ARCADIS

Appendix A

IDW Documentation

Appendix A

IDW Management Summary

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample Date	Lab Report Number	Sample ID	Bin/Tank ID Numbers	Waste Manifest Number (s)	Sample Location/Remarks	Analysis Method(s)	IDW Classification	Destination	Date(s) Disposed	Quantity solid (tons) or liquid (gallons)
First Quarter										
3/5/2013	C26573 440-40360-1	MW-6 and PW-1	Small Baker Tank	50008	Perchlorate impacted water	EPA 314.0 EPA 332.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Liquid Environmental Solutions (LES)	3/15/2013	4,000
2/27/2013 2/28/2013 3/1/2013 3/4/2013 3/5/2013 3/6/2013 3/7/2013	C26450 C26501 C26568 C26573 440-39459-1 440-40360-1	MW-1 through MW-5, MW-7 through MW-18	Large Baker Tank	15541	Perchlorate impacted water	EPA 314.0 EPA 332.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Liquid Environmental Solutions (LES)	3/15/2013	5,000
3/7/2013	C26568	MW-19 and MW-20	Totes	203255	Perchlorate impacted water	EPA 314.0 EPA 332.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Stericycle	3/19/2013	700
3/7/2013	C26568	MW-19 and MW-20	Totes	1304001	Perchlorate impacted water	EPA 314.0 EPA 332.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Heritage Environmental Services	4/3/2013	700
Second Quarter										
5/1/2013 5/2/2013	C27533	MW-1, MW-2, MW-5, MW-6, MW-13, MW-21, and PW-1	Baker Tank	50009	Perchlorate impacted water	EPA 314.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Liquid Environmental Solutions (LES)	5/7/2013	3,500
5/2/2013 5/3/2013	C27533	MW-19 and MW-20	Totes	8507-139693	Perchlorate impacted water	EPA 314.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Stericycle	5/7/2013	500
5/2/2013 5/3/2013	C27533	MW-19 and MW-20	Totes	1305008	Perchlorate impacted water	EPA 314.0 USEPA 200.8 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Northwest Regional Landfill	5/20/2013	500
Third Quarter										
7/16/2013 7/17/2013 7/23/2013 7/24/2013	C28799 C28847 C28944 440-52132 440-52262 440-52603	MW-1 through MW-4, MW-6 through MW-12, MW-14 through MW-18	Large Baker Tank	23514	Perchlorate-impacted water	USEPA 314.0 USEPA 332.0 USEPA 200.7 USEPA 200.8 USEPA 245.1 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Liquid Environmental Solutions	7/29/2013	5,000
7/18/2013 7/19/2013	C28847	MW-5, MW-13, MW-21, and PW-1	Small Baker Tank	23515	Perchlorate-impacted water	USEPA 314.0 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Liquid Environmental Solutions	7/29/2013	2,000
7/19/2013	C28847	MW-19 and MW-20	Totes	850Z-1047229	Perchlorate-impacted water	USEPA 314.0 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Stericycle Specialty Waste Solutions	7/29/2013	625
7/19/2013	C28847	MW-19 and MW-20	Totes	1308001	Perchlorate-impacted water	USEPA 314.0 USEPA 8260B 1,4 Dioxane	Non-Hazardous	Heritage Environmental Services	8/8/2013	625
Fourth Quarter										
10/8/2013 10/9/2013	C30262	MW-1, MW-2, MW-5, MW-6, MW-13, MW-21, and PW-1	Baker Tank	19987	Perchlorate impacted water	USEPA 314.0	Non-Hazardous	Liquid Environmental Solutions of Arizona	10/11/2013	3,500
10/9/2013	C30262	MW-19 and MW-20	Totes	850Z-1054519	Perchlorate impacted water	USEPA 314.0	Non-Hazardous	Stericycle Specialty Waste Solutions	10/14/2013	600
10/9/2013	C30262	MW-19 and MW-20	Totes	1311001	Perchlorate impacted water	USEPA 314.0	Non-Hazardous	Heritage Environmental Services	11/14/2013	600

LIQUID ENVIRONMENTAL SOLUTIONS

liquid ENVIRONMENTAL SOLUTIONS

NON-HAZARDOUS WASTE MANIFEST

50008

Profile Number
5507

Generator Name	Name: UPCO Phone: (602) 717-2580	**Generator Address**	Address: 25401 N Central Ave City: Phoenix State: AZ Zip: 85085

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type	☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☐ Non-Industrial ☒ Industrial ☐ Special

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	Craig Miller	**Generator Rep. Signature**	[signature]

Transporter Name	Name: MPC Phone: (602) 278-6233	**Transporter Address**	Address: 3045 S 51st Ave City: Phoenix State: AZ Zip: 85043

Waste Removed (Gallons)	4000 gallons	**Date**	**Time**
		3-15-13	1230 pm

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	Paul Brooks II	**Driver Signature**	Paul Brooks II

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	4,000	**Date**	**Time**
		3-15-13	
Facility Rep. Name (please print)	KB	**Facility Rep. Signature**	KB

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

LIQUID ENVIRONMENTAL SOLUTIONS

NON-HAZARDOUS WASTE MANIFEST

15541

Profile Number
5507 → ~~15699~~

Generator Name	**Name:** UPCO **Phone:** (602) 717-2580	**Generator Address**	**Address:** 2540 E Pentral Ave **City:** Phoenix **State:** AZ **Zip:** 85085

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type: ☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☐ Non-Industrial ☒ Industrial ☐ Special ☐ Used Cooking Oil ☐ Recyclable Used Oil

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	Agent for UPCO Craig L. Miller	**Generator Rep. Signature**	Craig L. Miller

Transporter Name	**Name:** MPE **Phone:** (602) 278-6233	**Transporter Address**	**Address:** 3045 S. 51st Ave **City:** Phoenix **State:** AZ **Zip:** 85043

Waste Removed (Gallons)	5000	**Date**	**Time**
		3-15-13	0830 am

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	Paul Brooks II	**Driver Signature**	Paul Brooks II

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	5000	**Date**	**Time**
		3-15-13	
Facility Rep. Name (please print)	K Brooks	**Facility Rep. Signature**	K Brooks

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

NON-HAZARDOUS WASTE MANIFEST

PROFILE NO. _____

M P Environmental Services, Inc. 203255
3045 S. 51st Avenue • Phoenix, AZ 85043 • (602) 278-6233

NOTE: This form to be in lieu of the Toxic Substance Controls hazardous waste manifest. To be used for NON-HAZARDOUS WASTES only.

TO BE COMPLETED BY GENERATOR

Name : Universal Propulsion Company

Mailing Address : 25401 North Central Ave.

City / State / Zip : Phoenix AZ 85085

Phone No : 602-717-2389 Contact :

Signature: X Date: 03 / 15 / 13

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS

Waste Description : Perchlorate Impacted Water

Generating Location : 25401 N. Central Ave. Phoenix, AZ 85085

Handling Instructions :

Quantity : 2 totes 700 [ ]BBL [X]GLS [ ]YDS [ ]TONS

CONTAINER TYPE: [ ]TANK TRUCK [ ]DUMP TRUCK [ ]DRUMS [ ]BINS [X]OTHER

DESIGNATED FACILITY :

NAME : Stericycle ADDRESS : 2844 West Broadway Road

CITY/STATE/ZIP: Phoenix AZ 85041 PHONE # : 602 276-7602

TRANSPORTER

MP ENVIRONMENTAL SERVICES, INC.
~~3045 S. 51st Avenue~~
~~Phoenix, AZ 85043~~
~~602-278-6233~~
Stericycle Specialty Waste
2844 W. Broadway Rd
Phoenix AZ, 85041

TICKET# _____ TRACT/TRLR# _____ / _____
Bin No's _____
Signature: _____
Date _____
P/U DATE: _____ Job # _____

TSD FACILITY

Name : Stericycle SPECIALTY WASTE

Address : 2844 West Broadway Road

City/State/Zip : Phoenix AZ 85041

Phone No : 602 276-7602

Disposal Method :
☐ Landfill Other HERITAGE

Time : _____ am pm

Discrepancy :

Signature : Luci Hoy Date : 3 / 19 / 13

ERTS # HM 8132010

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	AZR000035840	2	800-424-6824	1304001

GENERATOR

5. Generator's Name and Mailing Address
Stericycle Specialty Waste - PHX
7644 W Broadway Rd
Phoenix, AZ 85043
Generator's Phone: 602-276-7602

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Triad - Port ~~Heritage Environmental Services~~
U.S. EPA ID Number: CRO981[illegible] / IND054[illegible]

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Heritage Environmental Services
284 East Storey RD
Coolidge, AZ. 85228
Facility's Phone: 520-723-4169
U.S. EPA ID Number: AZD081705402

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
1. Non Regs, Non Dot Liquids ~ 18x55 DM, 2x 85DM	20	DM	9,800	P	N/A
2. Non Regs, Non Dot Liquids 11x55DF	11	DF	5,500	P	N/A
3. Non Regs, Non Dot Liquids 6x275TP	6	TP	15,000	P	N/A
4. Non Regs, Non Dot Liquids 3x55DM	3	DM	1,500	P	N/A

13. Special Handling Instructions and Additional Information
1) 129530-1 3) 129530-1, 203255
2) 129530-1 4) 129530-17

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Carlos Morales	[signature]	4	2	13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
ALAN PETZLER	[signature]	4	3	13
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR'S/SHIPPER'S INITIAL COPY

ERTS NHM9132010 PHX

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
AZ9990814479	1	(800) 924-6804	8507-1039693

5. Generator's Name and Mailing Address

Universal Propulsion Company
25401 N Central Ave
Phoenix, AZ 85085

Generator's Phone: 623-516-3340

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Stericycle Specialty Waste Solutions, Inc — U.S. EPA ID Number: MNE000110974

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Stericycle Specialty Waste Solutions, Inc
2044 West Broadway Road
Phoenix, AZ 85041

Facility's Phone: (602) 276-7602 Ext — U.S. EPA ID Number: AZR000035840

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	Non-Hazardous, Non-Regulated Liquids (perchlorate impacted water)	2	TP	est 500	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Agent for Grayle Craig L. Miller — Signature: [signature] — Month 05 Day 07 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Craig Abdy — Signature: [signature] — Month 5 Day 07 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Cuci Hoy — Signature: [signature] — Month 5 Day 7 Year 13

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

TRANSPORTER #1

GWNHWM-5-11v2 C6119830 S003 037095 M52527 PD050513 SD050513

LIQUID ENVIRONMENTAL SOLUTIONS

liquid ENVIRONMENTAL SOLUTIONS

NON-HAZARDOUS WASTE MANIFEST

50009

Profile Number
5507

Generator Name	**Name:** UPCO **Phone:** (623) 516-3340	**Generator Address**	**Address:** 25401 Center Ave **City:** Day **State:** AZ **Zip:** 85027

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type ☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☐ Non-Industrial ☒ Industrial ☐ Special

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	Craig Miller	**Generator Rep. Signature**	Craig Miller

Transporter Name	**Name:** **Phone:** ( )	**Transporter Address**	**Address:** **City:** **State:** **Zip:**

Waste Removed (Gallons)	3500 GALLONS	**Date** 5-7-13	**Time** 9:00 AM

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	PAUL BROOKS II	**Driver Signature**	Paul Brooks II

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	3500	**Date** 5/7/13	**Time**
Facility Rep. Name (please print)	Dm	**Facility Rep. Signature**	

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

ERTS #HM8132010

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: AZR000035840
2. Page 1 of 2
3. Emergency Response Phone: 800-924-6804
4. Waste Tracking Number: 1305008

5. Generator's Name and Mailing Address: Stericycle Specialty Waste - Phx, 2844 W. Broadway Rd, Phoenix, AZ 85041
Generator's Site Address (if different than mailing address):
Generator's Phone: 602-276-7602

6. Transporter 1 Company Name: Stericycle Specialty Waste Solution, Inc
U.S. EPA ID Number: MNS000110924

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: US Ecology (Beatty), 12 miles South of Beatty on Hwy 95, Beatty, NV 89003
Facility's Phone: 800-239-3943
U.S. EPA ID Number: NVT330010000

HM	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non Rcra, Non Dot Liquids 3 x yd3	3	CF	2,400	P	N/A
	2. Non Rcra, Non Dot Liquids 9 x 55gm	9	DM	4,500	P	N/A
	3. Non Rcra, Non Dot Liquids 2 x 275gp	2	TP	5,000	P	N/A
X	4. UN3077, Environmentally hazardous Substances, Solid, N.O.S., 9, PG III (crushed Bulbs) 1 x yd3	1	CF	850	P	N/A

13. Special Handling Instructions and Additional Information
1) 070137747-1577 3) 070137747-1577
2) 070137747-1577 4) 070130036

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Carlos Moreira
Signature:
Month 5 Day 13 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Craig Abdi
Signature:
Month 5 Day 20 Year 13
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: KYLE CATHCART
Signature:
Month 5 Day 21 Year 13

TRANSPORTER #1

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number AZR000035840	20. Page 2 of 2	21. Waste Tracking Number 130500R

22 Generator's Name: Stericycle Specialty Waste - Phx

23. Transporter_____ Company Name | U.S. EPA ID Number

24. Transporter_____ Company Name | U.S. EPA ID Number

HM	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	
X	5. UN3077, Environmentally Hazardous Substance, Solid, n.o.s., 9, PG III (Lead) 7x55 DM	7	DM	3500	P	N/A
X	6. UN2902, Pesticide, Liquid, Toxic, n.o.s., 6.1, PG II (Pesticides, Herbicides) 1x55 DM	1	DM	400	P	N/A
X	7. UN2588, Pesticide, Solid, Toxic, n.o.s., 6.1, PG II (Pesticides, Herbicides) 2xYd3	2	CF	1600	P	N/A
X	8. UN3264, Corrosive Liquid, Acidic, Inorganic, n.o.s., 8, PG II (Hydrochloric Acid) 1x55 DF	1	DF	500	P	N/A
X	9. UN3266, Corrosive Liquid, Basic, Inorganic, n.o.s., 8, PG II (Sodium Hydroxide) 1x55 DF	1	DF	500	P	N/A
X	10. UN3266, Corrosive Liquid, Basic, Inorganic, n.o.s., 8, PG II (Sodium Hydroxide) 1xYd3	1	CF	700	P	N/A
X	11. UN3262, Corrosive Solid, Basic, Inorganic, n.o.s., 8, PG II (Sodium Hydroxide) 1x55 DF	1	DF	300	P	N/A

29. Special Handling Instructions and Additional Information

5) 07-013-2036 7) 07-012-5587 8) 070135826-1 10) 070135800-0

6) 07-013-6000 ~~8) 070135800-0~~ 9) 070135800-0 11) 070127425-12

30 Transporter_____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

31. Transporter_____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

32. Discrepancy

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

TRANSPORTER #1

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	AZD980104429	1	(800) 926-0399	9967-1042229

5. Generator's Name and Mailing Address

Universal Propulsion Company
25401 N Central Ave
Phoenix, AZ 85085

Generator's Phone: 623-516-3340

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name — Stericycle Specialty Waste Solutions, Inc — U.S. EPA ID Number: MNS000110624

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address — Stericycle Specialty Waste Solutions, Inc
2894 West Broadway Road
Phoenix, AZ 85041

Facility's Phone: (602) 276-7802 Ext — U.S. EPA ID Number: AZD000630840

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non RCRA/Non DOT Regulated Liquids NOS (with water) (contains ethanol, methanol) 272	2	~~DM~~ TP	8000	P
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [illegible] — Month 7 Day 20 Year 17

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible] — Signature: [illegible] — Month 7 Day 20 Year 17

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month — Day — Year

GENERATOR'S/SHIPPER'S INITIAL COPY

LIQUID ENVIRONMENTAL SOLUTIONS

23514

NON-HAZARDOUS WASTE MANIFEST

Profile Number

Generator Name	**Name:** [illegible] **Phone:** ( )	**Generator Address**	**Address:** [illegible] **City:** [illegible] **State:** [illegible] **Zip:**

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type ☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☐ Non-Industrial ☐ Industrial ☐ Special ☐ Used Cooking Oil ☐ Recyclable Used Oil

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	[illegible]	**Generator Rep. Signature**	[illegible]

Transporter Name	**Name:** n/a **Phone:** ( )	**Transporter Address**	**Address:** [illegible] **City:** [illegible] **State:** [illegible] **Zip:**

Waste Removed (Gallons)	5000	**Date** 7.29.13	**Time**

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	Don	**Driver Signature**	[illegible]

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	5000	**Date** 7-29-13	**Time**
Facility Rep. Name (please print)	KB	**Facility Rep. Signature**	KB

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

LIQUID ENVIRONMENTAL SOLUTIONS

23515

NON-HAZARDOUS WASTE MANIFEST

liquid ENVIRONMENTAL SOLUTIONS

Profile Number
5507

Generator Name	**Name:** Universal Propane **Phone:** ( )	**Generator Address**	**Address:** 25401 Central **City:** Phx **State:** AZ **Zip:**

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type: ☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☒ Non-Industrial ☐ Industrial ☐ Special ☐ Used Cooking Oil ☐ Recyclable Used Oil

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	Agent for UPCO Greg Mc	**Generator Rep. Signature**	

Transporter Name	**Name:** MPE **Phone:** ( )	**Transporter Address**	**Address:** 3045 55 Ave **City:** Phx **State:** AZ **Zip:**

Waste Removed (Gallons)	2000	**Date**	**Time**
		7-29-13	

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	Don	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	2000	**Date**	**Time**
		7-29-13	
Facility Rep. Name (please print)	KB	**Facility Rep. Signature**	KB

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

[redacted] ERTSW HMS132010 [redacted]

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number AZE000035840	2. Page 1 of 2	3. Emergency Response Phone 800-424-6804	4. Waste Tracking Number 1308001

5. Generator's Name and Mailing Address: Stericycle Specialty Waste - PHX, 2849 W. Broadway Rd, Phoenix, AZ 85041
Generator's Site Address (if different than mailing address):
Generator's Phone: 602-275-7602

6. Transporter 1 Company Name: Heritage Environmental Services — U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Heritage Environmental Services, 254 East Stacy Rd, Cottonwood, AZ 85226 — U.S. EPA ID Number: AZD081705402
Facility's Phone: 520-723-4167

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol.	
1.	Non Reg, Non Dot Liquids 6x55dm	6	DM	3,000	P	N/A
2.	Non Reg, Non Dot Liquids 1x55dr 4x55dr	10	DF	5,200	P	N/A
3.	Non Reg, Non Dot Liquids 2x275TP	2	TP	5,000	P	N/A
4.	Non Reg, Non Dot Liquids 1x850m	1	DM	700	P	N/A

13. Special Handling Instructions and Additional Information
1) 129530-1 3) 129530-1 C850200000483115
2) 129530-1 4) 129530-17 #3 Universal Propulsion C850200000483117

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Carlos Morales — Signature: [signature] — Month 8 Day 6 Year 13

15. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 8 Day 6 Year 13
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: — Signature: — Month Day Year

GENERATOR'S/SHIPPER'S INITIAL COPY

LIQUID ENVIRONMENTAL SOLUTIONS

NON-HAZARDOUS WASTE MANIFEST

19987

Profile Number
5507

Generator Name	**Name:** UNIVERSAL Propulsion (UPCO / ARCADS) **Phone:** (623) 516 3340	**Generator Address**	**Address:** 25401 Central Ave. **City:** Phoenix **State:** AZ **Zip:** 85027

Check with your state and local regulatory agencies for manifest retention requirements. NOTE: Many regulatory agencies require records to be kept on-site and available to review for up to 3 years.

Waste Type	☐ Grease Trap ☐ Grit Trap ☐ Septic/Chemical Toilet ☒ Non-Industrial ☐ Industrial ☐ Special ☐ Used Cooking Oil ☐ Recyclable Used Oil

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	JAKE THOMAS	**Generator Rep. Signature**	

Transporter Name	**Name:** MPE **Phone:** (602) 2786233	**Transporter Address**	**Address:** 3045 S 51st Ave **City:** Phoenix **State:** AZ **Zip:** 85043

Waste Removed (Gallons)	3500g	**Date** 10/11/13	**Time** 1015

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver Name (please print)	JAKE THOMAS	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)	3500	**Date** 10/11/13	**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**	

WHITE - Generator Final Copy YELLOW - Liquid Environmental Solutions Copy GOLDENROD - Transporter Copy PINK - Generator 1st Copy

ERIS #HW0132010 PHX

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	AZD980814479	1	(800) 924-6804	8502-1654519

5. Generator's Name and Mailing Address

Universal Propulsion Company
25401 N Central Ave
Phoenix, AZ 85085

Generator's Phone: 623 516-3740

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Stericycle Specialty Waste Solutions, Inc — U.S. EPA ID Number: NMS000110924

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Stericycle Specialty Waste Solutions, Inc
7004 West Broadway Road
Phoenix, AZ 85041

Facility's Phone: (602) 276-7602 Ext — U.S. EPA ID Number: AZR000035840

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non DOT Regulated Liquid (perchlorate impacted water)	2	TP	5,000	P
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [illegible] — Month 10 Day 01 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible] — Signature: [illegible] — Month 10 Day 11 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

ERTS #HM8132010_PHX

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	AZD980814479	1	(800) 924-6804	850Z-1054519

5. Generator's Name and Mailing Address
Universal Propulsion Company
25401 N Central Ave
Phoenix, AZ 85085
Generator's Phone: 623-516-3340 X

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Stericycle Specialty Waste Solutions, Inc
U.S. EPA ID Number: MNS000110924

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: Stericycle Specialty Waste Solutions, Inc
2844 West Broadway Road
Phoenix, AZ 85041
Facility's Phone: (602) 276-7602 Ext
U.S. EPA ID Number: AZR000035840

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non DOT Regulated Liquid (perchlorate impacted water)	2	TP	5,000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: JAKE THOMAS
Signature:
Month 10 Day 11 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Keith Rodgers
Signature:
Month 10 Day 11 Year 13

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: ERICA STUART
Signature:
Month 10 Day 14 Year 13

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

[illegible] 3003 051056 M72890 PD[illegible]

ERTS # HM 8132010

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	AZR000035840	2	800-924-6804	1311001

5. Generator's Name and Mailing Address: Stericycle Specialty Waste - PHX, 2844 W. Broadway Rd, Phoenix, AZ 85041
Generator's Site Address (if different than mailing address):
Generator's Phone: 602-276-7602

6. Transporter 1 Company Name: SRE Transport — U.S. EPA ID Number: AZR000512343

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Heritage Environmental Services, 284 E. Storey Rd, Coolidge, AZ 85226 — U.S. EPA ID Number: AZD081705402
Facility's Phone: 520-723-4167

HM	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non Rcra, Non Dot Liquids 51x55gm, 1x85gm	52	DM	25,000	P	N/A
	2. Non Rcra, Non Dot Liquids 3x55DF	3	DF	1,500	P	N/A
	3. Non Rcra, Non Dot Liquids 4x275TP	4	TP	5,000	P	N/A
X	4. UN1993, Flammable Liquids, N.O.S., 3, PG II (Petroleum Distillates) 12x55gm	12	DM	6,000	P	N/A

13. Special Handling Instructions and Additional Information
1) 129530-1 3) 129530-1 - universal propulsion #L85080000056825 8
2) 129530-1 4) 129530-2 #L85080000056825 9

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
Generator's/Offeror's Printed/Typed Name: Carlos Moreira — Signature: [signature] — Month 11 Day 6 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kirk DeJeur — Signature: [signature] — Month 11 Day 6 Year 13
Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Lina M. Kaufman — Signature: Lina M. Kaufman — Month 11 Day 14 Year 13

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number AZR000035840	20. Page 2 of 2	21. Waste Tracking Number 1311001

22. Generator's Name
Stericycle Specialty Waste - PHX

23. Transporter_____ Company Name | U.S. EPA ID Number

24. Transporter_____ Company Name | U.S. EPA ID Number

HM	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	
X	5. UN1263, Paint Related Materials, 3, II (DOT-SP11624) 4x Yd3	4	CF	3,200	P	N/A
X	6- UN1950, Aerosols, Flammable, 2.1 3x Yd3	3	CF	1500	P	N/A

