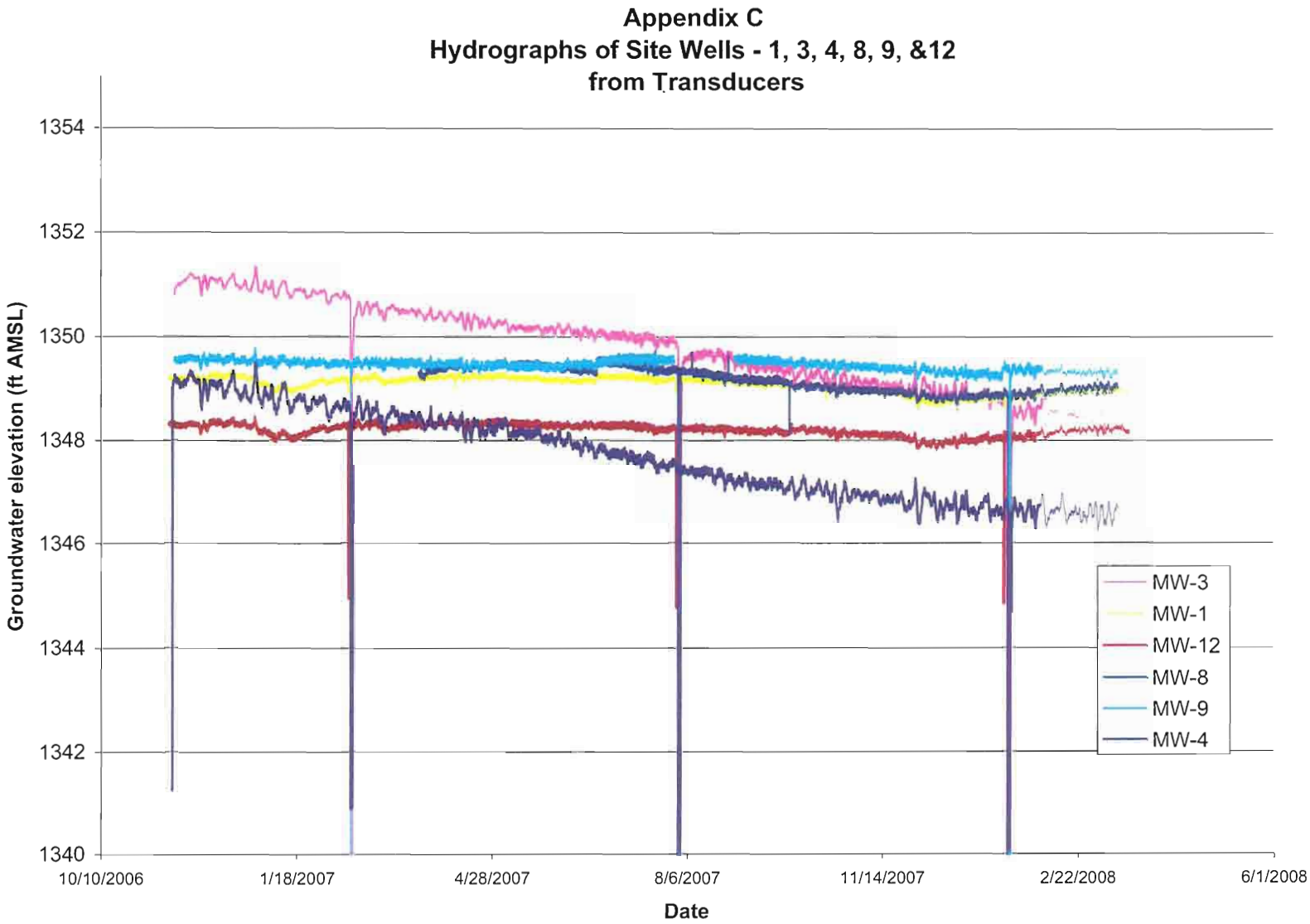


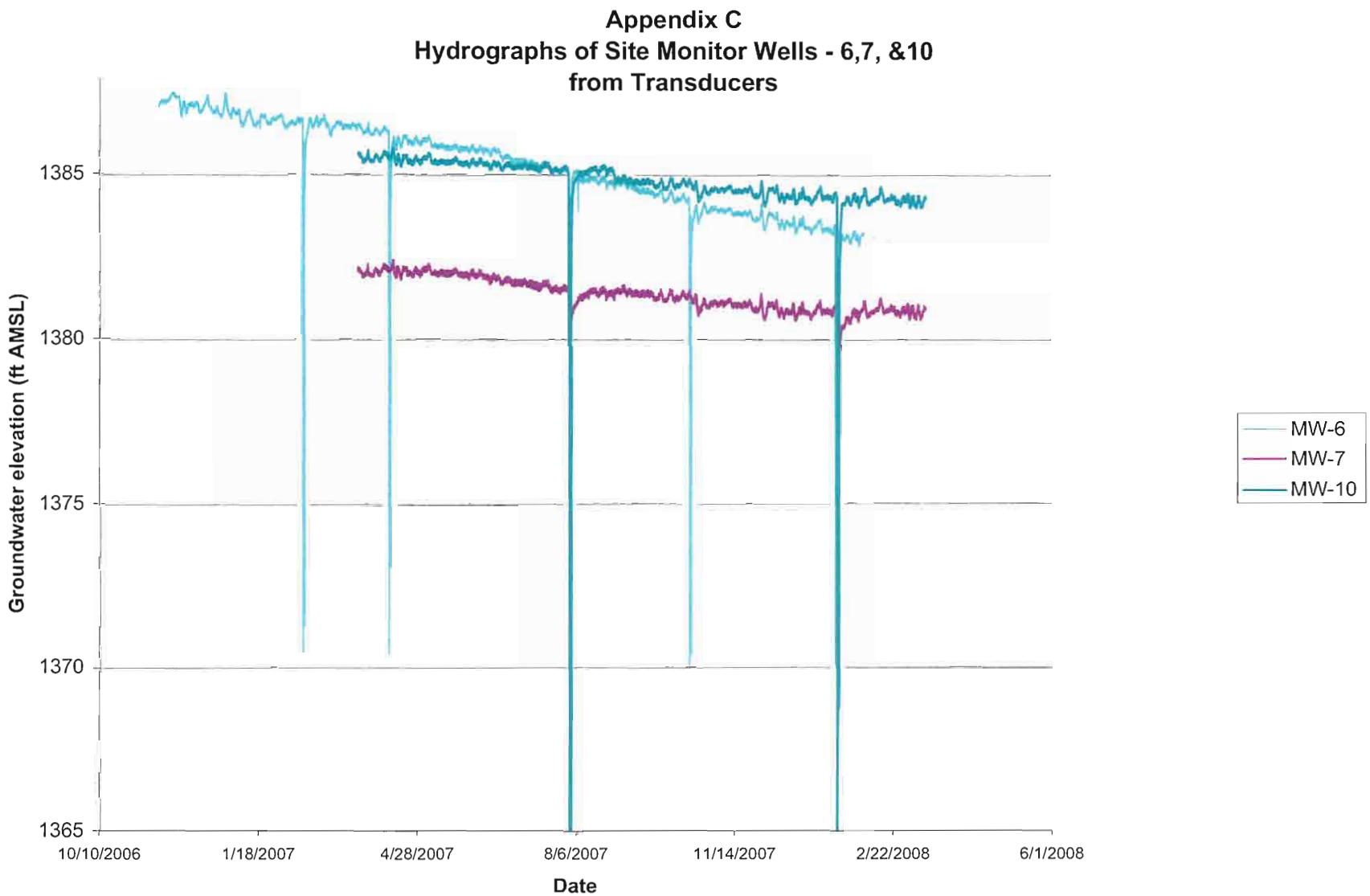
Appendix C
Well Hydrographs (feet amsl)