29. Special Handling Instructions and Additional Information
5) 129530-4
6) 129530-5

GENERATOR

TRANSPORTER

30. Transporter_____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

31. Transporter_____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

32. Discrepancy

DESIGNATED FACILITY TO GENERATOR

ARCADIS

Appendix B

Historical Water Level Data

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-1	1/6/2004	1000	1557.19	206.64	1350.55
	3/19/2004	1000	1557.27	206.70	1350.57
	4/16/2004	1000	1557.27	206.66	1350.61
	9/7/2004	804	1557.22	207.79	1349.43
	10/22/2004	1235	1557.22	207.42	1349.80
	11/22/2004	1055	1557.22	207.71	1349.51
	12/7/2004	1000	1557.22	207.80	1349.42
	1/17/2005	715	1557.22	207.62	1349.60
	2/14/2005	1032	1557.22	207.52	1349.70
	3/15/2005	1205	1557.22	207.36	1349.86
	4/25/2005	725	1557.22	207.47	1349.75
	5/20/2005	800	1557.22	207.69	1349.53
	6/27/2005	730	1557.22	207.82	1349.40
	7/18/2005	716	1557.22	208.13	1349.09
	8/22/2005	700	1557.22	208.04	1349.18
	9/22/2005	804	1557.22	208.03	1349.19
	10/24/2005	934	1557.22	208.03	1349.19
	12/2/2005	1245	1557.22	207.97	1349.25
	12/22/2005	1509	1557.22	208.15	1349.07
	1/27/2006	1125	1557.22	208.09	1349.13
	2/20/2006	1053	1557.22	208.04	1349.18
	3/20/2006	1525	1557.22	207.98	1349.24
	5/22/2006	842	1557.22	208.08	1349.14
	8/28/2006	1242	1557.22	208.04	1349.18
	11/13/2006	951	1557.22	208.04	1349.18
	2/12/2007	1215	1557.22	208.08	1349.14
	4/9/2007	1010	1557.22	208.03	1349.19
	7/30/2007	855	1557.22	207.84	1349.38
	10/15/2007	1441	1557.22	208.16	1349.06
	1/14/2008	1153	1557.22	208.37	1348.85
	3/31/2008	1445	1557.22	208.24	1348.98
	4/29/2008	1420	1557.22	208.27	1348.95
	5/27/2008	1300	1557.22	208.37	1348.85
	6/27/2008	755	1557.22	208.53	1348.69
	7/28/2008	1323	1557.22	208.50	1348.72
	8/29/2008	1628	1557.22	208.55	1348.67
	9/20/2008	1205	1557.22	208.44	1348.78

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-1 (cont.)	10/14/2008	1440	1557.22	208.37	1348.85
	11/21/2008	1411	1557.22	208.36	1348.86
	12/15/2008	1143	1557.22	208.44	1348.78
	1/12/2009	934	1557.22	208.41	1348.81
	2/16/2009	915	1557.22	208.47	1348.75
	3/17/2009	1157	1557.22	208.42	1348.80
	4/13/2009	1131	1557.22	208.38	1348.84
	5/20/2009	740	1557.22	208.71	1348.51
	6/15/2009	739	1557.22	208.58	1348.64
	7/6/2009	654	1557.22	208.58	1348.64
	8/13/2009	619	1557.22	208.68	1348.54
	9/28/2009	826	1560.43	211.92	1348.51
	10/27/2009	1539	1560.43	211.98	1348.45
	11/25/2009	1108	1560.43	212.29	1348.14
	12/18/2009	1142	1560.43	212.35	1348.08
	1/18/2010	1239	1560.43	212.47	1347.96
	6/8/2010	1225	1560.43	211.75	1348.68
	6/22/2010	1310	1560.43	211.76	1348.67
	2/23/2011	1325	1560.43	211.71	1348.72
	3/22/2011	1125	1560.43	211.73	1348.70
	4/26/2011	815	1560.43	211.77	1348.66
	5/27/2011	1047	1560.43	211.95	1348.48
	6/30/2011	1245	1560.43	211.79	1348.64
	7/25/2011	1102	1560.43	212.02	1348.41
	9/2/2011	1236	1560.43	211.81	1348.62
	9/27/2011	1508	1560.43	211.82	1348.61
	10/24/2011	1152	1560.43	211.88	1348.55
	11/28/2011	1146	1560.43	211.90	1348.53
	12/27/2011	1112	1560.43	211.92	1348.51
	1/19/2012	1242	1560.43	211.87	1348.56
	2/27/2012	1557	1560.43	211.89	1348.54
	3/27/2012	1040	1560.43	212.03	1348.40
	4/28/2012	1610	1560.43	211.90	1348.53
	5/8/2012	1205	1560.43	212.19	1348.24
	6/29/2012	1112	1560.43	212.02	1348.41
	7/30/2012	1818	1560.43	212.06	1348.37
	8/19/2012	1700	1560.43	212.02	1348.41

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-1 (cont.)	9/6/2012	1130	1560.43	212.12	1348.31
	10/4/2012	1007	1560.43	212.20	1348.23
	2/19/2013	1512	1560.43	212.15	1348.28
	3/29/2013	1020	1560.43	212.36	1348.07
	4/29/2013	1700	1560.43	212.28	1348.15
	5/30/2013	2010	1560.43	212.31	1348.12
	6/16/2013	1325	1560.43	212.33	1348.10
	7/15/2013	1200	1560.43	212.49	1347.94
	8/6/2013	1833	1560.43	212.34	1348.09
	9/17/2013	1922	1560.43	212.37	1348.06
	10/7/2013	1403	1560.43	212.34	1348.09
	11/21/2013	1540	1560.43	212.42	1348.01
	12/6/2013	1431	1560.43	212.43	1348.00
MW-2	1/6/2004	1000	1567.51	216.90	1350.61
	3/19/2004	1000	1567.67	217.40	1350.27
	4/16/2004	1000	1567.67	217.06	1350.61
	9/7/2004	755	1567.62	218.06	1349.56
	10/22/2004	1245	1567.62	217.63	1349.99
	11/22/2004	1110	1567.62	218.10	1349.52
	12/7/2004	1000	1567.62	218.15	1349.47
	1/17/2005	730	1567.62	218.02	1349.60
	2/14/2005	1025	1567.62	217.93	1349.69
	3/15/2005	1210	1567.62	217.83	1349.79
	4/25/2005	715	1567.62	217.88	1349.74
	5/20/2005	749	1567.62	218.06	1349.56
	6/27/2005	725	1567.62	218.20	1349.42
	7/18/2005	710	1567.62	218.53	1349.09
	8/22/2005	706	1567.62	218.43	1349.19
	9/22/2005	755	1567.62	218.44	1349.18
	10/24/2005	926	1567.62	218.44	1349.18
	12/2/2005	1235	1567.62	218.34	1349.28
	12/22/2005	1503	1567.62	218.48	1349.14
	1/27/2006	1118	1567.62	218.47	1349.15
	2/20/2006	1045	1567.62	218.43	1349.19
	3/20/2006	1505	1567.62	218.33	1349.29
	5/22/2006	827	1567.62	218.43	1349.19
	8/28/2006	1224	1567.62	218.35	1349.27

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-2 (cont.)	11/13/2006	1005	1567.62	218.38	1349.24
	2/12/2007	1229	1567.62	218.48	1349.14
	4/9/2007	1016	1567.62	218.41	1349.21
	7/30/2007	924	1567.62	218.19	1349.43
	10/15/2007	1457	1567.62	218.45	1349.17
	1/14/2008	1206	1567.62	218.70	1348.92
	3/31/2008	1545	1567.62	218.55	1349.07
	4/29/2008	1527	1567.62	218.54	1349.08
	5/27/2008	1309	1567.62	218.69	1348.93
	6/27/2008	812	1567.62	218.89	1348.73
	7/28/2008	1333	1567.62	218.81	1348.81
	8/29/2008	1618	1567.62	218.83	1348.79
	9/20/2008	1215	1567.62	218.75	1348.87
	10/14/2008	1449	1567.62	218.69	1348.93
	11/21/2008	1420	1567.62	218.69	1348.93
	12/15/2008	1150	1567.62	218.77	1348.85
	1/12/2009	941	1567.62	218.81	1348.81
	2/16/2009	923	1567.62	218.85	1348.77
	3/17/2009	1203	1567.62	218.48	1349.14
	4/13/2009	1136	1567.62	218.73	1348.89
	5/20/2009	746	1567.62	219.05	1348.57
	6/15/2009	750	1567.62	218.95	1348.67
	7/6/2009	701	1567.62	218.95	1348.67
	8/13/2009	627	1567.62	219.03	1348.59
	9/28/2009	840	1571.22	222.74	1348.48
	10/27/2009	1543	1571.22	222.71	1348.51
	11/25/2009	1114	1571.22	223.06	1348.16
	12/18/2009	1243	1571.22	223.08	1348.14
	1/18/2010	1249	1571.22	223.25	1347.97
	6/8/2010	1237	1571.22	222.57	1348.65
	6/22/2010	1319	1571.22	222.57	1348.65
	2/23/2011	1330	1571.22	222.53	1348.69
	3/22/2011	1038	1571.22	222.60	1348.62
	4/26/2011	820	1571.22	222.55	1348.67
	5/27/2011	1112	1571.22	222.56	1348.66
	6/30/2011	1302	1571.22	222.61	1348.61
	7/25/2011	1114	1571.22	222.84	1348.38

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-2 (cont.)	9/2/2011	1359	1571.22	222.61	1348.61
	9/27/2011	1523	1571.22	221.61	1349.61
	10/24/2011	1200	1571.22	222.71	1348.51
	11/28/2011	1200	1571.22	222.71	1348.51
	12/27/2011	1121	1571.22	222.76	1348.46
	1/19/2012	1251	1571.22	222.69	1348.53
	2/27/2012	1608	1571.22	222.73	1348.49
	3/27/2012	1049	1571.22	222.84	1348.38
	4/28/2012	1645	1571.22	222.72	1348.50
	5/8/2012	1139	1571.22	222.97	1348.25
	6/29/2012	1215	1571.22	222.79	1348.43
	7/30/2012	1905	1571.22	222.82	1348.40
	8/19/2012	1820	1571.22	222.84	1348.38
	9/6/2012	1139	1571.22	222.92	1348.30
	10/4/2012	1027	1571.22	223.02	1348.20
	2/19/2013	1530	1571.22	222.93	1348.29
	3/29/2013	943	1571.22	223.18	1348.04
	4/29/2013	1708	1571.22	223.18	1348.04
	5/30/2013	2020	1571.22	223.12	1348.10
	6/16/2013	1350	1571.22	223.11	1348.11
	7/15/2013	1200	1571.22	223.29	1347.93
	8/6/2013	1842	1571.22	223.13	1348.09
	9/17/2013	2020	1571.22	223.20	1348.02
	10/7/2013	1412	1571.22	223.14	1348.08
	11/21/2013	1636	1571.22	223.25	1347.97
	12/6/2013	1539	1571.22	223.22	1348.00
MW-3	9/7/2004	730	1583.59	229.10	1354.49
	10/22/2004	1130	1583.59	227.92	1355.67
	11/22/2004	940	1583.59	228.91	1354.68
	12/7/2004	1000	1583.59	229.03	1354.56
	1/17/2005	745	1583.59	229.35	1354.24
	2/14/2005	1056	1583.59	229.73	1353.86

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-3 (cont.)	3/15/2005	1150	1583.59	229.86	1353.73
	4/25/2005	820	1583.59	229.94	1353.65
	5/20/2005	826	1583.59	230.21	1353.38
	6/27/2005	820	1583.59	230.30	1353.29
	7/18/2005	736	1583.59	230.61	1352.98
	8/22/2005	812	1583.59	230.63	1352.96
	9/22/2005	825	1583.59	231.67	1351.92
	10/24/2005	810	1583.59	230.94	1352.65
	11/30/2005	1240	1583.59	231.12	1352.47
	12/22/2005	1415	1583.59	231.15	1352.44
	1/27/2006	1048	1583.59	231.34	1352.25
	2/20/2006	935	1583.59	231.47	1352.12
	3/21/2006	735	1583.59	231.59	1352.00
	5/22/2006	918	1583.59	231.91	1351.68
	8/28/2006	1004	1583.59	232.24	1351.35
	11/13/2006	1040	1583.59	232.82	1350.77
	2/12/2007	1235	1583.59	232.76	1350.83
	4/9/2007	1019	1583.59	233.11	1350.48
	7/30/2007	1149	1583.59	233.52	1350.07
	10/15/2007	942	1583.59	234.45	1349.14
	1/14/2008	1227	1583.59	234.93	1348.66
	3/31/2008	1331	1583.59	235.42	1348.17
	4/29/2008	1537	1583.59	235.21	1348.38
	5/27/2008	1406	1583.59	235.48	1348.11
	6/27/2008	1005	1583.59	235.66	1347.93
	7/28/2008	1456	1583.59	235.79	1347.80
	8/29/2008	1316	1583.59	236.07	1347.52
	9/20/2008	1120	1583.59	236.10	1347.49
	10/14/2008	1220	1583.59	236.30	1347.29
	11/21/2008	1130	1583.59	236.45	1347.14
	12/15/2008	1230	1583.59	236.59	1347.00
	1/12/2009	1108	1583.59	236.60	1346.99
	2/16/2009	1425	1583.59	236.86	1346.73
	3/17/2009	1224	1583.59	237.00	1346.59
	4/13/2009	1059	1583.59	237.07	1346.52
	5/20/2009	1117	1583.59	237.24	1346.35

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-3 (cont.)	6/15/2009	1110	1583.59	237.31	1346.28
	7/6/2009	1419	1583.59	237.35	1346.24
	8/12/2009	1125	1583.59	237.47	1346.12
	9/28/2009	1148	1583.59	237.81	1345.78
	10/27/2009	853	1583.59	237.82	1345.77
	11/25/2009	1008	1583.59	238.13	1345.46
	12/18/2009	1028	1583.59	238.13	1345.46
	1/18/2010	1051	1583.59	238.35	1345.24
	6/8/2010	1111	1583.59	239.06	1344.53
	6/22/2010	1105	1583.59	239.16	1344.43
	2/23/2011	1148	1583.59	240.15	1343.44
	3/22/2011	911	1583.59	240.46	1343.13
	4/25/2011	1500	1583.59	240.53	1343.06
	5/27/2011	917	1583.59	240.77	1342.82
	6/30/2011	1015	1583.59	240.81	1342.78
	7/25/2011	921	1583.59	241.04	1342.55
	9/2/2011	948	1583.59	241.11	1342.48
	9/27/2011	1406	1583.59	241.15	1342.44
	10/24/2011	1041	1583.59	241.23	1342.36
	11/28/2011	1008	1583.59	241.26	1342.33
	12/27/2011	947	1583.59	241.42	1342.17
	1/19/2012	1105	1583.59	241.48	1342.11
	2/27/2012	1424	1583.59	241.69	1341.90
	3/27/2012	854	1583.59	241.89	1341.70
	4/28/2012	1532	1583.59	241.85	1341.74
	5/8/2012	920	1583.59	242.25	1341.34
	6/29/2012	1015	1583.59	242.24	1341.35
	7/30/2012	1515	1583.59	242.39	1341.20
	8/7/2012	1425	1583.59	242.32	1341.27
	9/6/2012	944	1583.59	242.58	1341.01
	10/4/2012	847	1583.59	242.76	1340.83
	2/19/2013	1313	1583.59	243.04	1340.55
	3/29/2013	815	1583.59	243.47	1340.12
	4/29/2013	1417	1583.59	243.37	1340.22
	5/30/2013	1820	1583.59	243.58	1340.01
	6/16/2013	1138	1583.59	243.66	1339.93
	7/15/2013	1200	1583.59	243.74	1339.85

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-3 (cont.)	8/6/2013	1503	1583.59	243.95	1339.64
	9/17/2013	1802	1583.59	243.89	1339.70
	10/7/2013	1109	1583.59	244.01	1339.58
	11/21/2013	1305	1583.59	244.23	1339.36
	12/6/2013	1159	1583.59	244.45	1339.14
MW-4	9/7/2004	709	1620.34	269.13	1351.21
	10/22/2004	1100	1620.34	268.92	1351.42
	11/22/2004	910	1620.34	269.58	1350.76
	12/7/2004	1000	1620.34	269.83	1350.51
	1/17/2005	800	1620.34	269.84	1350.50
	2/14/2005	1004	1620.34	270.04	1350.30
	3/15/2005	1230	1620.34	270.15	1350.19
	4/25/2005	645	1620.34	270.12	1350.22
	5/20/2005	716	1620.34	270.22	1350.12
	6/27/2005	750	1620.34	270.26	1350.08
	7/18/2005	645	1620.34	270.56	1349.78
	8/22/2005	721	1620.34	270.40	1349.94
	9/22/2005	717	1620.34	270.44	1349.90
	10/24/2005	847	1620.34	270.78	1349.56
	11/30/2005	1254	1620.34	270.82	1349.52
	12/22/2005	1427	1620.34	270.80	1349.54
	1/27/2006	950	1620.34	271.05	1349.29
	2/20/2006	850	1620.34	271.22	1349.12
	3/20/2006	1555	1620.34	271.28	1349.06
	5/22/2006	857	1620.34	271.43	1348.91
	8/28/2006	1115	1620.34	271.82	1348.52
	11/13/2006	926	1620.34	271.33	1349.01
	2/12/2007	1135	1620.34	271.51	1348.83
	4/9/2007	1048	1620.34	271.66	1348.68
	7/30/2007	940	1620.34	272.63	1347.71
	10/15/2007	1324	1620.34	273.35	1346.99
	1/14/2008	1321	1620.34	273.81	1346.53
	3/31/2008	1316	1620.34	274.00	1346.34
	4/29/2008	1459	1620.34	273.76	1346.58
	5/27/2008	1350	1620.34	274.05	1346.29
	6/27/2008	928	1620.34	274.18	1346.16
	7/28/2008	1603	1620.34	274.22	1346.12

Historical Water Level Data
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UTC Aerospace Systems
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Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-4 (cont.)	8/29/2008	1217	1620.34	274.40	1345.94
	9/20/2008	749	1620.34	274.48	1345.86
	10/14/2008	1246	1620.34	274.68	1345.66
	11/21/2008	940	1620.34	274.70	1345.64
	12/15/2008	1214	1620.34	274.90	1345.44
	1/12/2009	1042	1620.34	274.93	1345.41
	2/16/2009	1457	1620.34	274.78	1345.56
	3/17/2009	1316	1620.34	275.07	1345.27
	4/13/2009	1227	1620.34	275.04	1345.30
	5/20/2009	1225	1620.34	275.19	1345.15
	6/15/2009	1140	1620.34	275.23	1345.11
	7/6/2009	1130	1620.34	275.26	1345.08
	8/12/2009	1246	1620.34	275.39	1344.95
	9/28/2009	1036	1620.34	275.50	1344.84
	10/27/2009	837	1620.34	275.50	1344.84
	11/25/2009	749	1620.34	275.86	1344.48
	12/18/2009	1045	1620.34	275.82	1344.52
	1/18/2010	1023	1620.34	275.97	1344.37
	6/8/2010	1323	1620.34	276.21	1344.13
	6/22/2010	1237	1620.34	276.35	1343.99
	2/23/2011	1220	1620.34	276.84	1343.50
	3/22/2011	1015	1620.34	276.97	1343.37
	4/25/2011	1548	1620.34	276.92	1343.42
	5/27/2011	943	1620.34	276.94	1343.40
	6/30/2011	1045	1620.34	277.11	1343.23
	7/25/2011	954	1620.34	277.39	1342.95
	9/2/2011	1310	1620.34	277.28	1343.06
	9/27/2011	1427	1620.34	277.29	1343.05
	10/24/2011	1059	1620.34	277.38	1342.96
	11/28/2011	1022	1620.34	277.53	1342.81
	12/27/2011	1002	1620.34	277.59	1342.75
	1/19/2012	1135	1620.34	277.60	1342.74
	2/27/2012	1429	1620.34	277.56	1342.78
	3/27/2012	906	1620.34	277.91	1342.43
	4/28/2012	1449	1620.34	277.71	1342.63
	5/8/2012	1044	1620.34	278.13	1342.21
	6/29/2012	1017	1620.34	278.12	1342.22

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-4 (cont.)	7/30/2012	1747	1620.34	278.05	1342.29
	8/7/2012	1528	1620.34	278.03	1342.31
	9/6/2012	956	1620.34	278.16	1342.18
	10/4/2012	937	1620.34	278.36	1341.98
	2/19/2013	1440	1620.34	278.14	1342.20
	3/29/2013	849	1620.34	278.87	1341.47
	4/29/2013	1615	1620.34	278.23	1342.11
	5/30/2013	1920	1620.34	278.48	1341.86
	6/16/2013	1245	1620.34	278.62	1341.72
	7/15/2013	1200	1620.34	279.46	1340.88
	8/6/2013	1638	1620.34	278.71	1341.63
	9/17/2013	1850	1620.34	278.55	1341.79
	10/7/2013	1225	1620.34	278.70	1341.64
	11/21/2013	1430	1620.34	278.82	1341.52
	12/6/2013	1335	1620.34	279.09	1341.25
MW-5	9/7/2004	815	1590.45	240.17	1350.28
	10/22/2004	1255	1590.45	239.67	1350.78
	11/22/2004	1135	1590.45	240.40	1350.05
	12/7/2004	1000	1590.45	240.49	1349.96
	1/17/2005	815	1590.45	240.47	1349.98
	2/14/2005	1040	1590.45	240.44	1350.01
	3/15/2005	1220	1590.45	240.36	1350.09
	4/25/2005	700	1590.45	240.38	1350.07
	5/20/2005	735	1590.45	240.48	1349.97
	6/27/2005	800	1590.45	240.58	1349.87
	7/18/2005	700	1590.45	240.90	1349.55
	8/22/2005	734	1590.45	240.81	1349.64
	9/22/2005	730	1590.45	240.81	1349.64
	10/24/2005	856	1590.45	240.85	1349.60
	11/30/2005	1304	1590.45	240.81	1349.64
	12/22/2005	1455	1590.45	240.90	1349.55
	1/27/2006	1111	1590.45	240.99	1349.46
	2/20/2006	1035	1590.45	240.94	1349.51
	3/20/2006	1540	1590.45	240.92	1349.53
	5/22/2006	848	1590.45	241.07	1349.38
	8/28/2006	1141	1590.45	240.97	1349.48
	11/13/2006	935	1590.45	241.04	1349.41

Historical Water Level Data
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UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-5 (cont.)	2/12/2007	1151	1590.45	241.09	1349.36
	4/9/2007	1042	1590.45	241.10	1349.35
	7/30/2007	1002	1590.45	240.81	1349.64
	10/15/2007	1427	1590.45	241.12	1349.33
	1/14/2008	1458	1590.45	241.28	1349.17
	3/31/2008	1048	1590.45	241.31	1349.14
	4/29/2008	1342	1590.45	241.28	1349.17
	5/27/2008	1532	1590.45	241.33	1349.12
	6/27/2008	835	1590.45	241.48	1348.97
	7/28/2008	1646	1590.45	241.44	1349.01
	8/29/2008	1207	1590.45	241.45	1349.00
	9/20/2008	755	1590.45	241.48	1348.97
	10/14/2008	1351	1590.45	241.43	1349.02
	11/21/2008	1328	1590.45	241.45	1349.00
	12/15/2008	1309	1590.45	241.43	1349.02
	1/12/2009	1253	1590.45	241.42	1349.03
	2/16/2009	1540	1590.45	241.45	1349.00
	3/17/2009	1407	1590.45	241.43	1349.02
	4/13/2009	1320	1590.45	241.43	1349.02
	5/20/2009	1315	1590.45	241.53	1348.92
	6/15/2009	1235	1590.45	241.57	1348.88
	7/6/2009	1454	1590.45	241.54	1348.91
	8/12/2009	1334	1590.45	241.58	1348.87
	9/28/2009	913	1594.08	245.32	1348.76
	10/27/2009	1105	1594.08	245.38	1348.70
	11/25/2009	1054	1594.08	245.54	1348.54
	12/18/2009	1135	1594.08	245.59	1348.49
	1/19/2010	743	1594.08	245.76	1348.32
	6/8/2010	1255	1594.08	245.39	1348.69
	6/22/2010	1329	1594.08	245.38	1348.70
	2/23/2011	1305	1594.08	245.38	1348.70
	3/22/2011	1055	1594.08	245.37	1348.71
	4/26/2011	805	1594.08	245.43	1348.65
	5/27/2011	1019	1594.08	245.39	1348.69
	6/30/2011	1137	1594.08	245.41	1348.67
	7/25/2011	1031	1594.08	245.64	1348.44
	9/2/2011	1347	1594.08	245.44	1348.64

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-5 (cont.)	9/27/2011	1455	1594.08	245.45	1348.63
	10/24/2011	1145	1594.08	245.50	1348.58
	11/28/2011	1134	1594.08	245.53	1348.55
	12/27/2011	1103	1594.08	245.56	1348.52
	1/19/2012	1231	1594.08	245.57	1348.51
	2/27/2012	1536	1594.08	245.57	1348.51
	3/27/2012	1023	1594.08	245.62	1348.46
	4/28/2012	1637	1594.08	245.56	1348.52
	5/8/2012	1112	1594.08	245.86	1348.22
	7/30/2012	1918	1594.08	245.70	1348.38
	8/19/2012	1555	1594.08	245.60	1348.48
	9/6/2012	1113	1594.08	245.70	1348.38
	10/4/2012	1037	1594.08	245.75	1348.33
	2/19/2013	1614	1594.08	245.77	1348.31
	3/29/2013	912	1594.08	245.94	1348.14
	4/29/2013	1715	1594.08	245.88	1348.20
	5/30/2013	1950	1594.08	245.91	1348.17
	6/16/2013	1315	1594.08	245.91	1348.17
	7/15/2013	1200	1594.08	246.02	1348.06
	8/6/2013	1824	1594.08	245.98	1348.10
	9/17/2013	2003	1594.08	246.02	1348.06
	10/7/2013	1354	1594.08	246.01	1348.07
	11/21/2013	1519	1594.08	246.06	1348.02
	12/6/2013	1415	1594.08	246.04	1348.04
MW-6	9/7/2004	739	1548.22	162.22	1386.00
	10/22/2004	1224	1548.22	161.27	1386.95
	11/22/2004	1045	1548.22	161.77	1386.45
	12/7/2004	1000	1548.22	161.99	1386.23
	1/17/2005	830	1548.22	162.32	1385.90
	2/14/2005	1121	1548.22	162.50	1385.72
	3/15/2005	1200	1548.22	160.38	1387.84
	4/25/2005	735	1548.22	149.74	1398.48
	5/20/2005	810	1548.22	148.31	1399.91
	6/27/2005	810	1548.22	148.82	1399.40
	7/18/2005	725	1548.22	149.61	1398.61
	8/22/2005	749	1548.22	150.88	1397.34
	9/22/2005	814	1548.22	151.89	1396.33

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-6 (cont.)	10/24/2005	903	1548.22	153.11	1395.11
	11/30/2005	1348	1548.22	154.16	1394.06
	12/22/2005	1447	1548.22	154.68	1393.54
	1/27/2006	1101	1548.22	155.56	1392.66
	2/20/2006	1110	1548.22	156.10	1392.12
	3/20/2006	1625	1548.22	156.61	1391.61
	5/22/2006	1011	1548.22	157.80	1390.42
	8/28/2006	1216	1548.22	159.64	1388.58
	11/13/2006	1022	1548.22	161.11	1387.11
	2/12/2007	1300	1548.22	161.95	1386.27
	4/9/2007	1053	1548.22	161.63	1386.59
	7/30/2007	1016	1548.22	162.92	1385.30
	10/15/2007	1413	1548.22	163.95	1384.27
	1/14/2008	1520	1548.22	164.94	1383.28
	3/31/2008	910	1548.22	165.42	1382.80
	4/29/2008	1520	1548.22	164.28	1383.94
	5/27/2008	1540	1548.22	163.05	1385.17
	6/27/2008	850	1548.22	162.08	1386.14
	7/28/2008	1636	1548.22	161.50	1386.72
	8/29/2008	1037	1548.22	161.30	1386.92
	9/20/2008	905	1548.22	161.33	1386.89
	10/14/2008	1402	1548.22	161.48	1386.74
	11/21/2008	1320	1548.22	161.71	1386.51
	12/15/2008	1253	1548.22	161.89	1386.33
	1/12/2009	1236	1548.22	162.28	1385.94
	2/16/2009	1528	1548.22	162.43	1385.79
	3/17/2009	1357	1548.22	162.81	1385.41
	4/13/2009	1305	1548.22	162.83	1385.39
	5/20/2009	1305	1548.22	162.78	1385.44

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UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-6 (cont.)	6/15/2009	1222	1548.22	162.57	1385.65
	7/6/2009	1440	1548.22	162.50	1385.72
	8/12/2009	1324	1548.22	162.64	1385.58
	9/28/2009	925	1551.65	166.25	1385.40
	10/27/2009	1129	1551.65	166.33	1385.32
	11/25/2009	1102	1551.65	167.02	1384.63
	12/18/2009	1120	1551.65	167.10	1384.55
	1/18/2010	1156	1551.65	167.37	1384.28
	6/8/2010	1146	1551.65	162.94	1388.71
	6/22/2010	1216	1551.65	162.17	1389.48
	2/23/2011	1255	1551.65	162.70	1388.95
	3/22/2011	952	1551.65	163.03	1388.62
	4/26/2011	811	1551.65	162.62	1389.03
	5/27/2011	1035	1551.65	162.82	1388.83
	6/30/2011	1201	1551.65	162.68	1388.97
	7/25/2011	1044	1551.65	163.13	1388.52
	9/2/2011	1227	1551.65	163.19	1388.46
	9/27/2011	1503	1551.65	163.47	1388.18
	10/24/2011	1138	1551.65	163.80	1387.85
	11/28/2011	1122	1551.65	164.37	1387.28
	12/27/2011	1053	1551.65	164.70	1386.95
	1/19/2012	1220	1551.65	164.88	1386.77
	2/27/2012	1526	1551.65	165.18	1386.47
	3/27/2012	1012	1551.65	165.82	1385.83
	4/28/2012	1555	1551.65	165.94	1385.71
	5/8/2012	1209	1551.65	166.45	1385.20
	6/29/2012	1040	1551.65	167.00	1384.65
	7/30/2012	1703	1551.65	167.28	1384.37
	8/17/2012	1838	1551.65	167.53	1384.12
	9/6/2012	1102	1551.65	167.92	1383.73
	10/4/2012	919	1551.65	168.28	1383.37
	2/19/2013	1551	1551.65	169.11	1382.54
	3/29/2013	829	1551.65	169.90	1381.75
	4/29/2013	1722	1551.65	170.13	1381.52
	5/30/2013	2030	1551.65	170.14	1381.51
	6/16/2013	1408	1551.65	170.32	1381.33
	7/15/2013	1200	1551.65	170.03	1381.62

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-6 (cont.)	8/6/2013	1812	1551.65	170.55	1381.10
	9/17/2013	1825	1551.65	170.32	1381.33
	10/7/2013	1322	1551.65	170.34	1381.31
	11/21/2013	1620	1551.65	170.65	1381.00
	12/6/2013	1525	1551.65	170.84	1380.81
MW-7	10/22/2004	1200	1541.35	157.21	1384.14
	11/22/2004	950	1541.35	154.14	1387.21
	12/7/2004	1000	1541.35	154.55	1386.80
	1/17/2005	845	1541.35	155.02	1386.33
	2/14/2005	1111	1541.35	155.20	1386.15
	3/15/2005	1130	1541.35	155.48	1385.87
	4/25/2005	840	1541.35	155.56	1385.79
	5/20/2005	852	1541.35	155.56	1385.79
	6/27/2005	845	1541.35	155.60	1385.75
	7/18/2005	757	1541.35	155.94	1385.41
	8/22/2005	838	1541.35	156.09	1385.26
	9/22/2005	845	1541.35	156.37	1384.98
	10/24/2005	837	1541.35	157.01	1384.34
	11/30/2005	1225	1541.35	157.41	1383.94
	12/22/2005	1347	1541.35	157.73	1383.62
	1/27/2006	1034	1541.35	158.25	1383.10
	2/20/2006	955	1541.35	158.58	1382.77
	3/20/2006	1645	1541.35	158.83	1382.52
	5/22/2006	948	1541.35	159.39	1381.96
	8/28/2006	1027	1541.35	159.54	1381.81
	11/13/2006	1030	1541.35	159.48	1381.87
	2/12/2007	1250	1541.35	159.37	1381.98
	4/9/2007	1055	1541.35	159.30	1382.05
	7/30/2007	1121	1541.35	159.48	1381.87
	10/15/2007	909	1541.35	160.12	1381.23
	1/14/2008	903	1541.35	160.61	1380.74

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Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-7 (cont.)	3/31/2008	1351	1541.35	160.53	1380.82
	4/29/2008	1254	1541.35	160.46	1380.89
	5/27/2008	1445	1541.35	160.63	1380.72
	6/27/2008	1050	1541.35	160.83	1380.52
	7/28/2008	1402	1541.35	160.92	1380.43
	8/29/2008	1300	1541.35	160.85	1380.50
	9/20/2008	1145	1541.35	160.98	1380.37
	10/14/2008	1057	1541.35	161.21	1380.14
	11/21/2008	1025	1541.35	161.22	1380.13
	12/15/2008	823	1541.35	161.19	1380.16
	1/12/2009	750	1541.35	161.39	1379.96
	2/16/2009	956	1541.35	161.17	1380.18
	3/17/2009	839	1541.35	161.42	1379.93
	4/13/2009	843	1541.35	161.39	1379.96
	5/20/2009	817	1541.35	161.49	1379.86
	6/15/2009	826	1541.35	161.57	1379.78
	7/6/2009	745	1541.35	161.58	1379.77
	8/12/2009	1137	1541.35	161.71	1379.64
	9/28/2009	947	1541.35	161.71	1379.64
	10/27/2009	749	1541.35	161.70	1379.65
	11/25/2009	706	1541.35	162.06	1379.29
	1/18/2010	748	1541.35	162.03	1379.32
	6/8/2010	1343	1541.35	162.04	1379.31
	6/22/2010	1124	1541.35	162.16	1379.19
	2/23/2011	850	1541.35	162.20	1379.15
	3/22/2011	834	1541.35	162.36	1378.99
	4/25/2011	1327	1541.35	162.25	1379.10
	5/27/2011	800	1541.35	162.24	1379.11
	6/30/2011	800	1541.35	162.93	1378.42
	7/25/2011	720	1541.35	162.66	1378.69
	9/2/2011	1200	1541.35	162.41	1378.94
	9/27/2011	1228	1541.35	162.42	1378.93
	10/24/2011	843	1541.35	162.50	1378.85
	11/28/2011	821	1541.35	162.64	1378.71
	12/27/2011	845	1541.35	162.61	1378.74
	1/19/2012	937	1541.35	162.50	1378.85
	2/27/2012	1316	1541.35	162.27	1379.08
	3/27/2012	725	1541.35	162.53	1378.82

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-7 (cont.)	4/28/2012	1300	1541.35	162.38	1378.97
	5/8/2012	722	1541.35	162.68	1378.67
	6/29/2012	859	1541.35	162.68	1378.67
	7/30/2012	1604	1541.35	162.61	1378.74
	8/7/2012	800	1541.35	162.69	1378.66
	9/6/2012	815	1541.35	162.74	1378.61
	10/4/2012	825	1541.35	162.82	1378.53
	2/19/2013	1344	1541.35	162.55	1378.8
	3/29/2013	646	1541.35	163.93	1377.42
	4/29/2013	1430	1541.35	162.59	1378.76
	5/30/2013	1840	1541.35	162.63	1378.72
	6/16/2013	1146	1541.35	162.83	1378.52
	7/15/2013	1200	1541.35	164.64	1376.71
	8/6/2013	1522	1541.35	163.03	1378.32
	9/17/2013	1703	1541.35	162.55	1378.8
	10/7/2013	1140	1541.35	162.88	1378.47
	11/21/2013	1320	1541.35	162.60	1378.75
	12/6/2013	1220	1541.35	162.76	1378.59
MW-8	10/22/2004	1212	1542.18	193.21	1348.97
	11/22/2004	1010	1542.18	192.27	1349.91
	12/7/2004	1000	1542.18	192.29	1349.89
	1/17/2005	900	1542.18	192.27	1349.91
	2/14/2005	1130	1542.18	192.29	1349.89
	3/15/2005	1140	1542.18	192.27	1349.91
	4/25/2005	850	1542.18	192.29	1349.89
	5/20/2005	910	1542.18	192.50	1349.68
	6/27/2005	1015	1542.18	192.57	1349.61
	7/18/2005	806	1542.18	192.88	1349.3
	8/22/2005	850	1542.18	192.90	1349.28
	9/22/2005	855	1542.18	192.84	1349.34
	10/24/2005	828	1542.18	192.89	1349.29
	11/30/2005	1218	1542.18	192.84	1349.34
	12/22/2005	1354	1542.18	192.91	1349.27
	1/27/2006	1024	1542.18	193.98	1348.2
	2/20/2006	1005	1542.18	192.93	1349.25
	3/20/2006	1658	1542.18	192.83	1349.35
	5/22/2006	955	1542.18	192.97	1349.21

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-8 (cont.)	8/28/2006	1035	1542.18	192.95	1349.23
	11/13/2006	853	1542.18	192.98	1349.2
	2/12/2007	1125	1542.18	193.01	1349.17
	4/9/2007	1012	1542.18	192.79	1349.39
	7/30/2007	1104	1542.18	192.71	1349.47
	10/15/2007	839	1542.18	193.18	1349
	1/14/2008	844	1542.18	193.32	1348.86
	3/31/2008	1400	1542.18	193.17	1349.01
	4/29/2008	1706	1542.18	193.08	1349.1
	5/27/2008	1457	1542.18	193.25	1348.93
	6/27/2008	1029	1542.18	193.39	1348.79
	7/28/2008	1415	1542.18	193.36	1348.82
	8/29/2008	1252	1542.18	193.37	1348.81
	9/20/2008	1250	1542.18	193.35	1348.83
	10/14/2008	1110	1542.18	193.37	1348.81
	11/21/2008	955	1542.18	193.38	1348.8
	12/15/2008	811	1542.18	193.35	1348.83
	1/12/2009	739	1542.18	193.34	1348.84
	2/16/2009	943	1542.18	193.37	1348.81
	3/17/2009	827	1542.18	193.38	1348.8
	4/13/2009	834	1542.18	193.33	1348.85
	5/20/2009	805	1542.18	193.55	1348.63
	6/15/2009	815	1542.18	193.51	1348.67
	7/6/2009	733	1542.18	193.49	1348.69
	8/12/2009	1148	1542.18	193.52	1348.66
	9/28/2009	1000	1542.18	193.70	1348.48
	10/27/2009	806	1542.18	193.80	1348.38
	11/25/2009	714	1542.18	193.99	1348.19
	12/18/2009	839	1542.18	194.08	1348.1
	1/18/2010	817	1542.18	194.20	1347.98
	6/8/2010	1415	1542.18	193.56	1348.62
	6/22/2010	1203	1542.18	193.62	1348.56
	2/23/2011	825	1542.18	193.59	1348.59
	3/22/2011	817	1542.18	193.66	1348.52
	4/25/2011	1313	1542.18	193.60	1348.58
	5/27/2011	745	1542.18	193.65	1348.53
	6/30/2011	739	1542.18	193.68	1348.5

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-8 (cont.)	7/25/2011	700	1542.18	193.85	1348.33
	9/2/2011	1121	1542.18	193.69	1348.49
	9/27/2011	1218	1542.18	193.70	1348.48
	10/24/2011	827	1542.18	193.76	1348.42
	11/28/2011	809	1542.18	193.74	1348.44
	12/27/2011	834	1542.18	193.75	1348.43
	1/19/2012	925	1542.18	193.74	1348.44
	2/27/2012	1307	1542.18	193.73	1348.45
	3/27/2012	715	1542.18	193.84	1348.34
	4/28/2012	1329	1542.18	193.75	1348.43
	5/8/2012	701	1542.18	194.07	1348.11
	6/29/2012	839	1542.18	194.10	1348.08
	7/30/2012	1639	1542.18	193.81	1348.37
	8/7/2012	1035	1542.18	193.89	1348.29
	9/6/2012	805	1542.18	194.05	1348.13
	10/4/2012	800	1542.18	194.04	1348.14
	2/19/2013	1412	1542.18	193.95	1348.23
	3/29/2013	621	1542.18	194.13	1348.05
	4/29/2013	1525	1542.18	194.02	1348.16
	5/30/2013	1900	1542.18	194.09	1348.09
	6/16/2013	1210	1542.18	194.17	1348.01
	7/15/2013	1200	1542.18	196.02	1346.16
	8/6/2013	1647	1542.18	194.17	1348.01
	9/17/2013	1740	1542.18	194.12	1348.06
	10/7/2013	1210	1542.18	194.20	1347.98
	11/21/2013	1350	1542.18	194.22	1347.96
	12/6/2013	1245	1542.18	194.24	1347.94
MW-9	2/14/2005	1139	1565.6	215.29	1350.31
	3/15/2005	1110	1565.6	215.36	1350.24
	4/25/2005	955	1565.6	215.34	1350.26
	5/20/2005	926	1565.6	215.36	1350.24
	6/27/2005	1030	1565.6	215.41	1350.19
	7/18/2005	819	1565.6	215.68	1349.92
	8/22/2005	902	1565.6	215.57	1350.03
	9/22/2005	908	1565.6	215.59	1350.01
	10/24/2005	818	1565.6	215.72	1349.88
	11/30/2005	1207	1565.6	215.70	1349.9

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-9 (cont.)	12/22/2005	1403	1565.6	215.64	1349.96
	1/27/2006	1014	1565.6	215.83	1349.77
	2/20/2006	1015	1565.6	215.84	1349.76
	3/20/2006	1710	1565.6	215.82	1349.78
	5/22/2006	1002	1565.6	216.03	1349.57
	8/28/2006	1047	1565.6	215.95	1349.65
	11/13/2006	843	1565.6	216.07	1349.53
	2/12/2007	1258	1565.6	216.12	1349.48
	4/9/2007	1051	1565.6	216.19	1349.41
	7/30/2007	1051	1565.6	215.83	1349.77
	10/15/2007	820	1565.6	216.16	1349.44
	1/14/2008	822	1565.6	216.30	1349.3
	3/31/2008	1413	1565.6	216.26	1349.34
	4/29/2008	1716	1565.6	216.15	1349.45
	5/27/2008	1509	1565.6	216.24	1349.36
	6/27/2008	1039	1565.6	216.37	1349.23
	7/28/2008	1429	1565.6	216.34	1349.26
	8/29/2008	1247	1565.6	216.38	1349.22
	9/20/2008	1303	1565.6	216.42	1349.18
	10/14/2008	1120	1565.6	216.46	1349.14
	11/21/2008	1013	1565.6	216.51	1349.09
	12/15/2008	800	1565.6	216.52	1349.08
	1/12/2009	730	1565.6	216.53	1349.07
	2/16/2009	933	1565.6	216.52	1349.08
	3/17/2009	819	1565.6	216.56	1349.04
	4/13/2009	827	1565.6	216.54	1349.06
	5/20/2009	758	1565.6	216.58	1349.02
	6/15/2009	806	1565.6	216.60	1349
	7/6/2009	724	1565.6	216.61	1348.99
	8/12/2009	929	1565.6	216.62	1348.98
	9/28/2009	1010	1565.6	216.68	1348.92
	10/27/2009	825	1565.6	216.62	1348.98
	11/25/2009	727	1565.6	216.80	1348.8
	12/18/2009	900	1565.6	216.85	1348.75
	1/18/2010	825	1565.6	216.94	1348.66
	6/8/2010	1445	1565.6	216.85	1348.75
	6/22/2010	1151	1565.6	216.92	1348.68

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-9 (cont.)	2/23/2011	810	1565.6	216.90	1348.7
	3/22/2011	826	1565.6	216.92	1348.68
	4/25/2011	1300	1565.6	216.86	1348.74
	5/27/2011	720	1565.6	216.93	1348.67
	6/30/2011	705	1565.6	216.93	1348.67
	7/25/2011	630	1565.6	217.11	1348.49
	9/2/2011	1102	1565.6	216.92	1348.68
	9/27/2011	1205	1565.6	216.94	1348.66
	10/24/2011	812	1565.6	216.99	1348.61
	11/28/2011	750	1565.6	216.95	1348.65
	12/27/2011	820	1565.6	217.00	1348.6
	1/19/2012	905	1565.6	216.98	1348.62
	2/27/2012	1251	1565.6	216.89	1348.71
	3/27/2012	655	1565.6	217.04	1348.56
	4/28/2012	1341	1565.6	216.93	1348.67
	5/8/2012	710	1565.6	217.29	1348.31
	6/29/2012	830	1565.6	217.06	1348.54
	7/30/2012	1618	1565.6	216.99	1348.61
	8/9/2012	1225	1565.6	217.03	1348.57
	9/6/2012	745	1565.6	217.19	1348.41
	10/4/2012	740	1565.6	217.22	1348.38
	2/19/2013	1400	1565.6	217.12	1348.48
	3/29/2013	630	1565.6	217.36	1348.24
	4/29/2013	1537	1565.6	217.15	1348.45
	5/30/2013	1910	1565.6	217.23	1348.37
	6/16/2013	1220	1565.6	217.28	1348.32
	7/15/2013	1200	1565.6	219.17	1346.43
	8/6/2013	1655	1565.6	217.27	1348.33
	9/17/2013	1719	1565.6	217.27	1348.33
	10/7/2013	1152	1565.6	217.34	1348.26
	11/21/2013	1402	1565.6	217.38	1348.22
	12/6/2013	1257	1565.6	217.41	1348.19
MW-10	2/14/2005	1106	1536.11	149.92	1386.19
	3/15/2005	1120	1536.11	149.71	1386.40
	4/25/2005	830	1536.11	149.56	1386.55
	5/20/2005	842	1536.11	149.33	1386.78
	6/27/2005	835	1536.11	149.04	1387.07

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-10 (cont.)	7/18/2005	748	1536.11	149.08	1387.03
	8/22/2005	828	1536.11	149.02	1387.09
	9/22/2005	836	1536.11	148.88	1387.23
	10/24/2005	755	1536.11	149.20	1386.91
	11/30/2005	1232	1536.11	149.27	1386.84
	12/22/2005	1341	1536.11	149.33	1386.78
	1/27/2006	1039	1536.11	149.48	1386.63
	2/20/2006	945	1536.11	149.56	1386.55
	3/20/2006	1635	1536.11	149.54	1386.57
	5/22/2006	942	1536.11	149.66	1386.45
	8/28/2006	1015	1536.11	150.05	1386.06
	11/13/2006	1050	1536.11	150.45	1385.66
	2/12/2007	1307	1536.11	150.63	1385.48
	4/9/2007	1032	1536.11	150.75	1385.36
	7/30/2007	1134	1536.11	150.88	1385.23
	10/15/2007	924	1536.11	151.45	1384.66
	1/14/2008	919	1536.11	151.93	1384.18
	3/31/2008	1342	1536.11	152.04	1384.07
	4/29/2008	1234	1536.11	151.98	1384.13
	5/27/2008	1438	1536.11	152.20	1383.91
	6/27/2008	950	1536.11	152.37	1383.74
	7/28/2008	1440	1536.11	152.48	1383.63
	8/29/2008	1305	1536.11	152.41	1383.70
	9/20/2008	1130	1536.11	152.58	1383.53
	10/14/2008	1049	1536.11	152.83	1383.28
	11/21/2008	1034	1536.11	152.88	1383.23
	12/15/2008	831	1536.11	152.87	1383.24
	1/12/2009	805	1536.11	153.14	1382.97
	2/16/2009	1003	1536.11	152.95	1383.16
	3/17/2009	847	1536.11	153.23	1382.88
	4/13/2009	851	1536.11	153.24	1382.87
	5/20/2009	824	1536.11	153.28	1382.83
	6/15/2009	835	1536.11	153.35	1382.76
	7/6/2009	754	1536.11	153.42	1382.69
	8/12/2009	940	1536.11	153.61	1382.50
	9/28/2009	1020	1536.11	153.62	1382.49
	10/27/2009	816	1536.11	153.64	1382.47