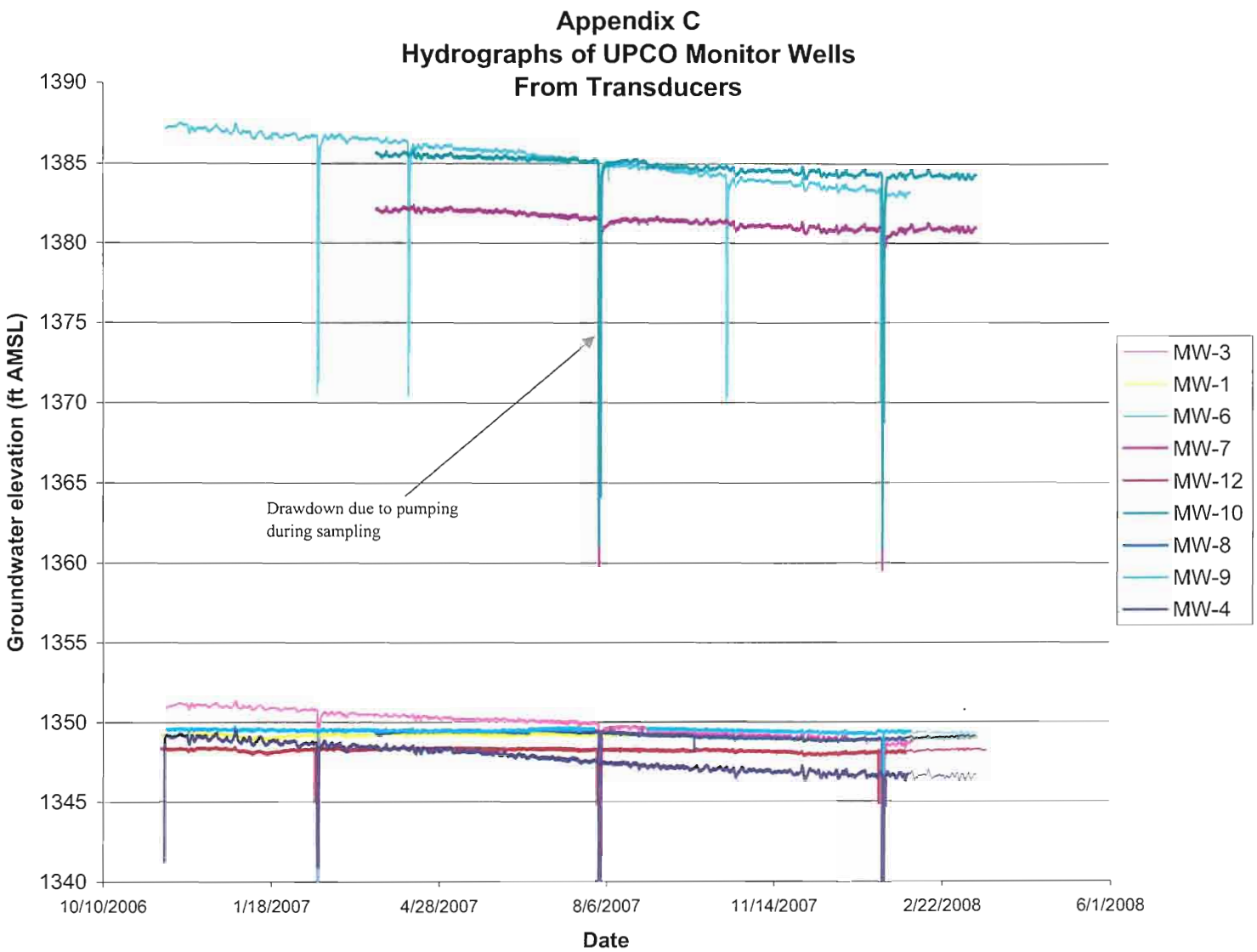






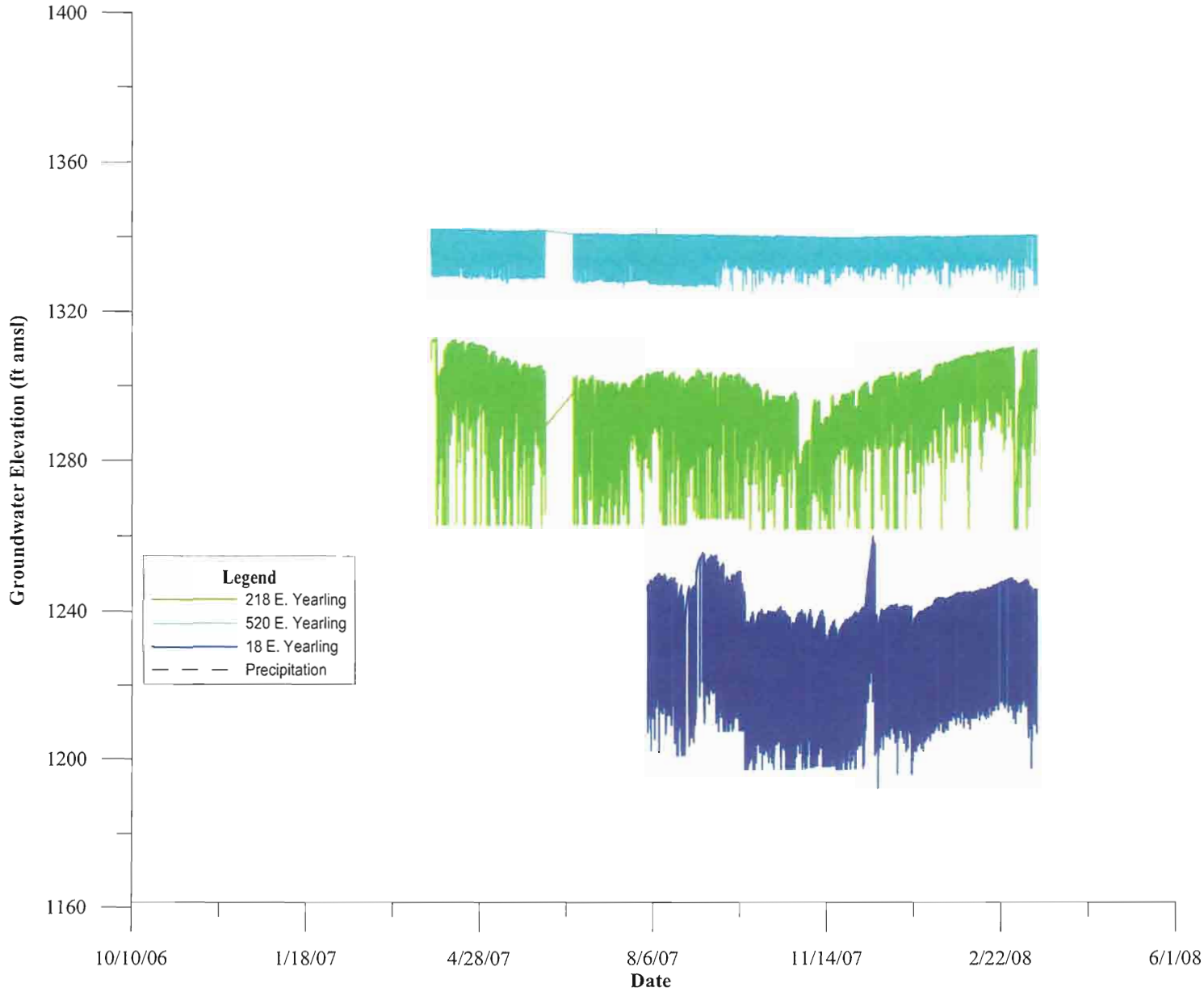

Appendix C
Hydrographs of Site Wells - 1, 3, 4, 8, 9, &12
from Transducers
Groundwater elevation (ft AMSL)
1354
1352
1350
1348
1346
1344
1342
1340
10/10/2006
1/18/2007
4/28/2007
8/6/2007
11/14/2007
2/22/2008
6/1/2008
Date
MW-3
MW-1
MW-12
MW-8
MW-9
MW-4


Appendix C
Hydrographs of Site Monitor Wells - 6,7, &10
from Transducers
Groundwater elevation (ft AMSL)
1385
1380
1375
1370
1365
10/10/2006
1/18/2007
4/28/2007
8/6/2007
11/14/2007
2/22/2008
6/1/2008
Date
MW-6
MW-7
MW-10


Appendix C
Hydrographs of UPCO Monitor Wells
From Transducers
Groundwater elevation (ft AMSL)
1390
1385
1380
1375
1370
1365
1360
1355
1350
1345
1340
10/10/2006
1/18/2007
4/28/2007
8/6/2007
11/14/2007
2/22/2008
6/1/2008
Date
Drawdown due to pumping
during sampling
MW-3
MW-1
MW-6
MW-7
MW-12
MW-10
MW-8
MW-9
MW-4

Appendix C
Hydrograph of Private Wells from Transducer

DRAFT



APPENDIX D

2007 MONITOR WELL WATER QUALITY

Appendix D
Monitor Well Groundwater Quality Summary

Parameters	MW-1 2/13/2007	MW-1 4/9/2007	MW-1 7/31/2007	MW-1 10/16/2007	MW-2 2/13/2007	MW-2 4/9/2007	MW-2 7/31/2007	MW-2 10/16/2007	MW-3 2/15/2007	MW-3 8/02/2007	MW-4 2/15/2007	MW-4 8/2/2007	MW-5 2/13/2007	MW-5 4/10/2007	MW-5 7/31/2007	MW-5 10/17/2007
Inorganics (mg/L)																
Arsenic	<0.05	NA	NA	NA	<0.05	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
Barium	0.051	NA	NA	NA	0.073	NA	NA	NA	0.02	NA	0.072	NA	0.05	NA	NA	NA
Cadmium	<0.005	NA	NA	NA	<0.005	NA	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	<0.01	NA	NA	NA	0.015	NA	NA	NA	<0.01	NA	<0.01	NA	0.027	NA	NA	NA
Lead	<0.05	NA	NA	NA	<0.05	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	<0.0002	NA	NA	NA	<0.0002	NA	NA	NA	<0.0002	NA	<0.0002	NA	<0.0002	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	<0.05	NA	NA	NA	<0.05	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	NA	NA
Silver	<0.005	NA	NA	NA	<0.005	NA	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perchlorate (ug/L)	76	71	71	70	87	83	84	80	<2	<2	<2	<2	21	19	19	22
Volatile Organic Compounds (ug/L)																
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1,2,2-Tetrachloroethane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1-Dichloroethene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
1,1-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,3-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dibromo-3-chloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dibromoethane (EDB)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,4-Dioxane	1.1	<1	1.3	1.0	2.7	2.6	3.0	2.7	<1	<1	<1	<1	<1	NA	<1	NA
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
2-Butanone (MEK)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
2-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
4-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
4-Methyl-2-pentanone (MIBK)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
Acetone	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromoform	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Bromomethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Chloroethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA

Parameters	MW-1 2/13/2007	MW-1 4/9/2007	MW-1 7/31/2007	MW-1 10/16/2007	MW-2 2/13/2007	MW-2 4/9/2007	MW-2 7/31/2007	MW-2 10/16/2007	MW-3 2/15/2007	MW-3 8/02/2007	MW-4 2/15/2007	MW-4 8/2/2007	MW-5 2/13/2007	MW-5 4/10/2007	MW-5 7/31/2007	MW-5 10/17/2007
Volatile Organic Compounds (ug/L) cont.																
Chloromethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
cis-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dichlorodifluoromethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Ethylbenzene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Hexachlorobutadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Iodomethane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Isopropylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Methyl-tert-butyl Ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
m,p-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
o-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Toluene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
trans-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Trichlorofluoromethane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Trihalomethanes, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Xylenes, Total	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA

Notes:

mg/L = Milligram per liter

umhos/cm = micro mhos per centimeter

< = Analyte was not detected above the listed reporting limit

UJ - The reporting limit is considered an estimated value

J = The analyte was positively identified; however, the result should be considered an estimated value

ug/L = Microgram per liter

NA = Not analyzed

Appendix D
Monitor Well Groundwater Quality Summary

Parameters	MW-6 2/15/2007	MW-6 4/10/2007	MW-6 8/2/2007	MW-6 10/17/2007	MW-7 2/14/2007	MW-7 8/1/2007	MW-8 2/15/2007	MW-8 8/2/2007	MW-9 2/14/2007	MW-9 8/1/2007	MW-10 2/15/2007	MW-10 8/3/2007	MW-11 2/13/2007	MW-11 4/10/2007	MW-11 7/31/2007	MW-11 10/17/2007
Inorganics (mg/L)																
Arsenic	<0.05	NA	NA	NA	<0.05	NA	0.052	NA	<0.05	NA	<0.05	NA	<0.050	NA	NA	NA
Barium	0.014	NA	NA	NA	<0.010	NA	0.017	NA	0.054	NA	0.01	NA	0.13	NA	NA	NA
Cadmium	<0.005	NA	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	<0.01	NA	NA	NA	<0.01	NA	0.022	NA	<0.010	NA	<0.010	NA	<0.010	NA	NA	NA
Lead	<0.05	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.050	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	<0.0002	NA	NA	NA	<0.0002	NA	<0.0002	NA	<0.0002	NA	<0.0002	NA	<0.0002	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	<0.05	NA	NA	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	<0.050	NA	NA	NA
Silver	<0.005	NA	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perchlorate (ug/L)	18	17	17	15	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.3	2.4
Volatile Organic Compounds (ug/L)																
1,1,1,2-Tetrachloroethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1,1-Trichloroethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1,2,2-Tetrachloroethane	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
1,1,2-Trichloroethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1-Dichloroethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,1-Dichloroethene	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
1,1-Dichloropropene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,3-Trichlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,3-Trichloropropane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,4-Trichlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2,4-Trimethylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dibromo-3-chloropropane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dibromoethane (EDB)	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichloroethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,2-Dichloropropane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3,5-Trimethylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3-Dichlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,3-Dichloropropane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,4-Dichlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
1,4-Dioxane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1.0	NA
2,2-Dichloropropane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
2-Butanone (MEK)	<10	NA	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
2-Chlorotoluene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
2-Hexanone	<10	NA	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
4-Chlorotoluene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
4-Methyl-2-pentanone (MIBK)	<10	NA	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA
Acetone	<20	NA	<20	NA	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA
Benzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromochloromethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromodichloromethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Bromoform	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Bromomethane	<4	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Carbon Disulfide	<5	NA	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Carbon tetrachloride	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Chlorobenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Chloroethane	<4	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Chloroform	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA

Parameters	MW-6 2/15/2007	MW-6 4/10/2007	MW-6 8/2/2007	MW-6 10/17/2007	MW-7 2/14/2007	MW-7 8/1/2007	MW-8 2/15/2007	MW-8 8/2/2007	MW-9 2/14/2007	MW-9 8/1/2007	MW-10 2/15/2007	MW-10 8/3/2007	MW-11 2/13/2007	MW-11 4/10/2007	MW-11 7/31/2007	MW-11 10/17/2007
Volatile Organic Compounds (ug/L) cont.																
Chloromethane	<4	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
cis-1,2-Dichloroethene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
cis-1,3-Dichloropropene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dibromochloromethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dibromomethane	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Dichlorodifluoromethane	<4	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Ethylbenzene	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Hexachlorobutadiene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Iodomethane	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
Isopropylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Methylene chloride	<5	NA	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Methyl-tert-butyl Ether (MTBE)	<5	NA	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
m,p-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
n-Butylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
n-Propylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
o-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
sec-Butylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Styrene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
tert-Butylbenzene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Tetrachloroethene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Toluene	<2	NA	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA
trans-1,2-Dichloroethene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
trans-1,3-Dichloropropene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Trichloroethene	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Trichlorofluoromethane	<4	NA	<4	NA	<4	<4	<4	<4	<4	<4	<4	<4	<4	NA	<4	NA
Trihalomethanes, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	<5	NA	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA
Vinyl chloride	<1	NA	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA
Xylenes, Total	<3	NA	<3	NA	<3	<3	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA

Notes:

mg/L = Milligram per liter

umhos/cm = micro mhos per centimeter

< = Analyte was not detected above the listed reporting limit

UJ - The reporting limit is considered an estimated value

J = The analyte was positively identified; however, the result sh

ug/L = Microgram per liter

NA = Not analyzed

Appendix D
Monitor Well Groundwater Quality Summary

Parameters	MW-12 2/13/2007	MW-12 7/31/2007	PW-1 2/15/2007	PW-1 4/10/2007	PW-1 8/1/2007	PW-1 10/17/2007	POE 2/15/2007	POE 4/10/2007	POE 8/1/2007	POE 10/17/2007
Inorganics (mg/L)										
Arsenic	<0.05	NA	<0.05	NA	<0.05	<0.05	<0.05	NA	<0.05	<0.05
Barium	0.026	NA	<0.01	NA	<0.01	<0.01	<0.01	NA	<0.01	<0.01
Cadmium	<0.005	NA	<0.005	NA	<0.005	<0.005	<0.005	NA	<0.005	<0.005
Calcium	NA	NA	23	NA	25	23	23	NA	23	24
Chromium	<0.01	NA	<0.010	NA	<0.010	<0.010	<0.010	NA	<0.010	<0.010
Lead	<0.05	NA	<0.050	NA	<0.050	<0.050	<0.050	NA	<0.050	<0.050
Magnesium	NA	NA	9.9	NA	10	10	10	NA	10	11
Mercury	<0.0002	NA	<0.0002	NA	<0.0002	<0.0002	<0.0002	NA	<0.0002	<0.0002
Potassium	NA	NA	3.4	NA	3.9	3.5	3.5	NA	3.8	3.5
Selenium	<0.05	NA	<0.050	NA	<0.050	<0.050	<0.050	NA	<0.050	<0.050
Silver	<0.005	NA	<0.005	NA	<0.005	<0.005	<0.005	NA	<0.005	<0.005
Sodium	NA	NA	59	NA	71	53	58	NA	68	53
Perchlorate (ug/L)	<2	<2	2	<2	2.3	<2	<2	<2	3.0	<2
Volatile Organic Compounds (ug/L)										
1,1,1,2-Tetrachloroethane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,1,1-Trichloroethane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	<2	<2	<2 UJ	<2	<2 UJ	<2	NA	NA	NA	NA
1,1,2-Trichloroethane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,1-Dichloroethene	<2	<2	<2 UJ	3.0	<2 UJ	<2	3.2	2.9	3.3	3.5
1,1-Dichloropropene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,2,3-Trichlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,2,3-Trichloropropane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,2,4-Trichlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	<1	<1	<1 UJ	<1	<1 UJ	<2	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,2-Dichlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,3-Dichlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,3-Dichloropropane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
1,4-Dichlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	<1	<1.0	1.2 J	1.7 J	2.7	2.2	1.5	1.6	2.2	2.4
2,2-Dichloropropane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
2-Butanone (MEK)	<10	<10	<10 UJ	<10	<10 UJ	<10	NA	NA	NA	NA
2-Chlorotoluene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
2-Hexanone	<10	<10	<10 UJ	<10	<10 UJ	<10	NA	NA	NA	NA
4-Chlorotoluene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	<10	<10	<10 UJ	<10	<10 UJ	<10	NA	NA	NA	NA
Acetone	<20	<20	<20 UJ	<20	<20 UJ	<20	NA	NA	NA	NA
Benzene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Bromobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Bromochloromethane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Bromodichloromethane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Bromoform	<2	<2	<2 UJ	<2	<2 UJ	2.5	1.9	3.9	3.6	4.2
Bromomethane	<4	<4	<4 UJ	<4	<4 UJ	<4	NA	NA	NA	NA
Carbon Disulfide	<5	<5	<5 UJ	<5	<5 UJ	<5	NA	NA	NA	NA
Carbon tetrachloride	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Chloroethane	<4	<4	<4 UJ	<4	<4 UJ	<4	NA	NA	NA	NA
Chloroform	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5