Historical Water Level Data
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UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-10 (cont.)	11/25/2009	650	1536.11	153.98	1382.13
	12/18/2009	908	1536.11	154.00	1382.11
	1/18/2010	836	1536.11	154.02	1382.09
	6/8/2010	1135	1536.11	154.47	1381.64
	6/22/2010	1115	1536.11	154.54	1381.57
	2/23/2011	900	1536.11	154.90	1381.21
	3/22/2011	845	1536.11	154.95	1381.16
	4/25/2011	1337	1536.11	154.93	1381.18
	5/27/2011	810	1536.11	154.93	1381.18
	6/30/2011	821	1536.11	155.00	1381.11
	7/25/2011	740	1536.11	155.40	1380.71
	9/2/2011	1215	1536.11	155.12	1380.99
	9/27/2011	1238	1536.11	155.22	1380.89
	10/24/2011	856	1536.11	155.31	1380.80
	11/28/2011	837	1536.11	155.51	1380.60
	12/27/2011	853	1536.11	155.57	1380.54
	1/19/2012	948	1536.11	155.50	1380.61
	2/27/2012	1326	1536.11	155.33	1380.78
	3/27/2012	735	1536.11	155.58	1380.53
	4/28/2012	1245	1536.11	155.53	1380.58
	5/8/2012	729	1536.11	155.79	1380.32
	6/29/2012	915	1536.11	155.90	1380.21
	7/30/2012	1538	1536.11	155.92	1380.19
	8/7/2012	1300	1536.11	155.90	1380.21
	9/6/2012	825	1536.11	155.99	1380.12
	10/4/2012	817	1536.11	156.08	1380.03
	2/19/2013	1334	1536.11	156.13	1379.98
	3/29/2013	655	1536.11	156.48	1379.63
	4/29/2013	1628	1536.11	156.72	1379.39
	5/30/2013	1830	1536.11	156.39	1379.72
	6/16/2013	1230	1536.11	156.58	1379.53
	7/15/2013	1200	1536.11	156.60	1379.51
	8/6/2013	1728	1536.11	156.70	1379.41
	9/17/2013	1751	1536.11	156.53	1379.58
	10/7/2013	1239	1536.11	156.81	1379.30
	11/21/2013	1418	1536.11	156.74	1379.37
	12/6/2013	1318	1536.11	156.94	1379.17

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UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-11	12/22/2005	1517	1603.35	253.68	1349.67
	1/27/2006	959	1603.35	253.76	1349.59
	2/20/2006	1030	1603.35	253.71	1349.64
	3/20/2006	1610	1603.35	253.71	1349.64
	5/22/2006	906	1603.35	253.83	1349.52
	8/28/2006	1130	1603.35	253.78	1349.57
	11/13/2006	943	1603.35	253.80	1349.55
	2/12/2007	1209	1603.35	253.86	1349.49
	4/9/2007	1036	1603.35	253.87	1349.48
	7/30/2007	952	1603.35	253.51	1349.84
	10/15/2007	1358	1603.35	253.90	1349.45
	1/14/2008	1421	1603.35	254.07	1349.28
	4/29/2008	1354	1603.35	254.13	1349.22
	5/27/2008	1521	1603.35	254.12	1349.23
	6/27/2008	820	1603.35	254.20	1349.15
	7/28/2008	1617	1603.35	254.26	1349.09
	8/29/2008	1228	1603.35	254.28	1349.07
	9/20/2008	830	1603.35	254.25	1349.10
	10/14/2008	1341	1603.35	254.23	1349.12
	11/21/2008	1300	1603.35	254.23	1349.12
	12/15/2008	1302	1603.35	254.20	1349.15
	1/12/2009	1218	1603.35	254.22	1349.13
	2/16/2009	1520	1603.35	254.20	1349.15
	3/17/2009	1328	1603.35	254.25	1349.10
	4/13/2009	1243	1603.35	254.24	1349.11
	5/20/2009	1240	1603.35	254.32	1349.03
	6/15/2009	1203	1603.35	254.35	1349.00
	7/6/2009	1212	1603.35	254.35	1349.00
	8/12/2009	1255	1603.35	254.38	1348.97
	9/28/2009	1101	1603.35	254.52	1348.83
	10/27/2009	1049	1603.35	254.61	1348.74
	11/25/2009	1027	1603.35	254.73	1348.62
	12/18/2009	1059	1603.35	254.80	1348.55
	1/18/2010	1125	1603.35	254.92	1348.43
	6/8/2010	1244	1606.14	257.63	1348.51
	6/22/2010	1248	1606.14	257.62	1348.52
	2/23/2011	1230	1606.14	257.60	1348.54

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-11 (cont.)	3/22/2011	1025	1606.14	257.60	1348.54
	4/25/2011	1601	1606.14	257.58	1348.56
	5/27/2011	952	1606.14	257.61	1348.53
	6/30/2011	1059	1606.14	257.64	1348.50
	7/25/2011	1008	1606.14	257.88	1348.26
	9/2/2011	1259	1606.14	257.65	1348.49
	9/27/2011	1437	1606.14	257.68	1348.46
	10/24/2011	1107	1606.14	257.72	1348.42
	11/28/2011	1051	1606.14	257.73	1348.41
	12/27/2011	1023	1606.14	257.78	1348.36
	1/19/2012	1156	1606.14	257.74	1348.40
	2/27/2012	1446	1606.14	257.79	1348.35
	3/27/2012	927	1606.14	257.82	1348.32
	4/28/2012	1624	1606.14	257.77	1348.37
	5/8/2012	1125	1606.14	258.08	1348.06
	6/29/2012	1143	1606.14	257.84	1348.30
	7/30/2012	1801	1606.14	257.94	1348.20
	8/13/2012	1530	1606.14	257.86	1348.28
	9/6/2012	1017	1606.14	257.91	1348.23
	10/4/2012	946	1606.14	257.98	1348.16
	2/19/2013	1452	1606.14	258.09	1348.05
	3/29/2013	921	1606.14	258.17	1347.97
	4/29/2013	1606	1606.14	258.06	1348.08
	5/30/2013	1940	1606.14	258.14	1348.00
	6/16/2013	1254	1606.14	258.13	1348.01
	7/15/2013	1200	1606.14	258.36	1347.78
	8/6/2013	1706	1606.14	258.18	1347.96
	9/17/2013	1909	1606.14	258.22	1347.92
	10/7/2013	1300	1606.14	258.21	1347.93
	11/21/2013	1504	1606.14	258.27	1347.87
	12/6/2013	1406	1606.14	258.28	1347.86
MW-12	12/22/2005	1440	1557.46	209.16	1348.30
	1/27/2006	1057	1557.46	209.20	1348.26
	2/20/2006	1100	1557.46	209.11	1348.35
	3/20/2006	1515	1557.46	209.09	1348.37
	5/22/2006	836	1557.46	209.17	1348.29
	8/28/2006	1235	1557.46	209.12	1348.34

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-12 (cont.)	11/13/2006	956	1557.46	209.14	1348.32
	2/12/2007	1225	1557.46	209.23	1348.23
	4/9/2007	1110	1557.46	209.16	1348.30
	7/30/2007	905	1557.46	208.88	1348.58
	10/15/2007	1345	1557.46	209.23	1348.23
	1/14/2008	1143	1557.46	209.46	1348.00
	3/31/2008	1428	1557.46	209.31	1348.15
	4/29/2008	1440	1557.46	209.31	1348.15
	5/27/2008	1255	1557.46	209.42	1348.04
	6/27/2008	800	1557.46	209.63	1347.83
	7/28/2008	1344	1557.46	209.58	1347.88
	8/29/2008	1636	1557.46	209.58	1347.88
	9/20/2008	1200	1557.46	209.50	1347.96
	10/14/2008	1433	1557.46	209.40	1348.06
	11/21/2008	1400	1557.46	209.41	1348.05
	12/15/2008	1138	1557.46	209.50	1347.96
	1/12/2009	930	1557.46	209.46	1348.00
	2/16/2009	909	1557.46	209.52	1347.94
	3/17/2009	1152	1557.46	209.48	1347.98
	4/13/2009	1128	1557.46	209.45	1348.01
	5/20/2009	736	1557.46	209.79	1347.67
	6/15/2009	737	1557.46	209.64	1347.82
	7/6/2009	645	1557.46	209.66	1347.80
	8/13/2009	615	1557.46	209.75	1347.71
	9/28/2009	816	1560.91	213.59	1347.32
	10/27/2009	1532	1560.91	213.61	1347.30
	11/25/2009	1019	1560.91	213.94	1346.97
	12/18/2009	1106	1560.91	213.99	1346.92
	1/18/2010	1111	1560.91	214.11	1346.80
	6/8/2010	1215	1560.91	213.38	1347.53
	6/22/2010	1300	1560.91	213.38	1347.53
	2/23/2011	1240	1560.91	213.34	1347.57
	3/22/2011	1111	1560.91	213.39	1347.52
	4/25/2011	1613	1560.91	213.33	1347.58
	5/27/2011	1000	1560.91	212.37	1348.54
	6/30/2011	1120	1560.91	213.41	1347.50
	7/25/2011	1017	1560.91	213.67	1347.24

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-12 (cont.)	9/2/2011	1250	1560.91	213.46	1347.45
	9/27/2011	1445	1560.91	213.43	1347.48
	10/24/2011	1113	1560.91	213.52	1347.39
	11/28/2011	1038	1560.91	213.52	1347.39
	12/27/2011	1012	1560.91	213.54	1347.37
	1/19/2012	1145	1560.91	213.52	1347.39
	2/27/2012	1435	1560.91	213.51	1347.40
	3/27/2012	916	1560.91	213.63	1347.28
	4/28/2012	1605	1560.91	213.51	1347.40
	5/8/2012	1159	1560.91	213.90	1347.01
	6/29/2012	1051	1560.91	213.61	1347.30
	7/30/2012	1832	1560.91	213.67	1347.24
	8/13/2012	1153	1560.91	213.68	1347.23
	9/6/2012	1006	1560.91	213.70	1347.21
	10/4/2012	1002	1560.91	213.80	1347.11
	2/19/2013	1503	1560.91	213.74	1347.17
	3/29/2013	1012	1560.91	214.01	1346.90
	4/29/2013	1555	1560.91	213.81	1347.10
	5/30/2013	2000	1560.91	213.93	1346.98
	6/16/2013	1333	1560.91	213.95	1346.96
	7/15/2013	1200	1560.91	214.27	1346.64
	8/6/2013	1538	1560.91	213.98	1346.93
	9/17/2013	1930	1560.91	214.00	1346.91
	10/7/2013	1249	1560.91	213.94	1346.97
	11/21/2013	1530	1560.91	213.97	1346.94
	12/6/2013	1443	1560.91	214.04	1346.87
MW-13	8/29/2008	1138	1595.77	246.82	1348.95
	9/20/2008	758	1595.77	246.75	1349.02
	10/14/2008	1506	1595.77	246.75	1349.02
	11/21/2008	1340	1595.77	246.78	1348.99
	12/15/2008	1315	1595.77	246.83	1348.94
	1/12/2009	1304	1595.77	246.79	1348.98
	2/16/2009	1547	1595.77	246.81	1348.96
	3/17/2009	1411	1595.77	246.80	1348.97
	4/13/2009	1329	1595.77	246.80	1348.97
	5/20/2009	1323	1595.77	246.90	1348.87
	6/15/2009	1243	1595.77	246.95	1348.82

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UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-13 (cont.)	7/6/2009	1500	1595.77	246.89	1348.88
	8/12/2009	1349	1595.77	246.98	1348.79
	9/28/2009	900	1599.52	250.74	1348.78
	10/27/2009	1056	1599.52	250.71	1348.81
	11/25/2009	1047	1599.52	250.98	1348.54
	12/18/2009	1129	1599.52	251.00	1348.52
	1/18/2010	1226	1599.52	251.13	1348.39
	6/8/2010	1310	1599.52	250.83	1348.69
	6/22/2010	1345	1599.52	250.87	1348.65
	2/23/2011	1315	1599.52	250.82	1348.70
	3/22/2011	1145	1599.52	250.86	1348.66
	4/26/2011	826	1599.52	250.82	1348.70
	5/27/2011	1121	1599.52	250.82	1348.70
	6/30/2011	1326	1599.52	250.92	1348.60
	7/25/2011	1125	1599.52	251.22	1348.30
	9/2/2011	1321	1599.52	250.90	1348.62
	9/27/2011	1528	1599.52	250.87	1348.65
	10/24/2011	1130	1599.52	250.98	1348.54
	11/28/2011	1114	1599.52	250.93	1348.59
	12/27/2011	1044	1599.52	251.03	1348.49
	1/19/2012	1214	1599.52	250.98	1348.54
	2/27/2012	1517	1599.52	250.85	1348.67
	3/27/2012	1000	1599.52	251.10	1348.42
	4/28/2012	1632	1599.52	250.99	1348.53
	5/8/2012	1056	1599.52	251.36	1348.16
	6/29/2012	1155	1599.52	251.45	1348.07
	7/30/2012	1929	1599.52	251.16	1348.36
	8/17/2012	1330	1599.52	251.18	1348.34
	9/6/2012	1050	1599.52	251.23	1348.29
	10/4/2012	1055	1599.52	251.28	1348.24
	2/19/2013	1626	1599.52	251.16	1348.36
	3/29/2013	858	1599.52	251.52	1348.00
	4/29/2013	1651	1599.52	251.35	1348.17
	5/30/2013	1930	1599.52	251.35	1348.17
	6/16/2013	1305	1599.52	251.40	1348.12
	7/15/2013	1200	1599.52	251.45	1348.07
	8/6/2013	1800	1599.52	251.48	1348.04

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-13 (cont.)	9/17/2013	1952	1599.52	251.44	1348.08
	10/7/2013	1343	1599.52	251.49	1348.03
	11/21/2013	1442	1599.52	251.49	1348.03
	12/6/2013	1350	1599.52	251.55	1347.97
MW-14	8/29/2008	1340	1602.48	263.25	1339.23
	9/20/2008	732	1602.48	263.38	1339.10
	10/14/2008	1152	1602.48	263.69	1338.79
	11/21/2008	1153	1602.48	264.15	1338.33
	12/15/2008	1045	1602.48	264.02	1338.46
	1/12/2009	1125	1602.48	263.57	1338.91
	2/16/2009	1220	1602.48	263.66	1338.82
	3/17/2009	1240	1602.48	264.03	1338.45
	4/13/2009	1033	1602.48	264.08	1338.40
	5/20/2009	1011	1602.48	264.55	1337.93
	6/15/2009	1032	1602.48	264.65	1337.83
	7/6/2009	932	1602.48	264.89	1337.59
	8/12/2009	1059	1602.48	265.10	1337.38
	9/28/2009	1240	1602.48	265.59	1336.89
	10/27/2009	951	1602.48	265.78	1336.70
	11/25/2009	958	1602.48	266.72	1335.76
	12/18/2009	952	1602.48	265.98	1336.50
	1/18/2010	953	1602.48	266.03	1336.45
	6/8/2010	1025	1602.48	266.04	1336.44
	6/22/2010	1048	1602.48	266.49	1335.99
	2/23/2011	1125	1602.48	266.62	1335.86
	3/22/2011	927	1602.48	266.57	1335.91
	4/25/2011	1433	1602.48	266.85	1335.63
	5/27/2011	900	1602.48	267.75	1334.73
	6/30/2011	927	1602.48	267.44	1335.04
	7/25/2011	845	1602.48	267.81	1334.67
	9/2/2011	1038	1602.48	268.00	1334.48
	9/27/2011	1322	1602.48	268.12	1334.36
	10/24/2011	1042	1602.48	268.11	1334.37
	11/28/2011	935	1602.48	268.04	1334.44
	12/27/2011	922	1602.48	268.10	1334.38
	1/19/2012	1035	1602.48	268.20	1334.28
	2/27/2012	1404	1602.48	268.48	1334.00

Historical Water Level Data
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UTC Aerospace Systems
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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-14 (cont.)	3/27/2012	826	1602.48	268.73	1333.75
	4/28/2012	1424	1602.48	268.76	1333.72
	5/8/2012	1001	1602.48	268.93	1333.55
	6/29/2012	950	1602.48	268.67	1333.81
	7/30/2012	1430	1602.48	269.30	1333.18
	8/9/2012	800	1602.48	269.46	1333.02
	9/6/2012	916	1602.48	269.93	1332.55
	10/4/2012	900	1602.48	269.90	1332.58
	2/19/2013	1243	1602.48	270.13	1332.35
	3/29/2013	744	1602.48	270.23	1332.25
	4/29/2013	1450	1602.48	270.36	1332.12
	5/30/2013	1740	1602.48	270.64	1331.84
	6/16/2013	1100	1602.48	270.92	1331.56
	7/15/2013	1200	1602.48	271.29	1331.19
	8/6/2013	1715	1602.48	271.43	1331.05
	9/17/2013	1640	1602.48	271.30	1331.18
	10/7/2013	1045	1602.48	271.51	1330.97
	11/21/2013	1231	1602.48	272.03	1330.45
	12/6/2013	1136	1602.48	272.15	1330.33
MW-15	8/29/2008	1350	1600.48	261.95	1338.53
	9/20/2008	729	1600.48	262.09	1338.39
	10/14/2008	1146	1600.48	262.18	1338.30
	11/21/2008	1200	1600.48	262.45	1338.03
	12/15/2008	1053	1600.48	262.58	1337.90
	1/12/2009	1137	1600.48	262.51	1337.97
	2/16/2009	1320	1600.48	262.53	1337.95
	3/17/2009	1251	1600.48	262.60	1337.88
	4/13/2009	1043	1600.48	262.72	1337.76
	5/20/2009	1021	1600.48	262.96	1337.52
	6/15/2009	1050	1600.48	263.03	1337.45
	7/6/2009	949	1600.48	263.19	1337.29
	8/12/2009	1107	1600.48	263.36	1337.12
	9/28/2009	1259	1600.48	263.69	1336.79
	10/27/2009	945	1600.48	263.80	1336.68
	11/25/2009	952	1600.48	264.20	1336.28
	12/18/2009	942	1600.48	264.28	1336.20
	1/18/2010	942	1600.48	264.39	1336.09

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-15 (cont.)	6/8/2010	1015	1600.48	264.50	1335.98
	6/22/2010	1030	1600.48	264.68	1335.80
	2/23/2011	1135	1600.48	265.33	1335.15
	3/22/2011	932	1600.48	265.45	1335.03
	4/25/2011	1440	1600.48	265.35	1335.13
	5/27/2011	901	1600.48	265.84	1334.64
	6/30/2011	937	1600.48	265.90	1334.58
	7/25/2011	855	1600.48	266.19	1334.29
	9/2/2011	1035	1600.48	266.25	1334.23
	9/27/2011	1329	1600.48	266.27	1334.21
	10/24/2011	948	1600.48	266.51	1333.97
	11/28/2011	947	1600.48	266.58	1333.90
	12/27/2011	929	1600.48	266.70	1333.78
	1/19/2012	1045	1600.48	266.74	1333.74
	2/27/2012	1409	1600.48	266.85	1333.63
	3/27/2012	834	1600.48	267.13	1333.35
	4/28/2012	1428	1600.48	267.14	1333.34
	5/8/2012	1018	1600.48	267.59	1332.89
	6/29/2012	955	1600.48	267.43	1333.05
	7/30/2012	1439	1600.48	267.52	1332.96
	8/9/2012	913	1600.48	267.76	1332.72
	9/6/2012	924	1600.48	268.04	1332.44
	10/4/2012	905	1600.48	268.21	1332.27
	2/19/2013	1258	1600.48	268.60	1331.88
	3/29/2013	752	1600.48	268.93	1331.55
	4/29/2013	1441	1600.48	268.78	1331.70
	5/30/2013	1750	1600.48	268.97	1331.51
	6/16/2013	1108	1600.48	269.17	1331.31
	7/15/2013	1200	1600.48	271.45	1329.03
	8/6/2013	1617	1600.48	269.51	1330.97
	9/17/2013	1651	1600.48	269.62	1330.86
	10/7/2013	1054	1600.48	269.80	1330.68
	11/21/2013	1242	1600.48	270.35	1330.13
	12/6/2013	1147	1600.48	270.29	1330.19
MW-16	4/25/2011	1452	1585.36	253.89	1331.47
	5/27/2011	914	1585.36	254.05	1331.31
	6/30/2011	959	1585.36	254.26	1331.10

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-16 (cont.)	7/25/2011	914	1585.36	254.35	1331.01
	9/2/2011	954	1585.36	254.40	1330.96
	9/27/2011	1400	1585.36	254.38	1330.98
	10/24/2011	1036	1585.36	254.59	1330.77
	11/28/2011	1000	1585.36	255.64	1329.72
	12/27/2011	939	1585.36	254.84	1330.52
	1/19/2012	1056	1585.36	255.83	1329.53
	2/27/2012	1418	1585.36	255.13	1330.23
	3/27/2012	845	1585.36	255.24	1330.12
	4/28/2012	1526	1585.36	255.23	1330.13
	5/8/2012	915	1585.36	255.73	1329.63
	6/29/2012	1004	1585.36	255.56	1329.80
	7/30/2012	1502	1585.36	255.71	1329.65
	8/10/2012	1315	1585.36	255.79	1329.57
	9/6/2012	935	1585.36	256.19	1329.17
	10/4/2012	843	1585.36	256.29	1329.07
	2/19/2013	1307	1585.36	256.89	1328.47
	3/29/2013	804	1585.36	257.25	1328.11
	4/29/2013	1410	1585.36	257.20	1328.16
	5/30/2013	1810	1585.36	257.34	1328.02
	6/16/2013	1130	1585.36	257.53	1327.83
	7/15/2013	1200	1585.36	257.74	1327.62
	8/6/2013	1628	1585.36	257.84	1327.52
	9/17/2013	1813	1585.36	257.88	1327.48
	10/7/2013	1120	1585.36	258.11	1327.25
	11/21/2013	1254	1585.36	258.42	1326.94
	12/6/2013	1208	1585.36	258.57	1326.79
MW-17	4/25/2011	1346	1560.72	206.72	1354.00
	5/27/2011	814	1560.72	206.78	1353.94
	6/30/2011	835	1560.72	206.92	1353.80
	7/25/2011	800	1560.72	207.18	1353.54
	9/2/2011	1045	1560.72	206.93	1353.79
	9/27/2011	1248	1560.72	207.06	1353.66
	10/24/2011	905	1560.72	207.15	1353.57
	11/28/2011	851	1560.72	207.24	1353.48
	12/27/2011	901	1560.72	207.33	1353.39
	1/19/2012	1000	1560.72	207.32	1353.40

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-17 (cont.)	2/27/2012	1338	1560.72	207.28	1353.44
	3/27/2012	746	1560.72	207.60	1353.12
	4/28/2012	1511	1560.72	207.40	1353.32
	5/8/2012	802	1560.72	207.89	1352.83
	6/29/2012	926	1560.72	207.83	1352.89
	7/30/2012	1450	1560.72	207.87	1352.85
	8/9/2012	1120	1560.72	207.98	1352.74
	9/6/2012	836	1560.72	208.11	1352.61
	10/4/2012	831	1560.72	208.30	1352.42
	2/19/2013	1325	1560.72	208.39	1352.33
	3/29/2013	724	1560.72	208.88	1351.84
	4/29/2013	1357	1560.72	208.67	1352.05
	5/30/2013	1800	1560.72	208.96	1351.76
	6/16/2013	1118	1560.72	209.04	1351.68
	7/15/2013	1200	1560.72	209.07	1351.65
	8/6/2013	1451	1560.72	209.23	1351.49
	9/17/2013	1623	1560.72	209.09	1351.63
	10/7/2013	1034	1560.72	209.33	1351.39
	11/21/2013	1218	1560.72	209.44	1351.28
	12/6/2013	1123	1560.72	209.71	1351.01
MW-18	9/28/2009	805	1533.53	181.20	1352.33
	10/27/2009	754	1533.53	132.18	1401.35
	11/25/2009	701	1533.53	131.17	1402.36
	12/18/2009	819	1533.53	130.11	1403.42
	1/18/2010	758	1533.53	129.84	1403.69
	6/8/2010	1358	1533.53	129.81	1403.72
	6/22/2010	1133	1533.53	129.85	1403.68
	2/23/2011	835	1533.53	130.17	1403.36
	3/22/2011	810	1533.53	130.20	1403.33
	4/25/2011	1305	1533.53	130.99	1402.54
	5/27/2011	737	1533.53	130.70	1402.83
	6/30/2011	720	1533.53	130.61	1402.92
	7/25/2011	645	1533.53	130.84	1402.69
	9/2/2011	1135	1533.53	130.99	1402.54
	9/27/2011	1210	1533.53	130.91	1402.62
	10/24/2011	819	1533.53	130.88	1402.65
	11/28/2011	800	1533.53	131.00	1402.53

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-18 (cont.)	12/27/2011	826	1533.53	130.98	1402.55
	1/19/2012	915	1533.53	130.85	1402.68
	2/27/2012	1258	1533.53	131.08	1402.45
	3/27/2012	705	1533.53	131.01	1402.52
	4/28/2012	1320	1533.53	130.82	1402.71
	5/8/2012	639	1533.53	131.04	1402.49
	6/29/2012	850	1533.53	130.85	1402.68
	7/30/2012	1650	1533.53	130.87	1402.66
	8/7/2012	935	1533.53	130.88	1402.65
	9/6/2012	755	1533.53	131.43	1402.10
	10/4/2012	751	1533.53	131.14	1402.39
	2/19/2013	1425	1533.53	131.01	1402.52
	3/29/2013	609	1533.53	131.73	1401.80
	4/29/2013	1512	1533.53	131.12	1402.41
	5/30/2013	1850	1533.53	131.03	1402.50
	6/16/2013	1200	1533.53	131.15	1402.38
	7/15/2013	1200	1533.53	131.10	1402.43
	8/6/2013	1440	1533.53	131.97	1401.56
	9/17/2013	1728	1533.53	131.19	1402.34
	10/7/2013	1212	1533.53	131.46	1402.07
	11/21/2013	1337	1533.53	131.51	1402.02
	12/6/2013	1233	1533.53	131.43	1402.10
MW-19	4/26/2011	832	1599.51	250.80	1348.71
	5/27/2011	1127	1599.51	251.40	1348.11
	6/30/2011	1338	1599.51	250.87	1348.64
	7/25/2011	1132	1599.51	251.05	1348.46
	9/2/2011	1334	1599.51	250.88	1348.63
	9/27/2011	1534	1599.51	250.90	1348.61
	10/24/2011	1210	1599.51	250.94	1348.57
	11/28/2011	1214	1599.51	250.94	1348.57
	12/27/2011	1134	1599.51	251.00	1348.51
	1/19/2012	1300	1599.51	250.94	1348.57
	2/27/2012	1620	1599.51	251.01	1348.50
	3/27/2012	1056	1599.51	251.09	1348.42
	4/28/2012	1659	1599.51	250.99	1348.52
	5/8/2012	1107	1599.51	251.28	1348.23
	6/29/2012	1240	1599.51	251.06	1348.45

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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-19 (cont.)	7/30/2012	1953	1599.51	251.16	1348.35
	8/17/2012	2050	1599.51	251.18	1348.33
	9/6/2012	1146	1599.51	251.15	1348.36
	10/4/2012	1101	1599.51	251.27	1348.24
	2/19/2013	1645	1599.51	251.18	1348.33
	3/29/2013	910	1599.51	251.46	1348.05
	4/29/2013	1740	1599.51	251.27	1348.24
	5/30/2013	2100	1599.51	251.42	1348.09
	6/16/2013	1428	1599.51	251.38	1348.13
	7/15/2013	1200	1599.51	251.86	1347.65
	8/6/2013	1915	1599.51	251.44	1348.07
	9/17/2013	2042	1599.51	251.48	1348.03
	10/7/2013	1431	1599.51	251.48	1348.03
	11/21/2013	1655	1599.51	251.46	1348.05
	12/6/2013	1610	1599.51	251.54	1347.97
MW-20	2/27/2012	1547	1580.87	232.39	1348.48
	3/27/2012	1032	1580.87	222.52	1358.35
	4/28/2012	1653	1580.87	232.42	1348.45
	5/8/2012	1131	1580.87	232.73	1348.14
	6/29/2012	1226	1580.87	232.50	1348.37
	7/30/2012	1942	1580.87	232.56	1348.31
	8/19/2012	1940	1580.87	232.62	1348.25
	9/6/2012	1122	1580.87	232.54	1348.33
	10/4/2012	1047	1580.87	232.68	1348.19
	2/19/2013	1633	1580.87	232.63	1348.24
	3/29/2013	935	1580.87	232.87	1348.00
	4/29/2013	1731	1580.87	232.78	1348.09
	5/30/2013	2050	1580.87	232.78	1348.09
	6/16/2013	1418	1580.87	232.77	1348.10
	7/15/2013	1200	1580.87	232.88	1347.99
	8/6/2013	1853	1580.87	232.79	1348.08
	9/17/2013	2031	1580.87	232.88	1347.99
	10/7/2013	1422	1580.87	232.83	1348.04
	11/21/2013	1643	1580.87	232.93	1347.94
	12/6/2013	1553	1580.87	232.91	1347.96
MW-21	2/27/2012	1508	1565.28	216.84	1348.44
	3/27/2012	949	1565.28	216.97	1348.31

Appendix B

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
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Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
MW-21 (cont.)	4/28/2012	1616	1565.28	216.84	1348.44
	5/8/2012	1152	1565.28	217.21	1348.07
	6/29/2012	1131	1565.28	216.94	1348.34
	7/30/2012	1848	1565.28	216.98	1348.30
	8/16/2012	1807	1565.28	216.99	1348.29
	9/6/2012	1039	1565.28	217.06	1348.22
	10/4/2012	1017	1565.28	217.12	1348.16
	2/19/2013	1521	1565.28	217.05	1348.23
	3/29/2013	957	1565.28	217.27	1348.01
	4/29/2013	1640	1565.28	217.19	1348.09
	6/16/2013	1341	1565.28	217.22	1348.06
	7/15/2013	1200	1565.28	217.59	1347.69
	8/6/2013	1739	1565.28	217.25	1348.03
	9/17/2013	1939	1565.28	217.28	1348.00
	10/7/2013	1333	1565.28	217.26	1348.02
	11/21/2013	1555	1565.28	217.32	1347.96
	12/6/2013	1455	1565.28	217.33	1347.95
PW-1	9/6/2011	620	1554.46	209.22	1345.24
	9/27/2011	1418	1554.46	208.93	1345.53
	10/24/2011	1120	1554.46	208.94	1345.52
	11/28/2011	1101	1554.46	209.11	1345.35
	12/27/2011	1032	1554.46	209.03	1345.43
	1/19/2012	1205	1554.46	208.98	1345.48
	2/27/2012	1458	1554.46	209.21	1345.25
	3/27/2012	937	1554.46	209.44	1345.02
	4/28/2012	1547	1554.46	209.31	1345.15
	5/8/2012	1217	1554.46	209.77	1344.69
	6/29/2012	1031	1554.46	209.63	1344.83
	7/30/2012	1720	1554.46	209.66	1344.8
	8/16/2012	1345	1554.46	209.83	1344.63
	9/6/2012	1205	1554.46	209.94	1344.52
	10/4/2012	926	1554.46	210.03	1344.43
	2/19/2013	1540	1554.46	209.76	1344.7
	3/29/2013	836	1554.46	210.25	1344.21
	4/29/2013	1729	1554.46	210.40	1344.06
	5/30/2013	2040	1554.46	210.42	1344.04
	6/16/2013	1400	1554.46	210.48	1343.98

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
PW-1 (cont.)	7/15/2013	1200	1554.46	210.75	1343.71
	8/6/2013	1749	1554.46	210.78	1343.68
	9/17/2013	1835	1554.46	210.59	1343.87
	10/7/2013	1312	1554.46	210.73	1343.73
	11/21/2013	1611	1554.46	211.01	1343.45
	12/6/2013	1511	1554.46	211.15	1343.31
18 E. YEARLING	5/27/2008	1422	1596.79	362.15	1234.64
	8/29/2008	1850	1596.79	258.19	1338.6
	10/14/2008	1000	1596.79	362.65	1234.14
	12/15/2008	930	1596.79	358.88	1237.91
	1/12/2009	901	1596.79	357.04	1239.75
	3/17/2009	1031	1596.79	358.48	1238.31
	4/13/2009	1007	1596.79	369.10	1227.69
	5/20/2009	950	1596.79	399.30	1197.49
	6/15/2009	1000	1596.79	372.35	1224.44
	7/6/2009	1046	1596.79	377.89	1218.9
	8/12/2009	1025	1596.79	399.60	1197.19
	12/18/2009	1006	1596.79	392.78	1204.01
218 E. YEARLING	8/29/2008	1840	1617.01	329.46	1287.55
	10/14/2008	928	1617.01	340.00	1277.01
	12/15/2008	910	1617.01	313.89	1303.12
	1/12/2009	839	1617.01	310.40	1306.61
	2/16/2009	1049	1617.01	314.42	1302.59
	3/17/2009	943	1617.01	311.95	1305.06
	4/13/2009	948	1617.01	311.63	1305.38
	5/20/2009	916	1617.01	332.30	1284.71
	6/15/2009	929	1617.01	321.86	1295.15
	7/6/2009	0	1617.01	328.74	1288.27
	8/12/2009	1000	1617.01	325.93	1291.08
	9/28/2009	1214	1617.01	323.18	1293.83
	10/27/2009	1015	1617.01	324.80	1292.21
	11/25/2009	939	1617.01	322.86	1294.15
	12/18/2009	932	1617.01	320.08	1296.93
	1/18/2010	857	1617.01	327.30	1289.71
	2/23/2011	949	1617.01	336.65	1280.36
	4/25/2011	1420	1617.01	321.91	1295.1
	5/27/2011	850	1617.01	322.90	1294.11

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
218 E. YEARLING (cont.)	6/30/2011	912	1617.01	336.25	1280.76
	7/25/2011	830	1617.01	335.35	1281.66
	9/27/2011	1315	1617.01	330.03	1286.98
	10/24/2011	939	1617.01	331.12	1285.89
	11/28/2011	923	1617.01	327.42	1289.59
	8/8/2012	1520	1617.01	342.86	1274.15
	2/19/2013	1152	1617.01	357.22	1259.79
	3/29/2013	1045	1617.01	355.35	1261.66
	4/29/2013	1332	1617.01	345.88	1271.13
	5/30/2013	1720	1617.01	340.19	1276.82
	6/16/2013	1040	1617.01	337.08	1279.93
	8/6/2013	1350	1617.01	340.62	1276.39
	9/17/2013	1600	1617.01	335.37	1281.64
	10/7/2013	1011	1617.01	336.59	1280.42
	11/21/2013	1150	1617.01	337.35	1279.66
	12/6/2013	1100	1617.01	337.50	1279.51
520 E. YEARLING	8/29/2008	1830	1635.71	305.50	1330.21
	10/14/2008	910	1635.71	297.20	1338.51
	12/15/2008	854	1635.71	297.42	1338.29
	1/12/2009	824	1635.71	296.90	1338.81
	2/16/2009	1030	1635.71	296.90	1338.81
	3/17/2009	923	1635.71	297.42	1338.29
	4/13/2009	920	1635.71	299.90	1335.81
	5/20/2009	854	1635.71	298.10	1337.61
	6/15/2009	902	1635.71	298.18	1337.53
	7/6/2009	828	1635.71	311.26	1324.45
	8/12/2009	950	1635.71	311.69	1324.02
	9/28/2009	1202	1635.71	312.45	1323.26
	10/27/2009	1000	1635.71	290.65	1345.06
	11/25/2009	928	1635.71	299.85	1335.86
	12/18/2009	919	1635.71	299.38	1336.33
	1/18/2010	848	1635.71	299.30	1336.41
	6/8/2010	958	1635.71	300.29	1335.42
	6/22/2010	1020	1635.71	300.39	1335.32
	2/23/2011	925	1635.71	300.58	1335.13
	5/27/2011	830	1635.71	302.03	1333.68
	6/30/2011	857	1635.71	302.28	1333.43

Historical Water Level Data
UPCO and Private Wells

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Well Identification	Date of Measurement	Time of Measurement	Measuring Point Elevation (ft amsl)	Depth to Water from Measuring Point (ft)	Groundwater Elevation (ft amsl)
520 E. YEARLING (cont.)	7/25/2011	815	1635.71	303.19	1332.52
	10/24/2011	925	1635.71	303.45	1332.26
	11/28/2011	914	1635.71	303.25	1332.46
	12/27/2011	1210	1635.71	313.45	1322.26
	1/19/2012	1019	1635.71	303.32	1332.39
	2/27/2012	1347	1635.71	303.45	1332.26
	3/27/2012	759	1635.71	303.85	1331.86
	5/8/2012	1039	1635.71	304.20	1331.51
	7/30/2012	1415	1635.71	303.63	1332.08
	9/6/2012	820	1635.71	310.42	1325.29
	2/19/2013	1212	1635.71	303.58	1332.13
	3/29/2013	734	1635.71	304.35	1331.36
	4/29/2013	1345	1635.71	304.35	1331.36
	5/30/2013	1730	1635.71	304.23	1331.48
	6/16/2013	1050	1635.71	304.58	1331.13
	8/6/2013	1402	1635.71	305.15	1330.56
	9/17/2013	1613	1635.71	304.85	1330.86
	10/7/2013	1021	1635.71	305.32	1330.39
	11/21/2013	1203	1635.71	306.60	1329.11
	12/6/2013	1112	1635.71	306.57	1329.14

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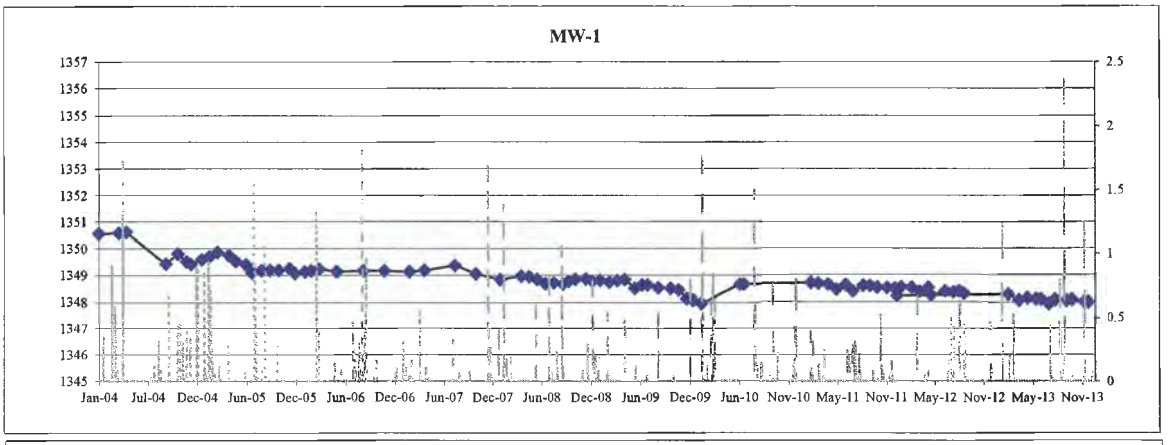
Appendix C

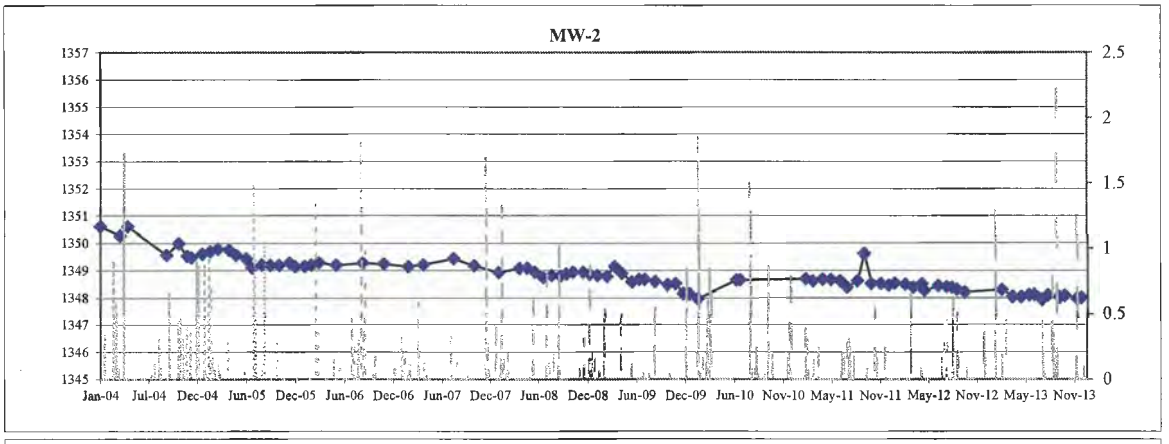
Monitor Well Hydrographs

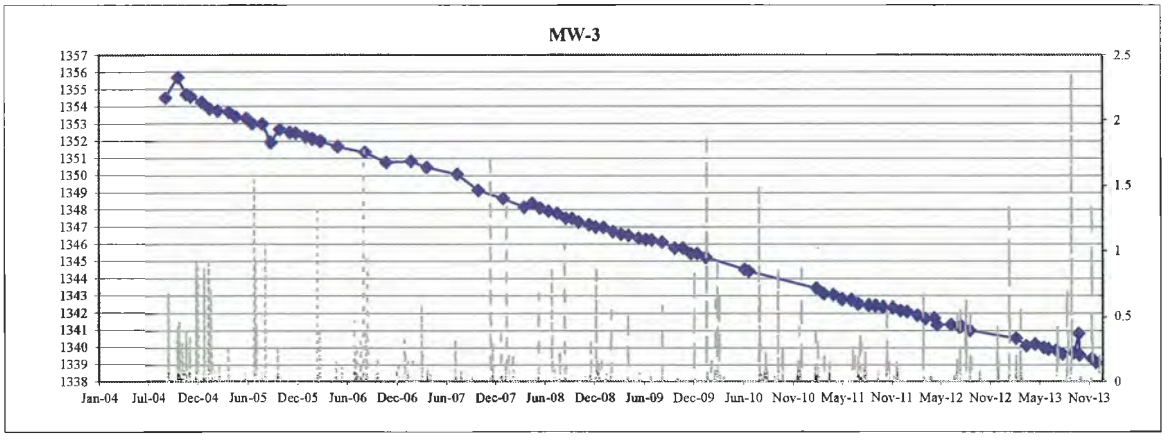
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



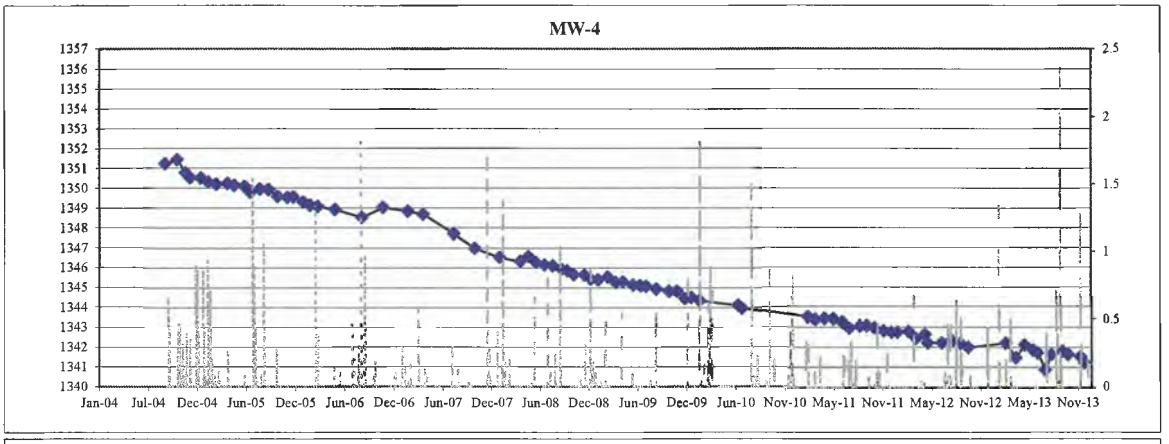


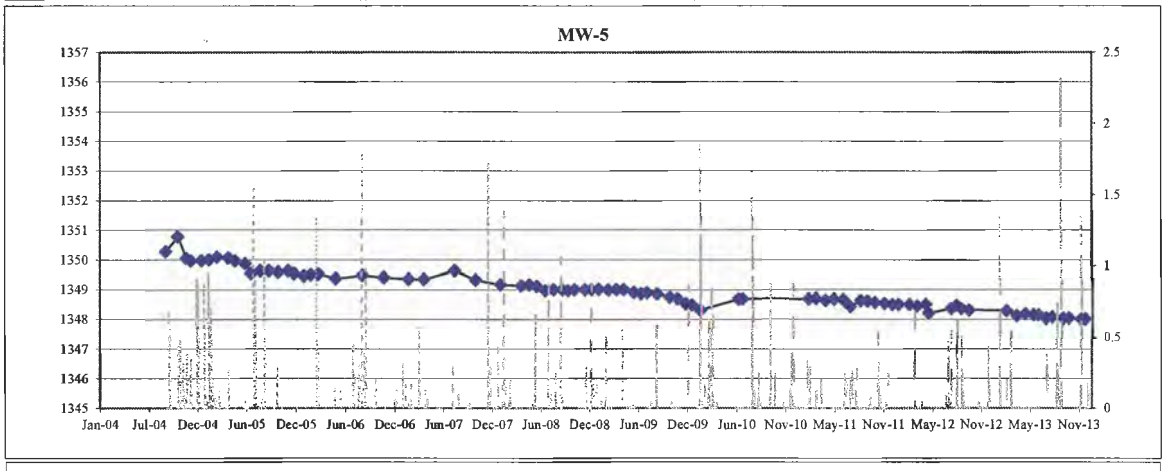


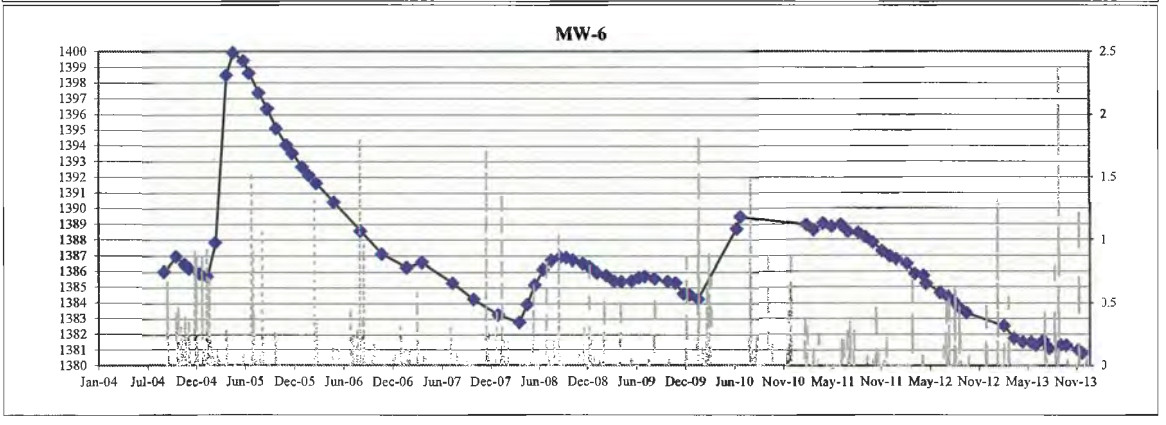
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