Parameters	MW-12 2/13/2007	MW-12 7/31/2007	PW-1 2/15/2007	PW-1 4/10/2007	PW-1 8/1/2007	PW-1 10/17/2007	POE 2/15/2007	POE 4/10/2007	POE 8/1/2007	POE 10/17/2007
Volatile Organic Compounds (ug/L) cont.										
Chloromethane	<4	<4	<4 UJ	<4	<4 UJ	<4	NA	NA	NA	NA
cis-1,2-Dichloroethene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Dibromochloromethane	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Dibromomethane	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Dichlorodifluoromethane	<4	<4	<4 UJ	<4	<4 UJ	<4	NA	NA	NA	NA
Ethylbenzene	<2	<2	<2 UJ	<2	<2 UJ	<2	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Iodomethane	<2	<2	<2 UJ	<2	<2 UJ	<2	NA	NA	NA	NA
Isopropylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Methylene chloride	<5	<5	<5 UJ	<5	<5 UJ	<5	<0.5	<0.5	<0.5	<0.5
Methyl-tert-butyl Ether (MTBE)	<5	<5	<5 UJ	<5	<5 UJ	<5	NA	NA	NA	NA
m,p-Xylenes	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5
Naphthalene	<2	<2	<2 UJ	<2	<2 UJ	<2	NA	NA	NA	NA
n-Butylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
n-Propylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
o-Xylenes	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
sec-Butylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Styrene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Tetrachloroethene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Toluene	<2	<2	<2 UJ	<2	<2 UJ	<2	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	<1	<1	<1 UJ	<1	<1 UJ	<1	NA	NA	NA	NA
Trichloroethene	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	<4	<4	<4 UJ	<4	<4 UJ	<4	NA	NA	NA	NA
Trihalomethanes, Total	NA	NA	NA	NA	NA	NA	1.9	2.9	3.6	4.2
Vinyl acetate	<5	<5	<5 UJ	<5	<5 UJ	<5	NA	NA	NA	NA
Vinyl chloride	<1	<1	<1 UJ	<1	<1 UJ	<1	<0.5	<0.5	<0.5	<0.5
Xylenes, Total	<3	<3	<3 UJ	<3	<3 UJ	<3	<1.5	<1.5	<1.5	<1.5

Notes:

mg/L = Milligram per liter

umhos/cm = micro mhos per centimeter

< = Analyte was not detected above the listed reporting limit

UJ - The reporting limit is considered an estimated value

J = The analyte was positively identified; however, the result sh

ug/L = Microgram per liter

NA = Not analyzed

APPENDIX E

2007 PRIVATE WELL WATER QUALITY DATA

APPENDIX E
Private Well Water Quality Data

Sample ID	Collection Date	Perchlorate (Method 314.1) (ug/L)
16 E YEARLING	10/16/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/28/2005	<2
	4/29/2005	<2
	11/19/2004	<2
18 E YEARLING	10/16/2007	<2
	4/4/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/27/2005	<2
204 E YEARLING	10/27/2005	<2
218 E YEARLING	10/16/2007	<2
	4/4/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/28/2005	<2
	11/19/2004	<2
25825 N 1st PLACE	10/16/2007	<2
	4/4/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/28/2005	<2
	4/28/2005	<2
	11/17/2004	<2
25825 N 1st - TAP	4/28/2005	<2
	11/17/2004	<2
25903 N 2ND ST	4/4/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/28/2005	<2
	11/19/2004	<2
412 E YEARLING	5/23/2006	<2
	10/28/2005	<2
	4/29/2005	<2
	11/19/2004	<2
520 E YEARLING	10/16/2007	<2
	4/4/2007	2.4
	11/14/2006	<2
	5/23/2006	<2
	4/28/2005	<2
	11/17/2004	<2
604-616 E YEARLING	10/16/2007	<2
	4/6/2007	<2
	11/14/2006	<2
	5/23/2006	<2
	10/28/2005	<2
	4/29/2005	<2
	11/17/2004	<2
104 E YEARLING	11/15/2006	<2
8 W YEARLING	12/28/2007	<2
106 W YEARLING	12/28/2007	<2
122 W YEARLING	12/28/2007	<2
424 E YEARLING	1/19/2008	<2

Notes:

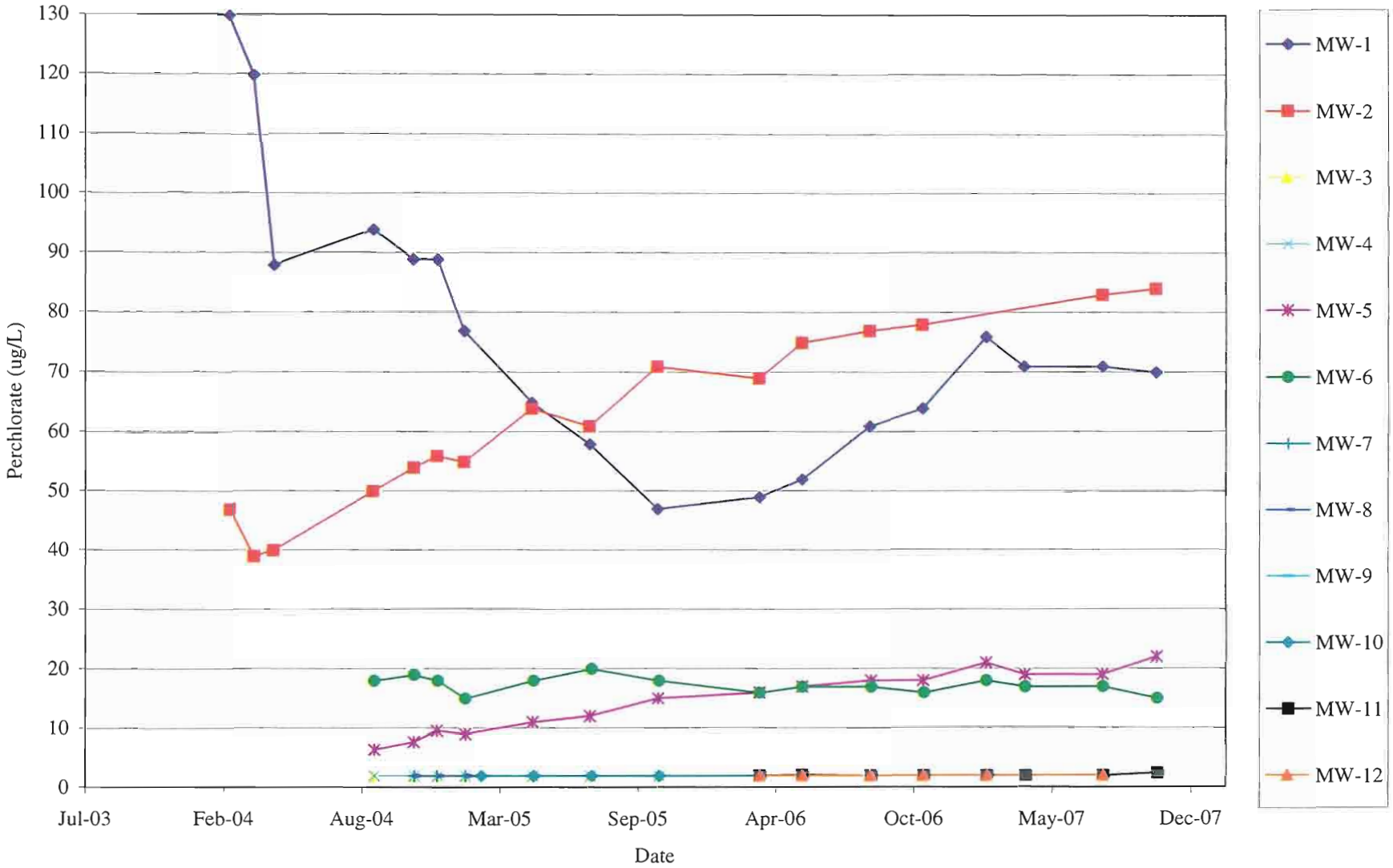
ug/L = micrograms per liter

< = Analyte was not detected above listed reporting limit

APPENDIX F

PERCHLORATE CONCENTRATION GRAPH

Appendix F
Perchlorate Concentration Graph



APPENDIX G

2007 DATA VERIFICATION SUMMARIES

APPENDIX G-1

2007 DATA VERIFICATION SUMMARIES

1.0 INTRODUCTION

This summary presents data verification results for groundwater samples collected from Universal Propulsion Company, Inc. (UPCO) monitoring wells during the 2007 sampling events. The data review was performed in accordance with the procedures specified in the Quality Assurance Project Plan (Hargis + Associates, 2004b), EPA Functional Guidelines for Organic and Inorganic Data Review (EPA, 1999 and 2002), and quality assurance and control parameters set by the project laboratory (Del Mar Analytical).

A total of 42 groundwater samples were collected and submitted to Del Mar Analytical for the following parameters:

- metals by EPA Methods 200.7, 245.1, 258.1, and 273.1;
- perchlorate by EPA Method 314.0; and
- volatile organic compounds (VOCs) by EPA Method 8260B and 524.2.

Additionally, field quality assurance samples (i.e., field duplicates and trip blanks) were collected and analyzed as part of the sampling program. Table H1-1 lists the samples and associated analytical parameters.

1.1 Data Quality Assessment

Sample results were subject to a Level III data review that includes an evaluation of the following quality control (QC) parameters:

- sample receipt temperatures;
- holding times;
- method blanks;
- laboratory control samples (LCS);
- matrix spike/matrix spike duplicates (MS/MSD);
- field duplicates; and
- surrogates (for organic parameters).

Results that require qualification based on the data verification are summarized in Table H1-2.

1.2 Data Qualifiers

The data qualifiers used to qualify analytical results associated with QC parameters outside data quality objectives are defined below:

J The analyte was positively identified; however, the result should be considered an estimated value.

UJ The reporting limit is considered an estimated value.

R Quality control indicates that the data is not usable

Results qualified as "J" or UJ" are of acceptable data quality and may be used quantitatively to fulfill the objectives of the analytical program, per EPA guidelines.

1.3 Sample Preservation and Temperature Upon Laboratory Receipt

Samples collected during the 2007 sampling events were received intact and at the correct temperature (4±2°C) at the project laboratory with the following exceptions. Samples received by the laboratory on February 14, 2007, April 6, 2007, and October 16, 2007, were received at 0.4, 8.6, and 1 degree Celsius, respectively. These temperature outliers did not significantly impact sample results; therefore, data qualification was not required.

1.4 Holding Times

Samples were extracted and analyzed within the holding time limits set by the respective EPA methods.

1.5 Method Blank Contamination

Method blanks were performed at the required frequencies. No target compounds were detected in the blanks.

1.6 LCS/LCS Duplicate Recovery and Relative Percent Difference

LCS/LCS duplicates were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for LCS or LCS duplicate but the analyte was not detected in the associated batch, then data qualification was not required.

- If the analyte recovery was above acceptance limits for LCS or LCS duplicate and the analyte was detected in the associated batch, then the analyte results were qualified "J".
- If the analyte recovery was below acceptance limits for LCS or LCS duplicate then the analyte results in the associated analytical batch were qualified ("UJ" for non-detects and "J" for detected results).
- If the analyte recovery was less than 10 percent, the analyte results in the associated analytical batch were rejected and qualified "R".

Percent recoveries and RPDs for the LCS/LCS duplicate were within acceptance limits with the following exceptions:

- For the analytical batch P7B2612, the LCS recoveries exceeded the control limits for chloroethane (126 percent), and for dichlorodifluoromethane (143 percent). Data qualification was not required because the LCSD was within limits and the associated samples were not detected for this analyte.
- For the analytical batch P7B2323, the LCS duplicate recovery exceeded the control limits for vinyl acetate (143 percent). Data qualification was not required because the LCS was within limits and the associated samples were not detected for vinyl acetate.
- For the analytical batch P7B2323, the LCS/LCS duplicate RPD exceeded the control limit for trans-1,2-dichloroethene (14 percent). Data qualification was not required because the LCS/LCS duplicate recoveries for this analyte met acceptance criteria.
- For the analytical batch P7D1322, the LCS/LCS duplicate RPDs exceeded acceptance limits for benzene, bromobenzene, bromochloromethane, n-butylebenze, sec-butylbenzene, ter-butylbenzene, chlorobenzene, chloroform, chloromethane, 2-chlorotoluene, 4-chlorotoluene, 1,1-dichloroethene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, dichlorodifluoromethane, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloropropene, cis-1,3-dichloropropene, hexachlorobutadiene, isopropylbenzene, n-propylbenzene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and vinyl

chloride. Data qualification was not required because the LCS and LCS duplicate recoveries were within acceptance limits.

- For the analytical batch P7D1322, the LCS percent recovery exceeded the control limits for n-butylebenze (123 percent). Data qualification was not required because the LCS duplicate was within limits and the associated sample was not detected for this analyte.
- For the analytical batch P7D1324, the LCS/LCS duplicate RPD exceeded acceptance limits for trichlorofluoromethane. Data qualification was not required because the associated samples were non-detect.
- For the analytical batch P7J1919 the RPD between the LCS and LCS duplicate recoveries exceeded the control limits for 1,1 dichloroethane, cis-1,2-dichloroethene, methylene chloride, and trichloroflurometh ane. Data qualification was not required because the LCS and LCS duplicate recoveries were within acceptance limits.
- For the analytical batches P7J2223 and P7J2224, the LCS and LCS duplicate percent recoveries exceeded the control limits for acetone. Data qualification was not required because the associated sample was not detected for this analyte.

1.7 MS/MSD Recovery and RPD

MS/MSD samples were performed at the required frequency and were evaluated by the following criteria:

- If MS or MSD recovery for an analyte is above acceptance limits but the analyte in not detected in the associated analytical batch, then data qualification was not required.
- If MS or MSD recovery for an analyte is above acceptance limits and the analyte is detected in the associated analytical batch, the analyte results were qualified "J".
- Low MS/MSD recoveries for inorganic parameters result in sample qualification of the associated analytical batch.
- Low MS/MSD recoveries for organic parameters result in the data qualification of the unspiked sample rather than the analytical batch.

- Results were not qualified based on non-project specific MS/MSD (i.e., batch QC) recoveries.

Percent recoveries and RPDs for the MS/MSDs were within acceptance limits with the following exceptions:

- The MS/MSD for analytical batch P7B1910 had recoveries for calcium (150 and 100 percent) and magnesium (180 and 160 percent) that were above acceptance limits. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC), and the sample results were greater than four times the spiked concentration.
- The MS/MSD RPD for analytical batch C7D1222 exceeded acceptance limits for 1,2-dichloroethane (22 percent). Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).
- The MS recovery for analytical batch P7D0408 was below acceptance limits for chloride. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).
- The MS recovery for analytical batch 7D09085 was below acceptance limits for sodium. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).
- The MS/MSD recoveries and RPD associated with the analytical batch P7J2224 were outside of acceptance limits for 1,1,2,2-tetrachloroethane, trichloroethene, and vinyl acetate. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).
- For the analytical batch P7J2223 the RPD between MS/MSD percent recoveries exceeded the control limits for styrene. Data qualification was not required because the MS and MS duplicate recoveries were within acceptance limits.
- The MS/MSD recovery associated with the analytical batch 7J24115 were not within the acceptance limits for sodium. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).
- The 524.1 MS/MSD recoveries associated with the analytical batch C7J2220 were not within the acceptance limits for many of the analytes tested. Data

qualification was not required because the spiked sample was not project-specific (i.e., batch QC).

- The MS/MSD recoveries associated with the analytical batch P7J2325 were not within the acceptance limits for calcium. Data qualification was not required because the spiked sample was not project-specific (i.e., batch QC).

1.8 Field Duplicates

Field duplicates were collected during all monitoring events and submitted for analyses. The RPDs between the field duplicate and its associated sample were calculated and presented in Table H1-3. Field duplicates were evaluated by the following criteria:

- If an analyte is detected at a concentration greater than five times the method reporting limit, the RPD should be less than 25 percent.
- If an analyte is detected between the sample and field duplicate less than five times the method reporting limit, the difference between the sample and the field duplicate should not exceed the method reporting limit.

All field duplicates met acceptance criteria with the following exception:

- Sample PW-1 and its associated field duplicate, FD041007 had an RPD value above acceptance limits for 1,4-dioxane (48.9 percent). Results were qualified "J" to indicate a potential bias.

1.9 Surrogates

Surrogates for all organic parameters were recovered within acceptance limits, with the following exceptions:

- Sample PW-1 had surrogate recoveries for toluene-d8 that were below acceptance limits for both the February and August 2007 sampling events. Data associated with these samples were qualified "J" for detects and "UJ" for non-detects due to a potential low bias.

1.10 Calibration

Calibration standards met acceptable criteria set by the respective EPA methods.

1.11 Completeness Summary

Two types of completeness were calculated for this project: contract and technical. As specified in the project DQOs, the goal for completeness for the site is 90 percent.

Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations are used to calculate the two types of completeness.

% Contract Completeness =
(Number of contract compliant results/
Number of reported results)
x 100

% Technical Completeness =
(Number of usable results/Number of reported results)
x 100

The overall contract completeness, which included the evaluation of the protocol and contract deviations for holding times, blanks, MS/MSD, and LCS, was attained for the field samples. The technical completeness, which included all QC parameters, attained for the field samples was 100 percent. The completeness results are provided in Table H1-4. The results for this monitoring event were considered usable for the intended purposes and the project DQOs have been met.