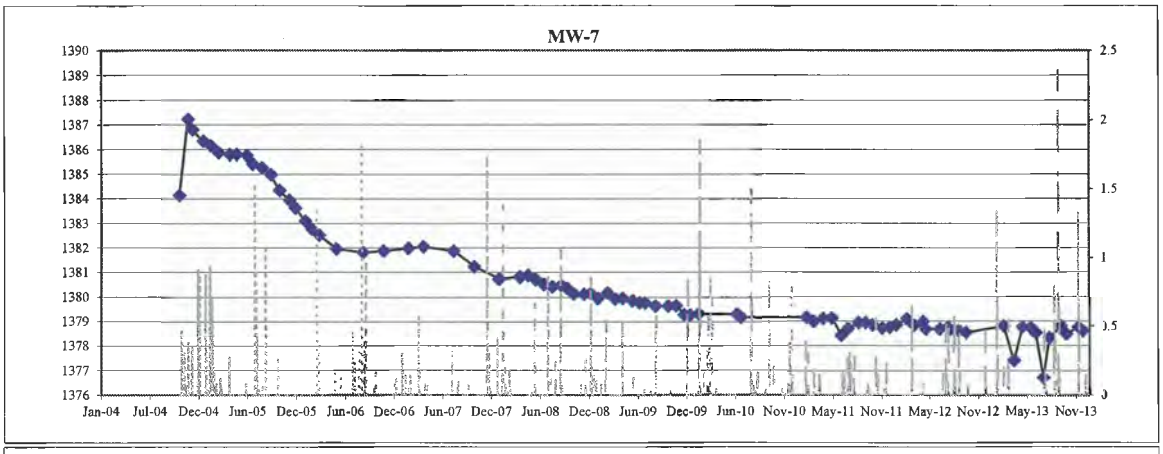


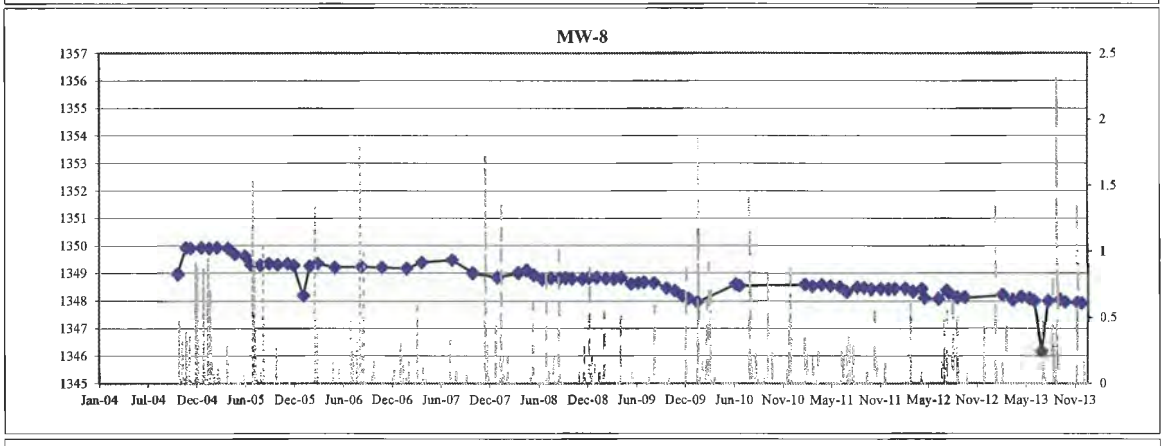


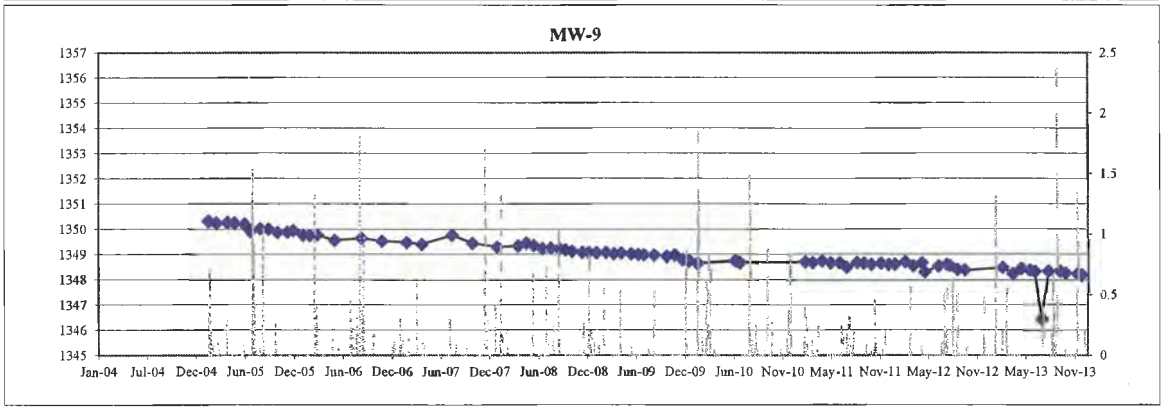
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



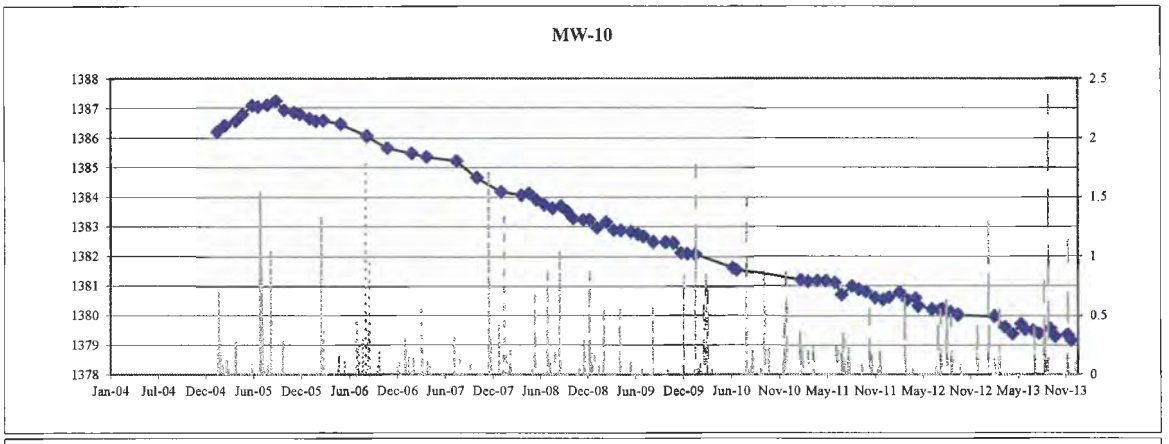


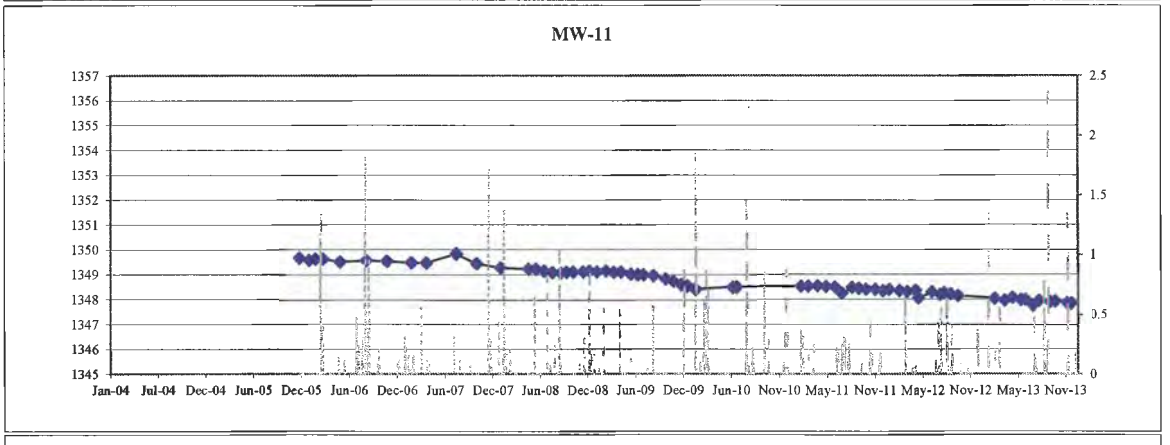


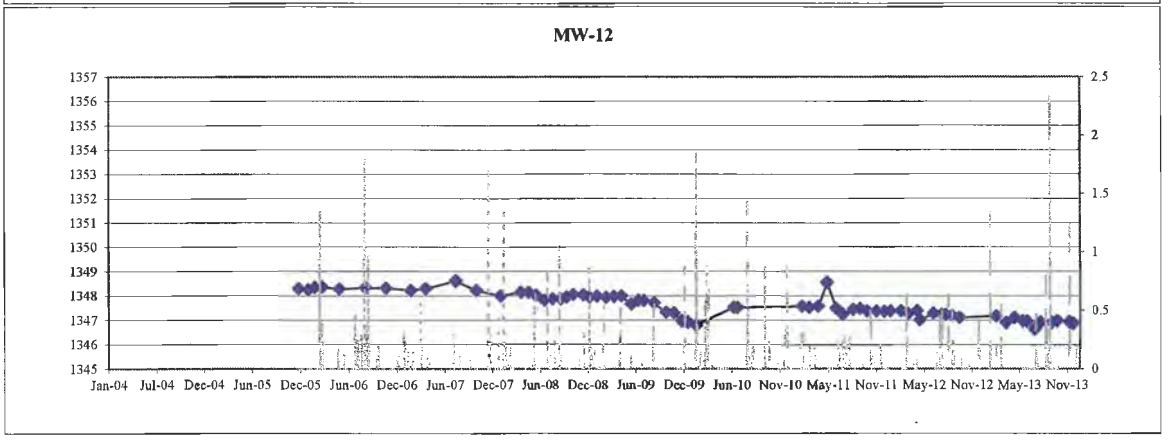
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona







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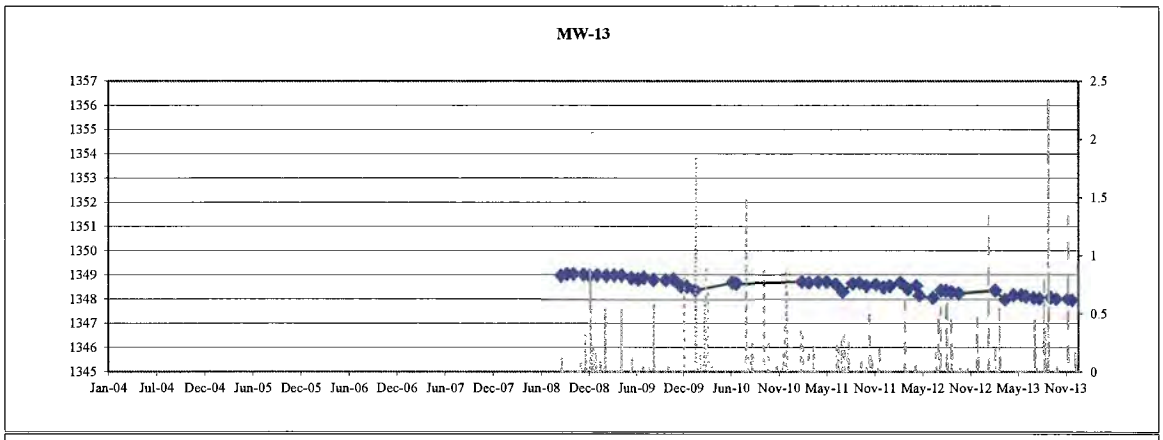
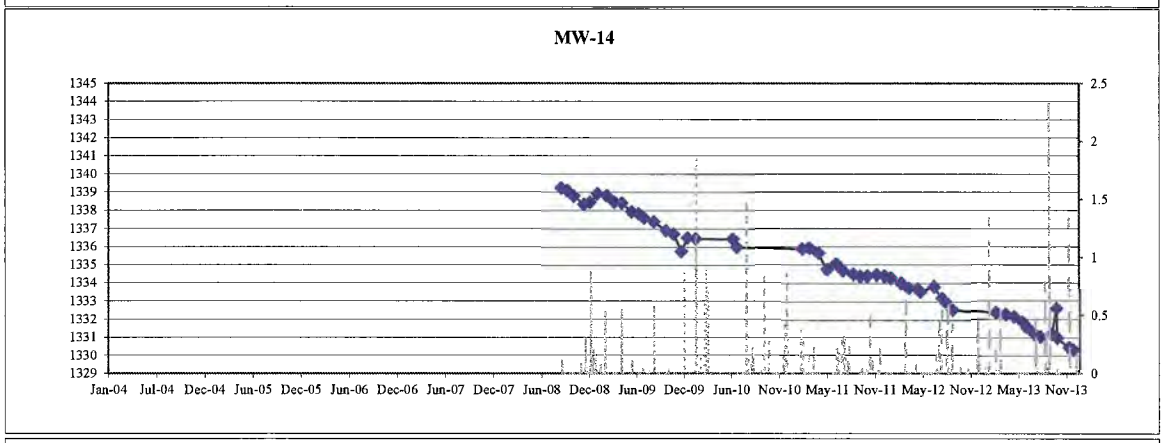
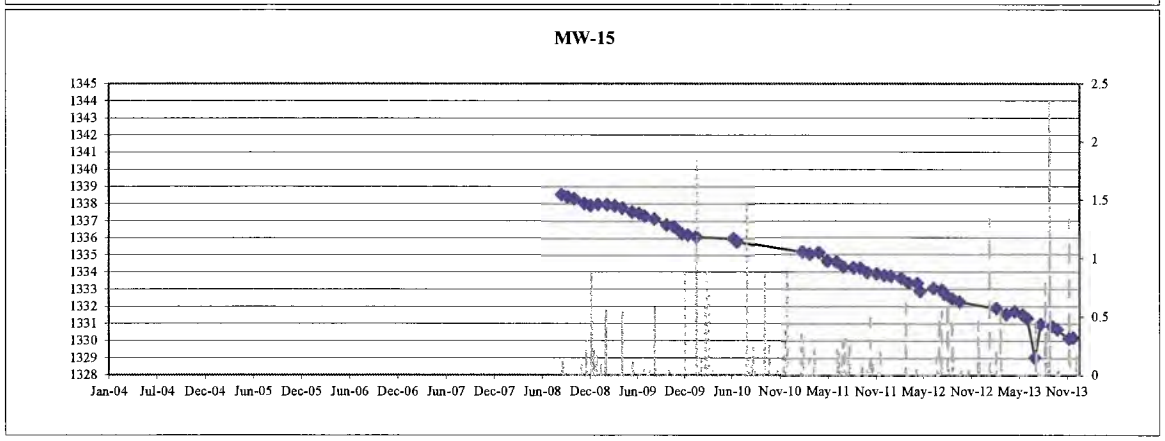
Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



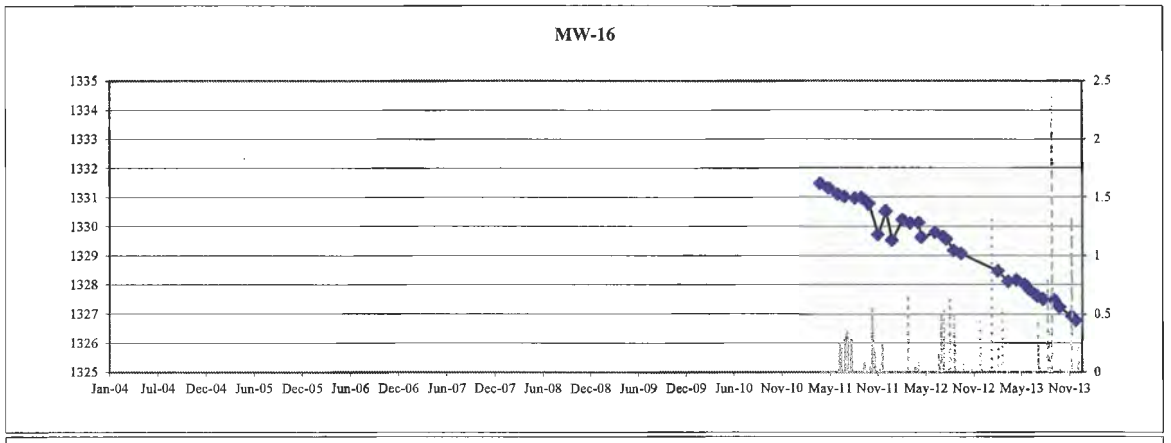


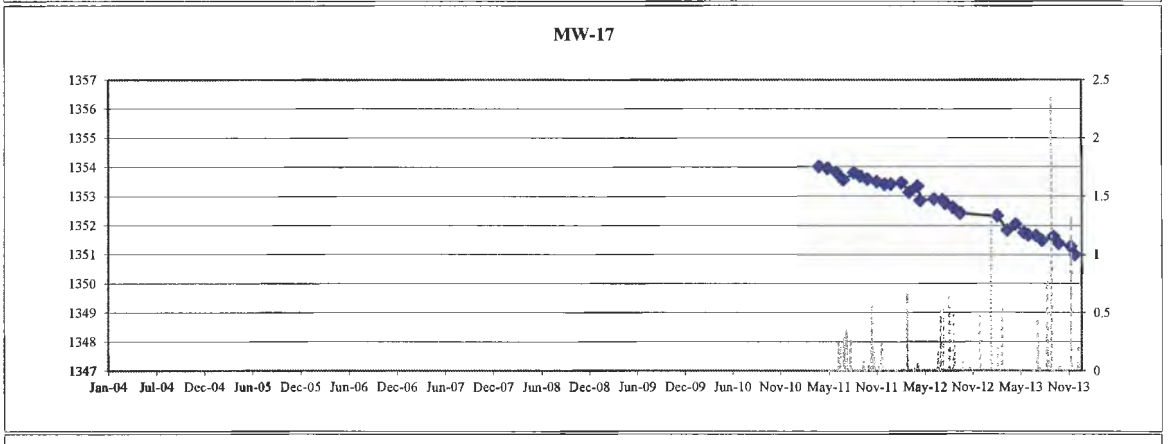


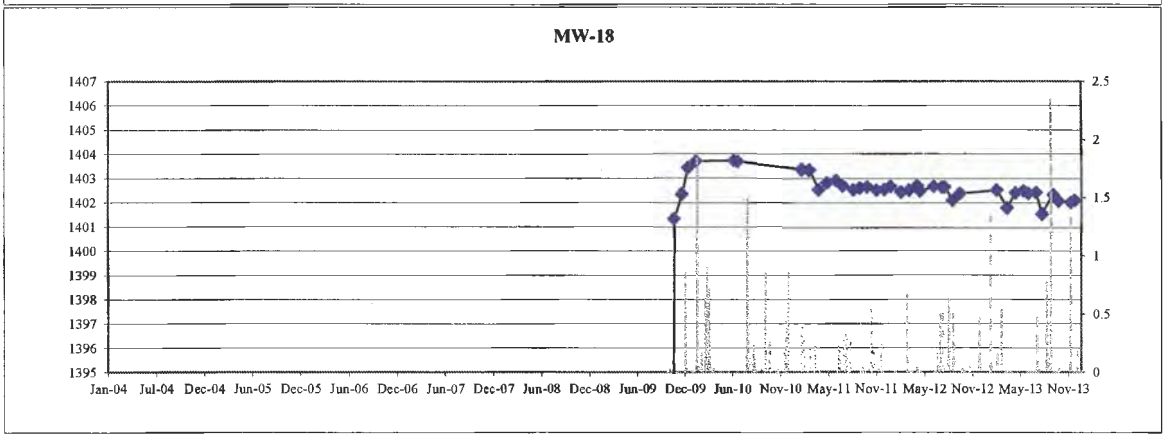
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



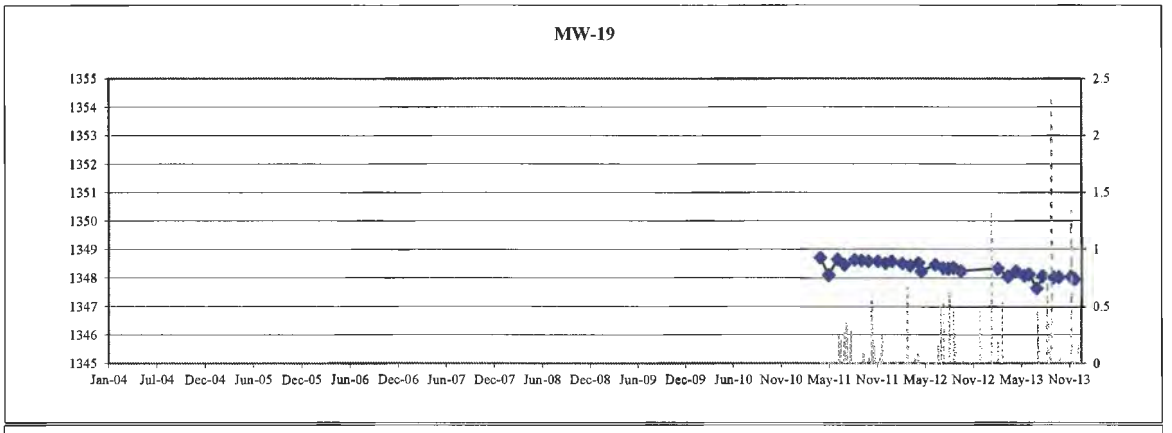


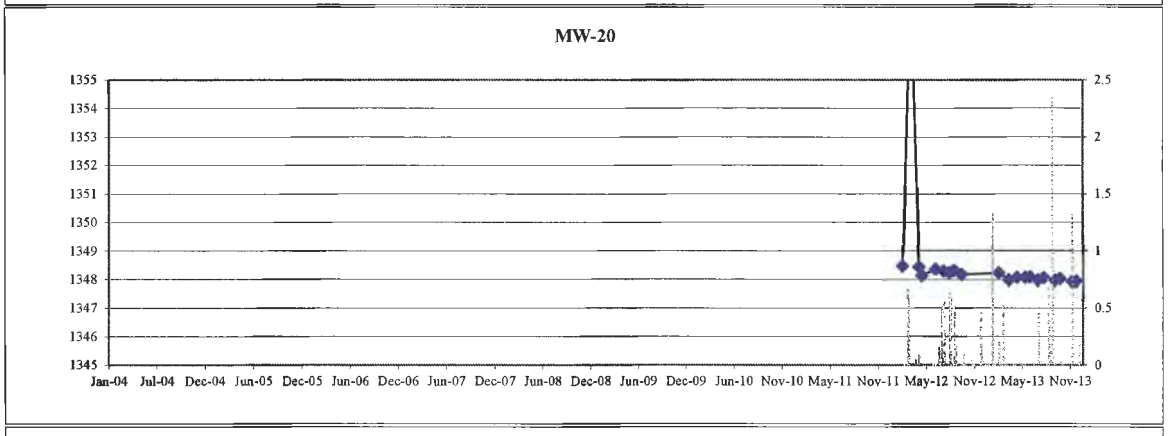


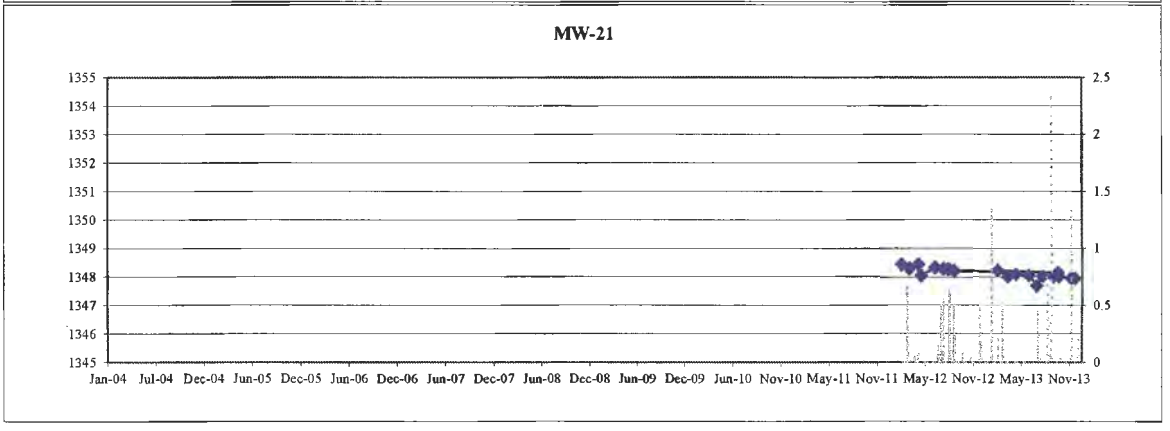
Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



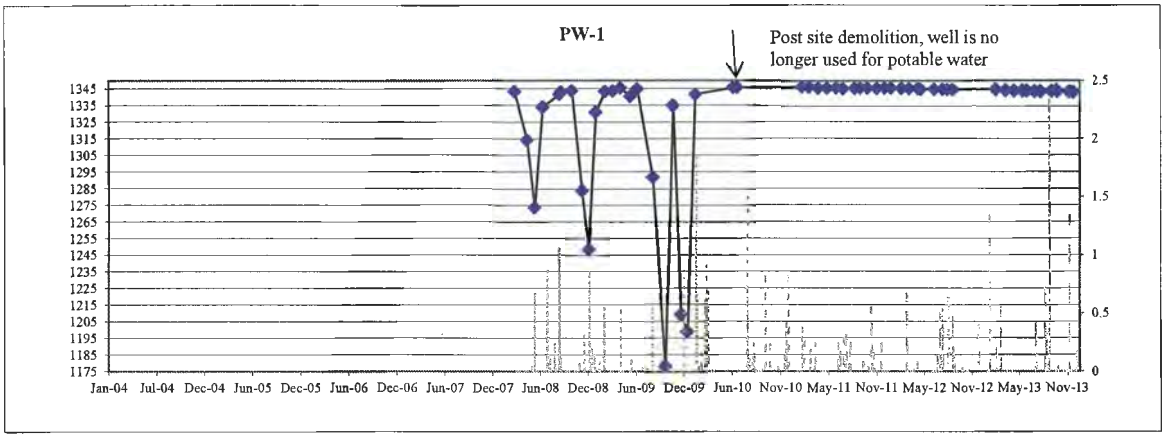




Appendix C

Well Hydrographs (feet amsl) with Precipitation (in/day)