Table G1-1
Sampling and Analysis Schedule

Sample ID	Lab ID	Collected	Sample Type	Parameters
FD021307	PQB0393-07	2/13/2007	FD of MW-11	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-1	PQB0393-02	2/13/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-11	PQB0393-04	2/13/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-12	PQB0393-01	2/13/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-2	PQB0393-03	2/13/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-5	PQB0393-05	2/13/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
TB021307	PQB0393-06	2/13/2007	TB	VOCs
MW-7	PQB0492-01	2/14/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-9	PQB0492-02	2/14/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
TB021407	PQB0492-03	2/14/2007	TB	VOCs
MW-10	PQB0515-04	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-3	PQB0515-03	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-4	PQB0515-01	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-6	PQB0515-02	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-8	PQB0515-06	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
POE	PQB0515-07	2/15/2007	N	VOCs (524.2), 1,4-Dioxane, Perchlorate, Metals
PW-1	PQB0515-08	2/15/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
TB021507	PQB0515-05	2/15/2007	TB	VOCs
TB021507	PQB0515-09	2/15/2007	TB	VOCs (EPA 524.2)
MW-1	PQD0293-01	4/9/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-2	PQD0293-02	4/9/2007	N	VOCs, 1,4-Dioxane, Perchlorate
TB040907	PQD0293-03	4/9/2007	TB	VOCs
FD041007	PQD0337-06	4/10/2007	FD of PW-1	VOCs, 1,4-Dioxane, Perchlorate, Metals
MW-11	PQD0337-01	4/10/2007	N	Perchlorate
MW-5	PQD0337-02	4/10/2007	N	Perchlorate
MW-6	PQD0337-03	4/10/2007	N	Perchlorate
POE	PQD0337-05	4/10/2007	N	VOCs (524.2), 1,4-Dioxane, Perchlorate, Metals
PW-1	PQD0337-04	4/10/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
TB041007	PQD0337-07	4/10/2007	TB	VOCs
FD073107	PQH0005-06	7/31/2007	FD of MW-5	VOCs, 1,4-Dioxane, Perchlorate
MW-1	PQH0005-02	7/31/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-11	PQH0005-04	7/31/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-12	PQH0005-01	7/31/2007	N	VOCs, 1,4-Dioxane, Perchlorate

Table G1-1
Sampling and Analysis Schedule

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-2	PQH0005-03	7/31/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-5	PQH0005-05	7/31/2007	N	VOCs, 1,4-Dioxane, Perchlorate
TB073107	PQH0005-07	7/31/2007	TB	VOCs
MW-7	PQH0053-01	8/1/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-9	PQH0053-02	8/1/2007	N	VOCs, 1,4-Dioxane, Perchlorate
POE	PQH0053-04	8/1/2007	N	VOCs (524.1), 1,4-Dioxane, Perchlorate, Metals
PW-1	PQH0053-03	8/1/2007	N	VOCs, 1,4-Dioxane, Perchlorate, Metals
TB080107	PQH0053-05	8/1/2007	TB	VOCs
MW-10	PQH0112-04	8/2/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-3	PQH0112-05	8/2/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-4	PQH0112-01	8/2/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-6	PQH0112-02	8/2/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-8	PQH0112-03	8/2/2007	N	VOCs, 1,4-Dioxane, Perchlorate
Trip Blank	PQH0112-06	8/2/2007	TB	VOCs
FD101607	PQJ0742-04	10/16/2007	FD of MW-1	VOCs, 1,4-Dioxane, Perchlorate
MW-1	PQJ0742-02	10/16/2007	N	VOCs, 1,4-Dioxane, Perchlorate
MW-2	PQJ0742-01	10/16/2007	N	VOCs, 1,4-Dioxane, Perchlorate
TB101607	PQJ0742-03	10/16/2007	TB	VOCs, 1,4-Dioxane
MW-11	PQJ0835-01	10/17/2007	N	Perchlorate
MW-5	PQJ0835-02	10/17/2007	N	Perchlorate
MW-6	PQJ0835-03	10/17/2007	N	Perchlorate
POE	PQJ0835-05	10/17/2007	N	VOCs (524.2), 1,4-Dioxane, Metals, Perchlorate
PW-1	PQJ0835-04	10/17/2007	N	VOCs, 1,4-Dioxane, Metals, Perchlorate
TB101707	PQJ0835-06, 07, 08	10/17/2007	TB	VOCs (8260 and 524.2), 1,4-Dioxane

Notes:
N = normal field sample
FD = field duplicate
TB = trip blank
VOCs = Volatile Organic Compounds; analyzed by USEPA Method 8260 unless otherwise specified
Metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver

Table G1-2
Qualified Analytical Results

Sample ID	Date Collected	Analyte	Result	Units	Qualifier	Comments
PW-1	2/15/2007	All VOC Analytes	ND	ug/L	UJ	Qualified due to low surrogate recovery
PW-1	4/10/2007	1,4-Dioxane	1.7	ug/L	J	Qualified due to high field duplicate RPD
FD041007	4/10/2007	1,4-Dioxane	2.8	ug/L	J	Qualified due to high field duplicate RPD
PW-1	8/1/2007	Bromoform	5.6	ug/L	J	Qualified due to low surrogate recovery
PW-1	8/1/2007	All Other VOC Analytes	ND	ug/L	UJ	Qualified due to low surrogate recovery

Notes:
ug/L - microgram per liter
J = estimated value
UJ = Estimated reporting limit
RPD = Relative percent difference

Table G1-3
Field Duplicate Summary

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate Result	RPD (%)
MW-11/ FD021307	Inorganics			
	Perchlorate	<2.0	<2.0	NC
	Volatile Organic Compounds			
	All Analytes	ND	ND	NC
	Metals			
	Arsenic	<0.050	<0.050	NC
	Barium	0.13	0.13	<1.0
	Cadmium	<0.0050	<0.0050	NC
	Chromium	<0.010	<0.010	NC
	Lead	<0.050	<0.050	NC
	Mercury	<0.00020	<0.00020	NC
	Selenium	<0.050	<0.050	NC
	Silver	<0.0050	<0.0050	NC
PW-1/ FD041007	Inorganics			
	Perchlorate	<2.0	<2.0	NC
	Volatile Organic Compounds			
	1,1-Dichloroethene	3.0	<2.0	NC
	Bromoform	<2.0	2.9	NC
	1,4-Dioxane	1.7	2.8	49*
	Metals			
	Arsenic	<0.050	<0.050	NC
	Barium	<0.010	<0.010	NC
	Cadmium	<0.0050	<0.0050	NC
	Calcium	21	22	4.7
	Chromium	<0.010	<0.010	NC
	Lead	<0.050	<0.050	NC
	Magnesium	8.9	9.3	4.4
	Mercury	<0.00020	<0.00020	NC
	Potassium	3.5	3.4	2.9
	Selenium	<0.050	<0.050	NC
	Silver	<0.0050	<0.0050	NC
	Sodium	60.0	60.0	<1.0
MW-5/ FD073107	Inorganics			
	Perchlorate	19	20	5.1
	Volatile Organic Compounds			
	1,4 Dioxane	<1.0	<1.0	NC
	All Analytes	ND	ND	NC
MW-1/ FD101607	Inorganics			
	Perchlorate	70	69	1.4
	Volatile Organic Compounds			
	1,4 Dioxane	1.0	<1.0	NC
	All Analytes	ND	ND	NC

Notes:
RPD = Relative percent difference; [(difference)/(average)]*100
NC = Not calculated; RPD values were not calculated for non-detects or trace values
ND = No analytes detected
mg/L = milligrams per liter
ug/L = micrograms per liter
* = Field Duplicate RPD outlier

Table G1-4
Completeness Summary

Parameters	Total Number of Results	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Inorganics					
Arsenic	20	20	100	20	100
Barium	20	20	100	20	100
Cadmium	20	20	100	20	100
Calcium	20	20	100	20	100
Chromium	20	20	100	20	100
Lead	20	20	100	20	100
Magnesium	20	20	100	20	100
Mercury	20	20	100	20	100
Selenium	20	20	100	20	100
Silver	20	20	100	20	100
Sodium	20	20	100	20	100
Perchlorate	42	42	100	42	100
Volatile Organic Compounds					
1,4-Dioxane	36	35[a]	97	34	100
Bromoform	32	30[b]	94	34	100
All Analytes	32	30[b]	94	34	100
Volatile Organic Compounds by EPA 524.2					
All Analytes	4	4	100	4	100

Notes:
Percent Contractual Compliance = (Number of contract compliant results/Number of reported results) * 100
Percent Technical Compliance = (Number of usable results/Number of reported results) * 100
Field duplicates and trip blanks are not included in the percent compliance calculations
a = Qualified due to high field duplicate relative percent difference
b = Qualified due to surrogate recovery outlier

APPENDIX G-2

DATA VERIFICATION SUMMARY FOR UPCO PRIVATE WELL MONITORING

1.0 INTRODUCTION

This summary presents data verification results for groundwater samples collected from private wells north of the Universal Propulsion Company, Inc. (UPCO) site during the 2007 monitoring events and first quarter of 2008. The data review was performed in accordance with the procedures specified in the Quality Assurance Project Plan (Hargis + Associates, 2004b), EPA Functional Guidelines for Inorganic Data Review (EPA 2002), and quality assurance and control parameters set by the project laboratory (Del Mar Analytical).

A total of 16 samples were collected and submitted to Del Mar Analytical for the following analyses:

- perchlorate by USEPA Method 314.0;
- alkalinity by Standard Methods 2320B;
- cations (calcium, magnesium, potassium, sodium) by USEPA Method 200.7;
- anions (chloride, sulfate, nitrate) by USEPA Method 300.0; and
- total dissolved solids (TDS) by Standard Methods 2540C.

Table H2-1 lists the samples and associated analytical parameters.

1.1 Data Quality Assessment

Sample results were subject to a Level III data review that includes an evaluation of the following quality control (QC) parameters:

- sample receipt temperatures;
- holding times;
- method blanks;
- laboratory control samples (LCS); and
- matrix spike/matrix spike duplicates (MS/MSD).

Results did not require qualification based on the data verification.

1.2 Data Qualifiers

The data qualifiers used to qualify analytical results associated with QC parameters outside data quality objectives are defined below:

J The analyte was positively identified; however, the result should be considered an estimated value.

UJ The reporting limit is considered an estimated value.

R Quality control indicates that the data is not usable

Results qualified as "J" or UJ" are of acceptable data quality and may be used quantitatively to fulfill the objectives of the analytical program, per EPA guidelines.

1.3 Sample Preservation and Temperature Upon Laboratory Receipt

Samples were received intact and at the correct temperature (4±2° Celsius) at the project laboratory with the following exception. Samples received by the laboratory on April 6, 2007 had a temperature of 8.6° Celsius. This temperature outlier did not significantly impact sample results; therefore, data qualification was not required.

1.4 Holding Times

Samples were extracted and analyzed within the holding time limits set by the respective EPA methods.

1.5 Method Blank Contamination

Method blanks were performed at the required frequencies. No target compounds were detected in the blanks.

1.6 LCS/LCS Duplicate Recovery and Relative Percent Difference

LCS/LCS duplicates were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for LCS or LCS duplicate but the analyte was not detected in the associated batch, then data qualification was not required.
- If the analyte recovery was above acceptance limits for LCS or LCS duplicate and the analyte was detected in the associated batch, then the analyte results were qualified "J".

- If the analyte recovery was below acceptance limits for LCS or LCS duplicate then the analyte results in the associated analytical batch were qualified ("UJ" for non-detects and "J" for detected results).
- If the analyte recovery was less than 10 percent, the analyte results in the associated analytical batch were rejected and qualified "R".

Percent recoveries and RPDs for the LCS/LCS duplicate were within acceptance limits.

1.7 MS/MSD Recovery and RPD

MS/MSD samples were performed at the required frequency and were evaluated by the following criteria:

- If MS or MSD recovery for an analyte is above acceptance limits but the analyte in not detected in the associated analytical batch, then data qualification was not required.
- If MS or MSD recovery for an analyte is above acceptance limits and the analyte is detected in the associated analytical batch, the analyte results were qualified "J".
- Low MS/MSD recoveries for inorganic parameters result in sample qualification of the associated analytical batch.
- Low MS/MSD recoveries for organic parameters result in the data qualification of the unspiked sample rather than the analytical batch.
- Results were not qualified based on non-project specific MS/MSD (i.e., batch QC) recoveries.

Percent recoveries and RPDs for the MS/MSDs were within acceptance limits.

1.8 Completeness Summary

Two types of completeness were calculated for this project: contract and technical. As specified in the project DQOs, the goal for completeness for the site is 90 percent. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations are used to calculate the two types of completeness.

% Contract Completeness =

(Number of contract compliant results/
Number of reported results)
x 100

% Technical Completeness =
(Number of usable results/Number of reported results)
x 100

The overall contract completeness included the evaluation of the protocol and contract deviations for holding times, blanks, MS/MSD, and LCS. The technical completeness, which included all QC parameters, attained for the field samples was 100 percent. The completeness results are provided in Table H2-2. The results for this monitoring event were considered usable for the intended purposes and the project DQOs have been met.

Table G2-1
Sampling and Analysis Schedule

Sample ID	Lab ID	Collected	Sample Type	Parameters
18 E Yearling	PQD0135-01 / PQD0140-02	4/4/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
218 E Yearling	PQD0133-01 / PQD0140-06	4/4/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
25825 N 1 Pl	PQD0131-01 / PQD0140-01	4/4/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
25903 N 2nd St	PQD0136-01 / PQD0140-03	4/4/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
520 E Yearling	PQD0129-01 / PQD0140-04	4/4/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
604/616 E. Yearling	PQD0252-01 / PQD0253-01	4/6/2007	N	Perchlorate, Alkalinity, Anions, Cations, TDS
16 E. Yearling	PQJ0700-01	10/16/2007	N	Perchlorate
18 Yearling	PQJ0722-01	10/16/2007	N	Perchlorate
218 Yearling	PQJ0705-01	10/16/2007	N	Perchlorate
25825 N. 1st Place	PQJ0721-01	10/16/2007	N	Perchlorate
520 Yearling	PQJ0714-01	10/16/2007	N	Perchlorate
604/616 E. Yearling	PQJ0703-01	10/16/2007	N	Perchlorate
106 W Yearling	PQL1516-01	12/28/2007	N	Perchlorate
122 W Yearling	PQL1517-01	12/28/2007	N	Perchlorate
8 W Yearling	PQL1515-01	12/28/2007	N	Perchlorate
424 W Yearling	PRA1226-01	1/19/2008	N	Perchlorate

Notes:
N = normal field sample
Anions = Chloride, Nitrate, Sulfate
Cations = Calcium, Magnesium, Potassium, Sodium
TDS = Total Dissolved Solids

Table G2-2
Completeness Summary

Parameters	Total Number of Results	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Perchlorate	16	16	100	16	100
Alkalinity	5	5	100	5	100
Calcium	5	5	100	5	100
Magnesium	5	5	100	5	100
Potassium	5	5	100	5	100
Sodium	5	5	100	5	100
Chloride	5	5	100	5	100
Nitrate	5	5	100	5	100
Sulfate	5	5	100	5	100
Total Dissolved Solids	5	5	100	5	100

Notes:

Percent Contractual Compliance = (Number of contract compliant results/Number of reported results) * 100

Percent Technical Compliance = (Number of usable results/Number of reported results) * 100

APPENDIX G-3

DATA VERIFICATION SUMMARY FOR UPCO GROUNDWATER MONITORING PERCHLORATE METHODS COMPARISON

1.0 INTRODUCTION

This summary presents data verification results for samples collected from Universal Propulsion Company, Inc. (UPCO) wells, adjacent residential wells, and test samples during the 2007 monitoring events. The data review was performed in accordance with the procedures specified in the Quality Assurance Project Plan (Hargis + Associates, 2004b), EPA Functional Guidelines for Inorganic Data Review (EPA 2002), and quality assurance and control parameters set by the project laboratory (Del Mar Analytical).

A total of 44 samples were collected and submitted to Del Mar Analytical for perchlorate analysis by USEPA Methods 314, 332, and 6850. The objective of these sampling events was to compare analytical method for perchlorate. Table H3-1 lists the samples and associated analytical parameters.

1.1 Data Quality Assessment

Sample results were subject to a Level III data review that includes an evaluation of the following quality control (QC) parameters:

- sample receipt temperatures;
- holding times;
- method blanks;
- laboratory control samples (LCS);
- matrix spike/matrix spike duplicates (MS/MSD); and
- field duplicates

Results that require qualification based on the data verification are summarized in Table H3-2.

1.2 Data Qualifiers

The data qualifiers used to qualify analytical results associated with QC parameters outside data quality objectives are defined below:

J The analyte was positively identified; however, the result should be considered an estimated value.

UJ The reporting limit is considered an estimated value.

R Quality control indicates that the data is not usable

Results qualified as "J" or UJ" are of acceptable data quality and may be used quantitatively to fulfill the objectives of the analytical program, per EPA guidelines.

1.3 Sample Preservation and Temperature Upon Laboratory Receipt

Samples collected during the 2007 sampling events were received intact and at the correct temperature (4±2°C) at the project laboratory with the following exceptions. Samples received by the laboratory on February 14, 2007, April 6, 2007, and October 16, 2007 had temperatures of 0.4, 8.6, and 1 degrees Celsius, respectively. These temperature outliers did not significantly impact sample results; therefore, data qualification was not required.

1.4 Holding Times

Samples were extracted and analyzed within the holding time limits set by the respective EPA methods.

1.5 Method Blank Contamination

Method blanks were performed at the required frequencies. No target compounds were detected in the blanks.

1.6 LCS/LCS Duplicate Recovery and Relative Percent Difference

LCS/LCS duplicates were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for LCS or LCS duplicate but the analyte was not detected in the associated batch, then data qualification was not required.
- If the analyte recovery was above acceptance limits for LCS or LCS duplicate and the analyte was detected in the associated batch, then the analyte results were qualified "J".
- If the analyte recovery was below acceptance limits for LCS or LCS duplicate then the analyte results in the associated analytical batch were qualified ("UJ" for non-detects and "J" for detected results).