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona



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Appendix D

2013 Monitor Well Water Quality Data

Appendix D

2013 Monitor Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Parameter	AWQS	MW-1 3/6/2013	MW-1 7/24/2013	MW-2 3/7/2013	MW-2 7/23/2013	MW-3 3/1/2013	MW-4 3/5/2013	MW-5 3/6/2013	MW-6 3/6/2013	MW-7 2/27/2013	MW-8 2/27/2013	MW-8 7/17/2013	MW-9 3/4/2013	MW-10 3/5/2013	MW-11 3/4/2013	MW-12 2/28/2013
General Chemistry (mg/L)																
Alkalinity, Total as CaCO3	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Nitrate	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	NE	**8.62**	-	**11.2**	-	**8.87**	**8.65**	**7.92**	**17.3**	**9.18**	<5	<5	**9.18**	**11.8**	**14.4**	**9.83**
Potassium	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Dissolved Solids	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (µg/L)																
Arsenic	50	**9.7**	-	**8.4**	-	**5.9**	<4.0	**9.6**	**7.1**	**27.2**	**45.8**	**44.7**	**7.4**	**18.3**	**6.6**	**7.5**
Barium	2,000	**40.9**	-	**81.3**	-	**17.7**	**71**	**52.9**	**13.4**	**6.3**	<2.0	<2.0	**57.7**	**6.3**	**136**	**28.5**
Cadmium	5	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chromium	100	**2.9**	-	**15.0**	-	<2.0	**2.1 J**	**28.2 J**	<2.0 UJ	**3.0 J**	**22.4 J**	**22**	<2.0 UJ	**3.1 J**	**2.1 J**	**8.2**
Iron	NE	<200	-	**1,530**	-	<200	<200	<200	<200	<200	<200	**216**	<200	<200	<200	<200
Lead	50	<2.0	-	<2.0	-	<2.0	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0
Manganese	NE	<15	-	**42.2**	-	<15	<15	<15	<15	<15	<15	<15	**130**	<15	<15	<15
Mercury	2	<0.20	-	<0.20	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Selenium	50	<4.0	-	<4.0	-	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Silver	NE	<2.0	-	<2.0	-	<2.0	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0	<2.0	<2.0	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0
Volatile Organic Compounds (µg/L)																
1,1,1,2-Tetrachloroethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,1-Dichloropropene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,2,3-Trichloropropane	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,2-Dibromo-3-chloropropane	0.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,2-Dibromoethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
1,3-Dichloropropane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane	NE	<2.0	<2.0	**2.5 J**	**3.2**	**2.8**	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0 UJ
2,2-Dichloropropane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
2-Hexanone	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10
4-Methyl-2-pentanone	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10
Acetone	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-	<20	<20	<20	<20
Benzene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Bromobenzene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Bromoform	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Carbon disulfide	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Chloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Chloroform	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethylene	70	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
Isopropylbenzene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
m-Dichlorobenzene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Methyl bromide	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
Methyl chloride	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Methyl ethyl ketone	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10
Methyl iodide	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
Meihyl Tert Butyl Ether	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Methylene bromide	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Methylene chloride	5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10
Naphthalene	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
o-Chlorotoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
o-Dichlorobenzene	600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
p-Chlorotoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
p-Dichlorobenzene	75	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
sec-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
Styrene	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0
Tetrachloroethylene	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Toluene	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Vinyl Acetate	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50
Xylene (total)	10,000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0

Notes:
mg/L = milligrams per liter
ug/L = micrograms per liter
Bold = analyte detected at concentration greater than laboratory reporting limit
- = not analyzed
< = Analyte not detected above the laboratory reporting limit
UJ = Estimated reporting limit
J = Analyte was positively identified; however, the result should be considered an estimated value
AWQS = Arizona Aquifer Water Quality Standard
NE = AWQS not established

Appendix D

2013 Monitor Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Parameter	AWQS	MW-13 3/6/2013	MW-14 3/5/2013	MW-15 3/1/2013	MW-16 3/1/2013	MW-17 2/28/2013	MW-17 7/17/2013	MW-18 2/27/2013	MW-18 7/17/2013	MW-19 3/7/2013	MW-20 3/7/2013	MW-20 5/2/2013	MW-20 7/19/2013	MW-21 3/7/2013	PW-1 3/5/2013	PW-1 7/18/2013
General Chemistry (mg/L)																
Alkalinity, Total as CaCO3	NE	-	-	-	-	-	-	-	-	-	**166**	-	-	**162**	-	-
Chloride	NE	-	-	-	-	-	-	-	-	-	**40.3**	-	-	**10.3**	-	-
Nitrogen, Nitrate	10	-	-	-	-	-	-	-	-	-	**6.3**	-	-	**1.4**	-	-
Sulfate	NE	-	-	-	-	-	-	-	-	-	**11.4**	-	-	**3.9**	-	-
Calcium	NE	-	-	-	-	-	-	-	-	-	**39.7**	-	-	**40.3**	-	-
Magnesium	NE	**12.7**	**17.3**	**10.30**	**10.00**	**11.7**	**13.4**	<5	<5	**15.6**	**12.6**	-	-	**8.04**	**11.1**	-
Potassium	NE	-	-	-	-	-	-	-	-	-	<10	-	-	<10.0	-	-
Sodium	NE	-	-	-	-	-	-	-	-	-	**39.6**	-	-	**23.0**	-	-
Total Dissolved Solids	NE	-	-	-	-	-	-	-	-	-	**304**	-	-	**220**	-	-
Metals (µg/L)																
Arsenic	50	**5.0**	<4.0	<4.0	<4.0	**8.3**	**8.2**	**24.9**	**29.2**	**11.2**	**7.0**	-	-	**8.2**	**8.0**	-
Barium	2,000	**52.5**	**308**	**214**	**124**	**43.6**	**30.6**	**30.4**	**33.1**	**34.3**	**93.1**	-	-	**36.2**	**7.4**	-
Cadmium	5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	-
Chromium	100	<2.0 UJ	<2.0 UJ	<2.0	<2.0	**5.2**	**2.9**	**15.5 J**	**21**	**26**	**12**	-	-	**2.2**	**3.1 J**	-
Iron	NE	<200	<200	<200	<200	**639**	**3,680**	**288**	**1,570**	**514**	<200	-	-	<200	**280**	-
Lead	50	<2.0 UJ	<2.0 UJ	<2.0	<2.0	<2.0	<2.0	<2.0 UJ	**2.0**	<2.0	<2.0	-	-	**4.4**	<2.0 UJ	-
Manganese	NE	<15	<15	<15	**88.7**	**58.1**	**83.7**	<15	**62.7**	<15	<15	-	-	**20.1**	<15	-
Mercury	2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	-	<0.20	<0.20	-
Selenium	50	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	-	-	<4.0	<4.0	-
Silver	NE	<2.0 UJ	<2.0 UJ	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0 UJ	-
Volatile Organic Compounds (µg/L)																
1,1,1,2-Tetrachloroethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.55
1,1-Dichloroethylene	7	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	0.5	<0.50	<0.50	**4.2**	**4.9**
1,1-Dichloropropene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,3-Trichloropropane	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene	70	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2,4-Trimethylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dibromo-3-chloropropane	0.2	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dibromoethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichloropropane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane	NE	<2.0	<2.0	<2.0	<2.0	<2.0 UJ	-	<2.0	-	**3.8**	**14.2 J**	**12.2**	**12.6**	**2.1 J**	<2.0	**2.7**
2,2-Dichloropropane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone	NE	<10	<10	<10	<10	<10	-	<10	-	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone	NE	<10	<10	<10	<10	<10	-	<10	-	<10	<10	<10	<10	<10	<10	<10
Acetone	NE	<20	<20	<20	<20	<20	-	**34.7**	-	<20	<20	<20	<20	<20	<20	<20
Benzene	5	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon disulfide	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	100	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethylene	70	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	700	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Isopropylbenzene	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m-Dichlorobenzene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl bromide	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl chloride	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**
Methyl ethyl ketone	NE	<10	<10	<10	<10	<10	-	<10	-	<10	<10	<10	<10	<10	<10	<10
Methyl iodide	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl Tert Butyl Ether	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene bromide	NE	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride	5	<10	<10	<10	<10	<10	-	<10	-	<10	<10	<10	<10	<10	<10	<10
Naphthalene	NE	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
n-Propylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Chlorotoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Dichlorobenzene	600	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Chlorotoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
p-Dichlorobenzene	75	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
p-Isopropyltoluene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
sec-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	100	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	NE	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tetrachloroethylene	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	100	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	5	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	NE	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Acetate	NE	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	2	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene (total)	10,000	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Notes:
mg/L = milligrams per liter
ug/L = micrograms per liter
Bold = analyte detected at concentration greater than laboratory reporting limit
- = not analyzed
< = Analyte not detected above the laboratory reporting limit
UJ = Estimated reporting limit
J = Analyte was positively identified; however, the result should be considered an estimated value
AWQS = Arizona Aquifer Water Quality Standard
NE = AWQS not established

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Appendix E

Historical Private Well Water Quality Data

Appendix E

Historical Private Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date Collected	Perchlorate	
		EPA Method 314.0 (µg/L)	EPA Method 332.0 µg/L)
8 W. Yearling	12/28/07	< 2.0	1.2
	04/04/08	<2.0	0.78
	10/15/08	<2.0	1.1
	10/30/09	<2.0	1.1
	06/17/10	<2.0	0.62 J
	02/24/11	<2.0	0.71
	07/26/11	<2.0 UJ	0.74
	01/23/12	<2.0	0.66
	08/13/12	<2.0	0.78
	02/26/13	<3.0	0.60
	07/18/13	<3.0	0.60
106 W Yearling[a]	11/15/06	<2.0	2.0
	12/28/07	<2.0	1.3
	04/01/08	<2.0	1.1
	10/15/08	<2.0	0.75
	04/16/09	<2.0	0.65
	07/26/11	<2.0 UJ	0.57
122 W Yearling	12/28/07	<2.0	1.4
	04/01/08	<2.0	1.2
	10/13/08	<2.0	0.72
	04/16/09	<2.0	0.67
	10/30/09	<2.0	1.2
	06/17/10	<2.0	0.65 J
	02/25/11	<2.0	0.68
	07/26/11	<2.0 UJ	0.63
	01/23/12	<2.0	0.52
	02/26/13	<3.0	0.53
	07/18/13	<3.0	0.54
16 E Yearling	11/19/04	<2.0	-
	04/29/05	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	11/13/06	<2.0	0.68
	10/16/07	<2.0	0.64
	04/01/08[b]	<2.0	2.6
	04/01/08	<2.0	2.9
	10/15/08	<2.0	0.77
	04/17/09	<2.0	0.63
	10/30/09	<2.0	1.0
	06/17/10	<2.0	0.58 J
	02/24/11	<2.0	1.8
	07/26/11[b]	<2.0 UJ	0.65
	07/26/11	2.0 J	2.1
	01/23/12	2.0	1.7
	08/13/12	<2.0	0.85
	02/26/13	<3.0	1.4
	07/18/13	<3.0	0.59
18 E. Yearling[c]	10/27/05	<2.0	-
	05/23/06	<2.0	-
	11/14/06	<2.0	0.94
	04/04/07	<2.0	0.98
	10/16/07	<2.0	0.77
	04/01/08	<2.0	1.0
	10/15/08	<2.0	1.1
	04/16/09	<2.0	0.86
	10/30/09	<2.0	1.1
	06/17/10	<2.0	0.81 J

Appendix E

Historical Private Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date Collected	Perchlorate	
		EPA Method 314.0 (µg/L)	EPA Method 332.0 µg/L)
18 E. Yearling[c] (continued)	02/23/11	<2.0	0.99
	08/13/12	<2.0	0.81
	02/26/13	<3.0	0.63
	07/18/13	<3.0	0.83
204 E. Yearling	10/27/05	<2.0	-
	04/16/09	<2.0	0.64
	10/30/09	<2.0	1.3
	06/17/10	<2.0	0.62 J
	02/23/11	<2.0	0.89
	07/26/11	<2.0 UJ	0.72
	01/23/12	<2.0	0.58
	08/13/12	<2.0	0.79
	02/26/13	<3.0	0.67
	07/18/13	<3.0	0.60
218 E. Yearling	11/19/04	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	11/14/06	<2.0	0.68
	04/04/07	<2.0	0.67
	10/16/07	<2.0	-
	04/01/08	<2.0	1.3
	10/15/08	<2.0	0.8
	10/15/08	<2.0	0.73
	04/16/09	<2.0	0.68
	10/30/09	<2.0	1.2
	02/23/11	<2.0	1.0
	07/26/11	<2.0 UJ	0.69
	01/23/12	<2.0	0.77
	08/13/12	2.0 J	0.86
	02/26/13	<3.0	0.72
	07/18/13	<3.0	0.76
412 E. Yearling	11/19/04	<2.0	-
	04/29/05	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	04/01/08	<2.0	2.1
	10/15/08	<2.0	1.5
	04/16/09	<2.0	1.1
	10/30/09	<2.0	1.5
	06/17/10	<2.0	1.0 J
	02/25/11	<2.0	1.3
	07/27/11	<2.0 UJ	1.3
	01/25/12	<2.0	1.1
	02/26/13	<3.0	1.2
	07/18/13	<3.0	1.2
424 E. Yearling	01/19/08	<2.0	1.2
	04/01/08	<2.0	2.2
	10/15/08	<2.0	1.6
	04/16/09	<2.0	1.2
	10/30/09	<2.0	1.8
	06/17/10	<2.0	1.1 J
	02/25/11	<2.0	1.7
	07/26/11	<2.0 UJ	1.7
	01/24/12	<2.0	1.3
	02/26/13	<3.0	1.3
520 E Yearling	11/17/04	<2.0	-
	04/28/05	<2.0	-

Appendix E

Historical Private Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date Collected	Perchlorate	
		EPA Method 314.0 (µg/L)	EPA Method 332.0 µg/L)
520 E Yearling (continued)	05/23/06	<2.0	-
	11/14/06	<2.0	1.5
	04/04/07	2.4	1.3
	10/16/07	<2.0	1.4
	04/01/08	<2.0	2.2
	10/15/08	<2.0	1.3
	04/16/09	<2.0	1.3
	10/30/09	<2.0	1.9
	06/17/10	<2.0	1.2 J
	02/23/11	<2.0	1.4
	07/26/11	<2.0 UJ	1.4
	01/23/12	<2.0	1.2
	08/13/12	2.0	1.3
	02/26/13	<3.0	1.1
	07/18/13	<3.0	1.3
604/616 E Yearling	11/17/04	<2.0	-
	04/29/05	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	11/14/06	<2.0	1.1
	04/06/07	<2.0	1.2
	10/16/07	<2.0	1.0
	04/01/08	<2.0	1.5
	10/15/08	<2.0	1.1
	04/16/09	<2.0	0.98
	10/30/09	<2.0	1.6
	06/17/10	<2.0	0.91 J
	02/25/11	<2.0	1.1
	07/26/11	<2.0 UJ	1.2
	01/23/12	<2.0	0.97
	08/13/12	<2.0	0.95
	02/26/13	<3.0	1.0
	07/18/13	<3.0	1.2
25825 N. 1st Place	11/17/04	<2.0	-
	04/28/05	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	11/14/06	<2.0	1.0
	04/04/07	<2.0	0.93
	10/16/07	<2.0	0.89
	04/01/08	<2.0	1.1
	10/15/08	<2.0	0.97
	04/16/09	<2.0	0.89
	10/30/09	<2.0	1.2
	06/16/10	<2.0	0.89
	02/24/11	<2.0	1.0
	07/27/11	<2.0 UJ	0.67
	01/23/12	<2.0	0.87
	08/13/12	<2.0 UJ	0.98
	02/26/13	<3.0	0.59
	07/18/13	<3.0	0.53
25903 N. 2nd St.	11/19/04	<2.0	-
	10/28/05	<2.0	-
	05/23/06	<2.0	-
	11/14/06	<2.0	0.78
	04/04/07	<2.0	0.76
	04/01/08	2.2	3.1

Appendix E

Historical Private Well Water Quality Data

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date Collected	Perchlorate	
		EPA Method 314.0 (µg/L)	EPA Method 332.0 µg/L)
25903 N. 2nd St.[d]	10/15/08	<2.0	0.84
	04/16/09	<2.0	0.88
	10/30/09	<2.0	1.3
	06/17/10	<2.0	0.65 J
	02/24/11	<2.0	0.88
	01/24/12	<2.0	0.66
	07/18/13	<3.0	0.70

Notes:
< = Analyte not detected above the listed laboratory reporting limit
J = Analyte was positively identified; however, the result should be considered an estimated value
UJ = Estimated reporting limit
- = Not analyzed
µg/L = micrograms per liter
[a] = not sampled during first quarter 2011; unable to gain access to well after two attempts to contact resident
[b] = Well in front yard sampled for comparison purposes, labeled as 16 E. Yearling Yard
[c] = not sampled during second quarter 2011; u-ble to gain access to well after two attempts to contact resident
[d] = Older well located in front yard of 218 E. Yearling that previously supplied both 204 E.Yearling and 218 E. Yearling residences before installation of new wells in back yards of both residences

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Appendix F

Historical Monitor Well Perchlorate Concentrations and Plots

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-1	2/13/04	130	NA
	3/19/04	120	NA
	4/16/04	88	NA
	9/7/04	94	NA
	11/4/04	89	NA
	12/9/04	89	NA
	1/17/05	77	NA
	4/25/05	65	NA
	7/18/05	58	NA
	10/24/05	47	NA
	3/21/06	49	NA
	5/22/06	52	NA
	8/28/06	61	NA
	11/13/06	64	NA
	2/13/07	76	NA
	4/9/07	71	NA
	7/31/07	71	NA
	1/15/08	74.0	NA
	3/31/08	76	NA
	10/17/08	73	NA
	1/23/09	76	NA
	4/15/09	76	NA
	8/14/09	83	NA
	11/2/09	70	NA
	1/25/10	69	NA
	6/14/10	78	NA
	3/2/11	67	NA
	4/26/11	70	NA
	10/27/11	73	NA
	01/26/12	68	NA
	05/09/12	71	NA
	08/19/12	81	NA
	03/06/13	67.7	NA
	05/02/13	63.2	NA
	07/24/13	63.5	NA
	10/09/13	62.2	NA
MW-2	2/13/04	47	NA
	3/19/04	39	NA
	4/16/04	40	NA
	9/7/04	50	NA
	11/5/04	54	NA
	12/9/04	56	NA
	1/17/05	55	NA
	4/25/05	64	NA
	7/18/05	61	NA
	10/24/05	71	NA

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-2 (cont.)	3/22/06	69	NA
	5/23/06	75	NA
	8/28/06	77	NA
	11/13/06	78	NA
	2/13/07	87	NA
	4/9/07	83	NA
	7/31/07	84	NA
	1/19/08	84	NA
	3/31/08	86	NA
	7/30/08	88	NA
	10/17/08	78	NA
	1/23/09	92	NA
	4/15/09	88	NA
	8/14/09	96	NA
	11/2/09	83	NA
	1/25/10	90	NA
	6/14/10	94	NA
	3/2/11	87	NA
	4/26/11	87	NA
	10/27/11	90	NA
	01/25/12	91	NA
	05/10/12	88	NA
	08/19/12	82	NA
	03/07/13	92.5	NA
	05/01/13	89.7	NA
	07/23/13	89.7	NA
	10/09/13	88.9	NA
MW-3	9/8/04	<2.0	NA
	11/5/04	<2.0	NA
	12/9/04	<2.0	NA
	1/18/05	<2.0	NA
	4/26/05	<2.0	NA
	7/20/05	<2.0	NA
	10/26/05	<2.0	NA
	3/21/06	<2.0	NA
	8/30/06	<2.0	NA
	11/15/06	NA	0.59
	2/15/07	<2.0	0.54
	8/2/07	<2.0	NA
	8/2/07	NA	1.0
	1/18/08	<2.0	0.46
	7/30/08	<2.0	0.69
	1/14/09	<2.0	0.73
	8/18/09	<2.0	0.64 J
	1/20/10	<2.0	0.47 J
	2/25/11	<2.0	0.53

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-3 (cont.)	7/28/11	<2.0	0.59
	02/01/12	<2.0	0.51
	08/08/12	<2.0	0.62
	03/01/13	<3.0	NA
	07/24/13	<3.0	0.48
MW-4	9/8/04	<2.0	NA
	11/5/04	<2.0	NA
	12/9/04	<2.0	NA
	1/18/05	<2.0	NA
	4/26/05	<2.0	NA
	7/18/05	<2.0	NA
	10/26/05	<2.0	NA
	3/23/06	<2.0	NA
	8/30/06	<2.0	NA
	11/15/06	NA	0.61
	2/15/07	<2.0	0.62
	8/2/07	<2.0	NA
	8/2/07	NA	0.97
	1/19/08	<2.0	0.53
	7/30/08	<2.0	0.74
	1/14/09	<2.0	0.72
	8/18/09	<2.0	0.71 J
	1/20/10	<2.0	0.49 J
	2/25/11	<2.0	0.61
	7/29/11	<2.0	0.61
	01/26/12	<2.0	NA
	08/08/12	<2.0	0.84 J
	03/05/13	<3.0	0.77
	07/24/13	<3.0	0.67
MW-5	9/8/04	6.4	NA
	11/4/04	7.7	NA
	12/8/04	9.6	NA
	1/18/05	9	NA
	4/26/05	11	NA
	7/18/05	12	NA
	10/25/05	15	NA
	3/22/06	16	NA
	5/23/06	17	NA
	8/30/06	18	NA
	11/14/06	18	NA
	2/13/07	21	NA
	4/10/07	19	NA
	7/31/07	19	NA
	10/17/07	22	NA
	1/16/08	25	NA
	3/31/08	23	NA

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-5 (cont.)	7/30/08	24	NA
	10/17/08	22	NA
	1/16/09	24	NA
	4/15/09	23	NA
	8/17/09	27	NA
	10/28/09	26	NA
	1/25/10	32	NA
	6/14/10	27	NA
	3/2/11	20	NA
	4/26/11	23	NA
	7/29/11	22	NA
	10/26/11	25	NA
	01/25/12	25	NA
	05/10/12	24	NA
	08/19/12	26	NA
	03/06/13	24.6	NA
	05/01/13	27.6	NA
	07/19/13	28.9	NA
	10/09/13	30.5	NA
MW-6	9/8/04	18	NA
	11/5/04	19	NA
	12/9/04	18	NA
	1/18/05	15	NA
	4/27/05	18	NA
	7/20/05	20	NA
	10/26/05	18	NA
	3/23/06	16	NA
	5/23/06	17	NA
	8/30/06	17	NA
	11/15/06	16	NA
	2/15/07	18	NA
	4/10/07	17	NA
	8/2/07	17	NA
	10/17/07	15	NA
	1/17/08	18	NA
	3/31/08	17	NA
	7/30/08	17	NA
	10/17/08	15	NA
	1/14/09	18	NA
	4/15/09	17	NA
	8/18/09	19	NA
	10/30/09	15	NA
	1/20/10	16	NA
	6/15/10	19	NA
	2/25/11	17	NA
	4/27/11	18	NA