- If the analyte recovery was less than 10 percent, the analyte results in the associated analytical batch were rejected and qualified "R".

Percent recoveries and RPDs for the LCS/LCS duplicate were within acceptance limits with the following exception:

- For the analytical batch 7H07081, the LCS exceeded acceptance limits for perchlorate (USEPA Method 332). Results associated with this batch were qualified "J" due to a potential high bias.

1.7 MS/MSD Recovery and RPD

MS/MSD samples were performed at the required frequency and were evaluated by the following criteria:

- If MS or MSD recovery for an analyte is above acceptance limits but the analyte in not detected in the associated analytical batch, then data qualification was not required.
- If MS or MSD recovery for an analyte is above acceptance limits and the analyte is detected in the associated analytical batch, the analyte results were qualified "J".
- Low MS/MSD recoveries for inorganic parameters result in sample qualification of the associated analytical batch.
- Low MS/MSD recoveries for organic parameters result in the data qualification of the unspiked sample rather than the analytical batch.
- Results were not qualified based on non-project specific MS/MSD (i.e., batch QC) recoveries.

Percent recoveries and RPDs for the MS/MSDs were within acceptance limits.

1.8 Field Duplicates

Field duplicates were collected during monitoring events and submitted for analyses. The RPDs between the field duplicate and its associated sample were calculated and presented in Table H3-3. Field duplicates were evaluated by the following criteria:

- If an analyte is detected at a concentration greater than five times the method reporting limit, the RPD should be less than 25 percent.

- If an analyte is detected between the sample and field duplicate less than five times the method reporting limit, the difference between the sample and the field duplicate should not exceed the method reporting limit.

All field duplicates met acceptance criteria.

1.9 Completeness Summary

Two types of completeness were calculated for this project: contract and technical. As specified in the project DQOs, the goal for completeness for the site is 90 percent. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations are used to calculate the two types of completeness.

% Contract Completeness =
(Number of contract compliant results/
Number of reported results)
x 100

% Technical Completeness =
(Number of usable results/Number of reported results)
x 100

The overall contract completeness included the evaluation of the protocol and contract deviations for holding times, blanks, MS/MSD, and LCS. The technical completeness, which included all QC parameters, attained for the field samples was 100 percent. The completeness results are provided in Table H3-4. The results for this monitoring event were considered usable for the intended purposes and the project DQOs have been met.

Table G3-1
Sampling and Analysis Schedule

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-12	07E01154 / PQB0391-01	2/13/2007	N	Perchlorate (332 and 6850)
MW-11	07E01155 / PQB0391-02	2/13/2007	N	Perchlorate (332 and 6850)
FD021307	07E01156 / PQB0391-03	2/13/2007	FD of MW-11	Perchlorate (332 and 6850)
MW-B	07E01150 / PQB0392-01	2/13/2007	TS	Perchlorate (314,332 and 6850)
MW-A	07E01151 / PQB0392-02	2/13/2007	TS	Perchlorate (314,332 and 6850)
MW-C	07E01152 / PQB0392-03	2/13/2007	TS	Perchlorate (314,332 and 6850)
MW-D	07E01153 / PQB0392-04	2/13/2007	TS	Perchlorate (314,332 and 6850)
MW-7	07E01165 / PQB0493-01	2/14/2007	N	Perchlorate (332 and 6850)
MW-9	07E01166 / PQB0493-02	2/14/2007	N	Perchlorate (332 and 6850)
MW-4	07E01161 / PQB0521-01	2/15/2007	N	Perchlorate (332 and 6850)
MW-3	07E01162 / PQB0521-02	2/15/2007	N	Perchlorate (332 and 6850)
MW-10	07E01163 / PQB0521-03	2/15/2007	N	Perchlorate (332 and 6850)
MW-8	07E01164 / PQB0521-04	2/15/2007	N	Perchlorate (332 and 6850)
18 E Yearling	PQD0138-02 / 07E01973	4/4/2007	N	Perchlorate (332 and 6850)
218 E Yearling	PQD0138-06 / 07E01977	4/4/2007	N	Perchlorate (322 and 6850)
25825 N 1 Pl	PQD0138-01 / 07E01972	4/4/2007	N	Perchlorate (332 and 6850)
25903 N 2 St	PQD0138-03 / 07E01974	4/4/2007	N	Perchlorate (332 and 6850)
520 E Yearling	PQD0138-04 / 07E01975	4/4/2007	N	Perchlorate (332 and 6850)
MW-E	PQD0138-05 / 07E01976	4/4/2007	TS	Perchlorate (314, 332 and 6850)
604 E Yearling	PQD0254-01 / 07E01996	4/6/2007	N	Perchlorate (332 and 6850)
MW-F	PQD0251-01 / PQD0254-02 / 07E01997	4/6/2007	TS	Perchlorate (314, 332, and 6850)

Table G3-1
Sampling and Analysis Schedule

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-G	PQD0251-02 / PQD0254-03 / 07E01998	4/6/2007	TS	Perchlorate (314, 332, and 6850)
MW-11	PQD0338-01 / 07E02042	4/10/2007	N	Perchlorate (332 and 6850)
MW-11	PQH0005-04	7/31/2007	N	Perchlorate (332)
MW-12	PQH0005-01	7/31/2007	N	Perchlorate (332)
MW-7	PQH0053-01	8/1/2007	N	Perchlorate (332)
MW-9	PQH0053-02	8/1/2007	N	Perchlorate (332)
MW-10	PQH0112-04	8/2/2007	N	Perchlorate (332)
MW-3	PQH0112-05	8/2/2007	N	Perchlorate (332)
MW-4	PQH0112-01	8/2/2007	N	Perchlorate (332)
MW-8	PQH0112-03	8/2/2007	N	Perchlorate (332)
16 E. Yearling	PQJ0701-01	10/16/2007	N	Perchlorate (332)
18 Yearling	PQJ0723-01	10/16/2007	N	Perchlorate (332)
218 Yearling	PQJ0704-01	10/16/2007	N	Perchlorate (332)
25825 N. 1st Place	PQJ0718-01	10/16/2007	N	Perchlorate (332)
520 Yearling	PQJ0716-01	10/16/2007	N	Perchlorate (332)
604/616 E. Yearling	PQJ0702-01	10/16/2007	N	Perchlorate (332)
MW-11	PQJ0836-01	10/17/2007	N	Perchlorate (332)
MW-2	PQJ0742-01	10/16/2007	N	Perchlorate (332)
MW-1	PQJ0742-02	10/16/2007	N	Perchlorate (332)
FD101607	PQJ0742-03	10/16/2007	FD of MW-1	Perchlorate (332)
122 W Yearling	PQL1518-01	12/28/2007	N	Perchlorate (332)
106 W Yearling	PQL1519-01	12/28/2007	N	Perchlorate (332)
8 W Yearling	PQL1520-01	12/28/2007	N	Perchlorate (332)

Notes:
N = normal field sample
TS = test sample
MW-A = Performance evaluation sample, true value is 2.2 ug/L
MW-B = Phoenix tap water, CAP source
MW-C = Tempe tap water, SRP source
MW-D = commerical spring water
MW-E = Distilled water provided from laboratory
MW-F = Gilbert tap water filtered through reverse osmosis system
MW-G = SRP irrigation water

Table G3-2
Qualified Results

Sample ID	Date Collected	Analyte	Result	Units	Qualifier	Comments
MW-12	7/31/2007	Perchlorate by USEPA Method 322	1.0	ug/L	1.0 J	Qualified due to LCS recovery outside of acceptance limits
MW-11	7/31/2007	Perchlorate by USEPA Method 322	1.9	ug/L	1.9 J	Qualified due to LCS recovery outside of acceptance limits
MW-7	8/1/2007	Perchlorate by USEPA Method 322	0.58	ug/L	0.58 J	Qualified due to LCS recovery outside of acceptance limits
MW-9	8/1/2007	Perchlorate by USEPA Method 322	0.80	ug/L	0.80 J	Qualified due to LCS recovery outside of acceptance limits

Notes:
ug/L = microgram per liter
J = Estimated value
LCS = Laboratory Control Sample

Table G3-3
Field Duplicate Summary

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate Result	RPD (%)
MW-11/ FD021307	**Inorganics (ug/L)**			
	Perchlorate (USEPA Method 332)	2.2	2.1	4.7
	Perchlorate (USEPA Method 6850)	2.25	2.33	3.5
MW-1/ FD101607	**Inorganics (ug/L)**			
	Perchlorate (USEPA Method 332)	75	76	1.3

Notes:
RPD = Relative percent difference; [(difference)/(average)]*100
ug/L = micrograms per liter

Table G3-4
Completeness Summary

Parameters	Total Number of Results	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Perchlorate Methods					
EPA Method 314	5	5	100	5	100
EPA Method 332	44	40	91	44	100
EPA Method 6850	22	22	100	22	100

Notes:
Percent Contractual Compliance = (Number of contract compliant results/Number of reported results) * 100
Percent Technical Compliance = (Number of usable results/Number of reported results) * 100
Field duplicates and trip blanks are not included in the percent compliance calculations
a = Qualified due to Laboratory Control Sample recovery outside of acceptance limits

APPENDIX H

LABORATORY REPORTS (CD)