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-6 (cont.)	7/28/11	14	NA
	10/27/11	18	NA
	02/01/12	20	14 J
	05/10/12	18	NA
	08/19/12	20	NA
	03/06/13	19.4	NA
	05/03/13	18.7	NA
	07/24/13	17.8	NA
	10/09/13	19	NA
MW-7	11/5/04	<2.0	NA
	12/8/04	<2.0	NA
	1/18/05	<2.0	NA
	4/26/05	<2.0	NA
	7/20/05	<2.0	NA
	10/25/05	<2.0	NA
	3/22/06	<2.0	NA
	8/30/06	<2.0	NA
	11/15/06	NA	0.60
	2/14/07	<2.0	0.60
	8/1/07	<2.0	NA
	8/1/07	NA	0.58 J
	1/17/08	<2.0	0.49
	8/1/08	<2.0	0.73
	1/15/09	<2.0	0.62
	8/18/09	<2.0	0.70 J
	1/22/10	<2.0	0.51 J
	2/25/11	<2.0	0.65
	7/28/11	<2.0	0.60
	01/27/12	<2.0	0.60
	08/07/12	<2.0	0.66 J
	02/27/13	<3.0	0.57
	07/24/13	<3.0	0.52
MW-8	11/5/04	<2.0	NA
	12/9/04	<2.0	NA
	1/19/05	<2.0	NA
	4/27/05	<2.0	NA
	7/20/05	<2.0	NA
	10/26/05	<2.0	NA
	3/22/06	<2.0	NA
	8/30/06	<2.0	NA
	11/15/06	NA	0.99
	2/15/07	<2.0	1.0
	8/2/07	<2.0	NA
	8/2/07	NA	1.4
	1/18/08	<2.0	0.92

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-8 (cont.)	7/31/08	<2.0	0.88
	1/14/09	<2.0	1.1
	8/18/09	<2.0	1.0 J
	1/20/10	<2.0	0.93 J
	3/1/11	<2.0	1.1
	7/28/11	<2.0	1.0
	01/31/12	<2.0	0.93
	08/08/12	<2.0	1.2 J
	02/27/13	<3.0	0.89
	07/17/13	3	0.89
MW-9	2/10/05	<2.0	NA
	4/25/05	<2.0	NA
	7/20/05	<2.0	NA
	10/26/05	<2.0	NA
	3/23/06	<2.0	NA
	8/31/06	<2.0	NA
	11/15/06	NA	0.77
	2/14/07	<2.0	0.81
	8/1/07	<2.0	NA
	8/1/07	NA	0.80 J
	1/18/08	<2.0	0.68
	8/1/08	<2.0	0.86
	1/14/09	<2.0	0.84
	8/18/09	<2.0	0.78 J
	1/20/10	<2.0	0.64 J
	3/1/11	<2.0	0.75
	7/27/11	<2.0	2.7
	01/27/12	<2.0	0.71
	08/09/12	2.1	NA
	03/04/13	<3.0	0.59
	07/17/13	<3.0	0.58
MW-10	2/10/05	<2.0	NA
	4/27/05	<2.0	NA
	7/20/05	<2.0	NA
	10/26/05	<2.0	NA
	3/23/06	<2.0	NA
	8/30/06	<2.0	NA
	11/15/06	NA	0.78
	2/15/07	<2.0	0.81
	8/2/07	<2.0	NA
	8/2/07	NA	1.3
	1/18/08	<2.0	0.75
	7/31/08	<2.0	0.87
	1/14/09	<2.0	0.96
	8/18/09	<2.0	0.93 J
	1/20/10	<2.0	1.2 J

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-10 (cont.)	2/25/11	<2.0	1.0
	7/28/11	<2.0	0.92
	01/31/12	<2.0	0.80
	08/08/12	2.5	NA
	03/05/13	<3.0	0.91
	07/17/13	<3.0	0.9
MW-11	3/21/06	<2.0	NA
	5/22/06	2.1	NA
	8/29/06	2	NA
	11/14/06	<2.0	2.2
	2/13/07	<2.0	2.2
	4/10/07	<2.0	2.1
	7/31/07	2.3	NA
	7/31/07	NA	1.9 J
	10/17/07	2.4	NA
	1/16/08	<2.0	2.6
	8/1/08	2.6	2.2
	1/15/09	2	2.0
	8/18/09	2.3	2.1 J
	1/21/10	2	2.1 J
	2/28/11	<2.0	2.2
	7/29/11	2	2.0
	01/30/12	2.6	2.0
	08/13/12	2.2	2.2
	03/04/13	<3.0	2.2
	07/16/13	<3.0	2.3
MW-12	3/21/06	<2.0	NA
	5/22/06	<2.0	NA
	8/28/06	<2.0	NA
	11/13/06	<2.0	0.76
	2/13/07	<2.0	0.68
	7/31/07	<2.0	1.0 J
	1/15/08	<2.0	0.66
	7/31/08	<2.0	1.2
	1/23/09	<2.0	1.2
	8/14/09	<2.0	0.78 J
	1/21/10	<2.0	1.1 J
	3/1/11	<2.0	0.79
	7/29/11	<2.0	0.71
	02/03/12	<2.0	0.67 J
	08/13/12	<2.0	0.74
	2/28/2013	<3.0	NA
	7/16/2013	<3.0	0.84

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-13	8/8/08	330	250
	10/17/08	220	210
	1/16/09	190	NA
	4/16/09	81	NA
	8/13/09	40	NA
	10/29/09	30	NA
	1/22/10	22	NA
	6/15/10	12	NA
	3/2/11	6.4	NA
	4/27/11	7	NA
	8/2/11	7.4	NA
	10/26/11	8.7	NA
	01/24/12	11	NA
	05/10/12	12	NA
	08/16/12	16	NA
	3/6/2013	20.8	NA
	5/1/2013	22.1	NA
	7/18/2013	25.6	NA
	10/9/2013	30.3	NA
MW-14	8/19/08	2.5	2.6
	10/17/08	<2.0	1.1
	1/16/09	<2.0	1.1
	8/13/09	<2.0	1.1 J
	1/20/10	<2.0	0.98 J
	3/1/11	<2.0	0.90
	8/2/11	<2.0	NA
	02/01/12	<2.0	0.94
	08/10/12	2.4	NA
	3/5/2013	<3.0	0.98
	7/17/2013	<3.0	1.1
MW-15	8/8/08	<2.0	0.88
	10/16/08	<2.0	0.82
	1/15/09	<2.0	0.82
	8/13/09	<2.0	0.83 J
	1/22/10	<2.0	0.86 J
	3/1/11	<2.0	0.79
	7/29/11	<2.0	0.77
	02/01/12	<2.0	0.67
	08/09/12	<2.0	0.80
	03/01/13	<3.0	NA
	07/16/13	<3.0	0.7

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
MW-16	4/28/11	<2.0	0.65
	8/2/11	<2.0	NA
	02/01/12	<2.0	0.42
	08/10/12	<2.0	0.82
	03/01/13	<3.0	NA
	07/17/13	<3.0	0.53
MW-17	4/28/11	<2.0	0.73
	01/31/12	<2.0	0.31
	08/10/12	<2.0	0.37
	2/28/2013	<3.0	NA
	7/17/2013	<3.0	0.28
MW-18	10/30/09	<2.0	1.5
	1/27/10	<2.0	<2.0 UJ
	3/30/11	<2.0	<0.50 UJ
	8/2/11	<2.0	NA
	01/31/12	<2.0	0.10
	08/08/12	<2.0	<0.10
	02/27/13	<3.0	<0.10
	07/17/13	<3.0	0.12
MW-19	4/28/11	55000	NA
	8/3/11	48000	NA
	10/27/11	45000	NA
	01/26/12	35000	NA
	05/11/12	36000	NA
	08/19/12	33000	NA
	3/7/2013	32500	NA
	5/3/2013	29200	NA
	7/19/2013	31200	NA
	10/9/2013	29400	NA
MW-20	02/06/12	430	NA
	05/11/12	410	NA
	08/19/12	400	NA
	3/7/2013	447	NA
	5/2/2013	417	NA
	7/19/2013	442	NA
	10/9/2013	419	NA
MW-21	02/09/12	6.2	NA
	05/10/12	5.5	NA
	08/16/12	5.5	NA
	03/07/13	6.1	NA
	05/01/13	5.6	NA
	07/18/13	5.1	NA
	10/08/13	5.4	NA

Historical Monitor Well Perchlorate Concentrations

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Sample ID	Date	Perchlorate (µg/L)	
		EPA 314.0	EPA 332.0
PW-1	4/16/04	1.4	NA
	11/4/04	<2.0	NA
	12/9/04	<2.0	NA
	1/17/05	<2.0	NA
	4/25/05	2.1	NA
	7/18/05	<2.0	NA
	10/25/05	<2.0	NA
	3/23/06	<2.0	NA
	5/23/06	2.3	NA
	8/31/06	<2.0	NA
	11/16/06	<2.0	1.8
	2/15/07	2	NA
	4/10/07	<2.0	NA
	8/1/07	2.3	NA
	10/17/07	<2.0	NA
	1/18/08	<2.0	NA
	4/2/08	<2.0	NA
	8/1/08	2.1	NA
	10/20/08	2.2	NA
	1/12/09	4.8	NA
	4/15/09	2.6	NA
	7/6/09	2.4	NA
	10/30/09	<2.0	NA
	3/30/11	3.8	NA
	9/6/11	4.1	NA
	10/25/11	4.4	NA
	02/01/12	3.7	3.3
	05/09/12	4.4	NA
	08/16/12	5.9	NA
	3/5/2013	4.3	NA
	5/2/2013	4.1	NA
	7/18/2013	3.8	NA
	10/8/2013	3.0	NA

Notes:
USEPA = United States Environmental Protection Agency
µg/L = micrograms per liter
NA = not analyzed
< = Analyte was not reported above the listed laboratory reporting limit.
J = The analyte was positively identified; the result should be considered an estimated value.
UJ = Estimated laboratory reporting limit.

ARCADIS

Appendix G

Summary of 2013 Field Data

Appendix G

2013 Field Data Summary

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
First Quarter 2013	MW-1	3/6/2013	15	15:20	27.87	0.358	8.15
	MW-1	3/6/2013	40	15:25	28.59	0.366	8.16
	MW-1	3/6/2013	65	15:30	28.63	0.365	8.16
	MW-1	3/6/2013	90	15:35	28.64	0.367	8.14
	MW-1	3/6/2013	105	15:38	purge end time		
	MW-2	3/7/2013	20	11:58	27.88	0.416	7.67
	MW-2	3/7/2013	40	12:00	27.95	0.415	7.56
	MW-2	3/7/2013	90	12:05	28.13	0.409	7.20
	MW-2	3/7/2013	140	12:10	28.15	0.409	7.18
	MW-2	3/7/2013	190	12:15	28.15	0.409	7.18
	MW-2	3/7/2013	230	12:19	purge end time		
	MW-3	2/28/2013	12	10:14	27.80	0.300	7.42
	MW-3	2/28/2013	32	10:19	28.71	0.301	7.07
	MW-3	2/28/2013	48	10:23	28.80	0.304	7.42
	MW-3	2/28/2013	72	10:29	well went dry		
	MW-3	3/1/2013	92	9:53	27.01	0.309	7.38
	MW-3	3/1/2013	112	9:58	28.44	0.304	7.42
	MW-3	3/1/2013	132	10:03	purge end time		
	MW-4	3/4/2013	3	11:56	26.38	0.386	7.40
	MW-4	3/4/2013	9	11:58	27.23	0.413	7.25
	MW-4	3/4/2013	15	12:00	27.29	0.412	7.27
	MW-4	3/4/2013	24	12:03	27.51	0.412	7.19
	MW-4	3/4/2013	30	12:05	27.81	0.415	7.28
	MW-4	3/4/2013	36	12:07	28.90	0.416	7.33
	MW-4	3/4/2013	39	12:08	well went dry		
	MW-4	3/5/2013	54	10:38	27.19	0.417	7.29
	MW-4	3/5/2013	66	10:42	purge end time		
	MW-5	3/6/2013	15	14:35	28.05	0.358	8.43
	MW-5	3/6/2013	90	14:50	28.62	0.358	8.36
	MW-5	3/6/2013	115	14:55	28.62	0.358	8.36
	MW-5	3/6/2013	140	15:00	28.63	0.358	8.35
	MW-5	3/6/2013	160	15:04	purge end time		
	MW-6	3/5/2013	10	17:35	27.07	0.419	7.69
	MW-6	3/5/2013	35	17:40	28.06	0.419	7.76
	MW-6	3/5/2013	60	17:45	28.22	0.403	7.80
	MW-6	3/5/2013		17:45	well went dry		
	MW-6	3/6/2013	70	10:37	26.65	0.409	8.25
	MW-6	3/6/2013	85	10:40	28.03	0.412	8.23
	MW-6	3/6/2013	120	10:47	purge end time		
	MW-7	2/27/2013	14	10:12	27.31	0.333	7.38
	MW-7	2/27/2013	84	10:22	27.56	0.333	7.57
	MW-7	2/27/2013	154	10:32	27.60	0.333	7.59
	MW-7	2/27/2013	182	10:36	27.59	0.333	7.59
	MW-7	2/27/2013	203	10:39	27.60	0.333	7.59
	MW-7	2/27/2013	203	10:39	purge end time		

2013 Field Data Summary

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
First Quarter 2013 (cont.)	MW-9	3/4/2013	12	15:12	28.55	0.579	8.17
	MW-9	3/4/2013	60	15:20	28.45	0.427	7.78
	MW-9	3/4/2013	120	15:30	28.51	0.425	7.83
	MW-9	3/4/2013	150	15:35	28.50	0.423	7.83
	MW-9	3/4/2013	180	15:40	28.50	0.421	7.82
	MW-9	3/4/2013	210	15:45	28.51	0.420	7.84
	MW-9	3/4/2013	240	15:50	28.51	0.420	7.84
	MW-9	3/4/2013	246	15:51	purge end time		
	MW-10	3/4/2013	25	16:25	28.14	0.355	7.92
	MW-10	3/4/2013	50	16:30	28.32	0.356	7.99
	MW-10	3/4/2013	65	16:33	28.46	0.358	7.98
	MW-10	3/4/2013	70	16:34	well went dry		
	MW-10	3/5/2013	75	11:35	26.69	0.356	7.49
	MW-10	3/5/2013	95	11:39	purge end time		
	MW-11	3/4/2013	12	12:38	28.00	0.579	7.53
	MW-11	3/4/2013	84	12:50	28.62	0.584	7.59
	MW-11	3/4/2013	144	13:00	28.66	0.585	7.62
	MW-11	3/4/2013	204	13:10	28.65	0.585	7.64
	MW-11	3/4/2013	234	13:15	28.66	0.585	7.65
	MW-11	3/4/2013	264	13:20	28.67	0.585	7.65
	MW-11	3/4/2013	276	13:22	purge end time		
	MW-13	3/6/2013	20	11:10	29.34	0.418	7.92
	MW-13	3/6/2013	220	11:30	29.48	0.421	8.04
	MW-13	3/6/2013	400	11:48	29.48	0.421	8.08
	MW-13	3/6/2013	400	11:48	pump off to dump tank		
	MW-13	3/6/2013	420	12:30	28.41	0.421	8.17
	MW-13	3/6/2013	620	12:50	29.49	0.421	8.02
	MW-13	3/6/2013	720	13:00	29.51	0.422	8.04
	MW-13	3/6/2013	770	13:05	29.52	0.421	8.03
	MW-13	3/6/2013	820	13:10	29.50	0.422	8.02
	MW-13	3/6/2013	880	13:16	purge end time		
	MW-14	3/4/2013	30	17:05	29.37	0.712	7.68
	MW-14	3/4/2013	80	17:10	29.31	0.711	7.65
	MW-14	3/4/2013	120	17:14	29.21	0.711	7.64
	MW-14	3/4/2013	160	17:18	29.21	0.712	7.64
	MW-14	3/4/2013	200	17:22	well went dry		
	MW-14	3/5/2013	210	12:20	27.21	0.706	7.24
	MW-14	3/5/2013	260	12:25	29.37	0.712	7.01
	MW-14	3/5/2013	310	12:30	29.35	0.713	7.02
	MW-14	3/5/2013	330	12:32	purge end time		
	MW-19	3/7/2013	10	13:55	28.01	0.429	8.33
	MW-19	3/7/2013	110	14:05	28.18	0.439	8.05
	MW-19	3/7/2013	160	14:10	28.20	0.440	8.01
	MW-19	3/7/2013	210	14:15	28.24	0.442	8.03
	MW-19	3/7/2013	260	14:20	28.25	0.439	8.03
	MW-19	3/7/2013	290	14:23	purge end time		
	MW-20	3/7/2013	20	13:02	27.27	0.500	8.44
	MW-20	3/7/2013	150	13:15	28.45	0.493	8.04
	MW-20	3/7/2013	200	13:20	28.45	0.496	8.03
	MW-20	3/7/2013	250	13:25	28.45	0.497	8.03
	MW-20	3/7/2013	300	13:30	purge end time		

2013 Field Data Summary

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Former UPCO Facility
Phoenix, Arizona

Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
First Quarter 2013 (cont.)	MW-21	3/7/2013	20	10:50	27.41	0.348	6.43
	MW-21	3/7/2013	70	10:55	28.25	0.357	6.29
	MW-21	3/7/2013	120	11:00	28.32	0.349	6.45
	MW-21	3/7/2013	170	11:05	28.33	0.349	6.48
	MW-21	3/7/2013	220	11:10	28.33	0.349	6.50
	MW-21	3/7/2013	270	11:15	28.34	0.348	6.51
	MW-21	3/7/2013	320	11:20	purge end time		
	PW-1	3/5/2013	15	14:50	28.42	0.438	7.99
	PW-1	3/5/2013	165	15:00	29.11	0.421	8.29
	PW-1	3/5/2013	390	15:15	pump off to dump tank		
	PW-1	3/5/2013	420	15:40	28.43	0.418	8.45
	PW-1	3/5/2013	570	15:50	29.13	0.433	8.37
	PW-1	3/5/2013	1020	16:20	29.11	0.434	8.34
	PW-1	3/5/2013	1245	16:35	29.14	0.434	8.30
	PW-1	3/5/2013	1320	16:40	29.15	0.435	8.30
	PW-1	3/5/2013	1395	16:45	29.16	0.435	8.30
	PW-1	3/5/2013	1470	16:50	29.15	0.435	8.30
	PW-1	3/5/2013	1545	16:55	29.16	0.436	8.28
	PW-1	3/5/2013	1650	17:02	purge end time		
Second Quarter 2013	MW-1	5/2/2013	25	19:20	28.58	0.344	7.37
	MW-1	5/2/2013	50	19:25	28.65	0.346	7.49
	MW-1	5/2/2013	75	19:30	28.66	0.346	7.48
	MW-1	5/2/2013	100	19:35	28.67	0.348	7.50
	MW-1	5/2/2013	115	19:38	purge end time		
	MW-2	5/1/2013	50	21:55	28.17	0.422	7.77
	MW-2	5/1/2013	100	22:00	28.23	0.421	7.77
	MW-2	5/1/2013	150	22:05	28.24	0.420	7.78
	MW-2	5/1/2013	200	22:10	28.25	0.420	7.78
	MW-2	5/1/2013	250	22:15	28.25	0.420	7.78
	MW-2	5/1/2013	300	22:20	28.27	0.420	7.80
	MW-2	5/1/2013	350	22:25	28.28	0.420	7.80
	MW-2	5/1/2013	370	22:27	purge end time		
	MW-5	5/1/2013	25	20:40	28.61	0.371	7.72
	MW-5	5/1/2013	50	20:45	28.65	0.370	7.74
	MW-5	5/1/2013	75	20:50	28.68	0.369	7.78
	MW-5	5/1/2013	100	20:55	28.69	0.369	7.81
	MW-5	5/1/2013	125	21:00	28.70	0.369	7.81
	MW-5	5/1/2013	150	21:05	28.69	0.369	7.83
	MW-5	5/1/2013	175	21:10	28.69	0.369	7.83
	MW-5	5/1/2013	185	21:12	purge end time		
	MW-6	5/2/2013	14	15:20	28.27	0.229	7.07
	MW-6	5/2/2013	36	15:25	28.58	0.227	7.15
	MW-6	5/2/2013	58	15:30	28.73	0.225	7.18
	MW-6	5/2/2013	58	15:30	well went dry		
	MW-6	5/3/2013	67	17:10	27.77	0.404	7.19
	MW-6	5/3/2013	90	17:15	28.48	0.403	7.22
	MW-6	5/3/2013	99	17:17	purge end time		

Appendix G

2013 Field Data Summary

UTC Aerospace Systems
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Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Second Quarter 2013 (cont.)	MW-13	5/1/2013	63	16:50	29.51	0.440	7.61
	MW-13	5/1/2013	188	17:00	29.59	0.442	7.67
	MW-13	5/1/2013	313	17:10	29.60	0.444	7.68
	MW-13	5/1/2013	438	17:20	29.61	0.444	7.68
	MW-13	5/1/2013	500	17:25	pump off to dump tank		
	MW-13	5/1/2013	500	18:20	29.55	0.442	7.70
	MW-13	5/1/2013	625	18:30	29.58	0.444	7.73
	MW-13	5/1/2013	688	18:35	29.58	0.444	7.72
	MW-13	5/1/2013	750	18:40	29.59	0.444	7.72
	MW-13	5/1/2013	788	18:43	purge end time		
	MW-19	5/3/2013	50	15:55	28.40	0.416	7.17
	MW-19	5/3/2013	100	16:00	28.47	0.419	7.22
	MW-19	5/3/2013	150	16:05	28.48	0.420	7.25
	MW-19	5/3/2013	200	16:10	28.49	0.421	7.27
	MW-19	5/3/2013	250	16:15	28.50	0.421	7.29
	MW-19	5/3/2013	280	16:18	purge end time		
	MW-20	5/2/2013	50	22:00	28.48	0.479	7.44
	MW-20	5/2/2013	100	22:05	28.53	0.477	7.45
	MW-20	5/2/2013	150	22:10	28.54	0.481	7.46
	MW-20	5/2/2013	200	22:15	28.58	0.481	7.48
	MW-20	5/2/2013	250	22:20	28.92	0.488	7.49
	MW-20	5/2/2013	300	22:25	28.90	0.482	7.48
	MW-20	5/2/2013	430	22:38	purge end time		
	MW-21	5/1/2013	50	15:35	28.34	0.368	7.52
	MW-21	5/1/2013	100	15:40	28.44	0.362	7.56
	MW-21	5/1/2013	150	15:45	28.45	0.362	7.55
	MW-21	5/1/2013	200	15:50	28.45	0.360	7.55
	MW-21	5/1/2013	250	15:55	28.45	0.360	7.56
	MW-21	5/1/2013	280	15:58	purge end time		
	PW-1	5/2/2013	75	16:35	29.37	0.460	7.54
	PW-1	5/2/2013	300	16:50	29.23	0.440	7.70
	PW-1	5/2/2013	450	17:00	29.18	0.441	7.74
	PW-1	5/2/2013	675	17:15	29.21	0.452	7.60
	PW-1	5/2/2013	900	17:30	29.28	0.458	7.65
	PW-1	5/2/2013	1050	17:40	pump off to dump tank		
	PW-1	5/2/2013	1050	17:50	29.32	0.460	7.69
	PW-1	5/2/2013	1125	17:55	29.32	0.461	7.68
	PW-1	5/2/2013	1200	18:00	29.32	0.461	7.67
	PW-1	5/2/2013	1275	18:05	29.33	0.462	7.65
	PW-1	5/2/2013	1350	18:10	29.33	0.462	7.63
	PW-1	5/2/2013	1425	18:15	29.35	0.463	7.67
	PW-1	5/2/2013	1500	18:20	29.35	0.463	7.67
	PW-1	5/2/2013	1560	18:24	purge end time		
Third Quarter 2013	MW-1	7/24/2013	23	9:00	29.31	0.414	7.36
	MW-1	7/24/2013	45	9:05	29.22	0.403	7.30
	MW-1	7/24/2013	67	9:10	29.80	0.402	7.38
	MW-1	7/24/2013	90	9:15	29.19	0.402	7.43
	MW-1	7/24/2013	117	9:21	29.14	0.403	7.46
	MW-1	7/24/2013	122	9:22	purge end time		

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Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Third Quarter 2013 (cont.)	MW-2	7/23/2013	25	10:10	30.01	0.469	7.55
	MW-2	7/23/2013	50	10:15	30.54	0.466	7.53
	MW-2	7/23/2013	75	10:20	31.16	0.464	7.52
	MW-2	7/23/2013	110	10:27	31.75	0.462	7.52
	MW-2	7/23/2013	110	10:27	purge end time		
	MW-3	7/23/2013	25	6:05	28.80	0.378	6.06
	MW-3	7/23/2013	50	6:10	28.83	0.345	6.58
	MW-3	7/23/2013	65	6:13	well went dry		
	MW-3	7/24/2013	85	6:41	purge end time		
	MW-4	7/23/2013	10	7:10	29.93	0.355	7.37
	MW-4	7/23/2013	20	7:15	28.76	0.453	7.26
	MW-4	7/23/2013	22	7:16	well went dry		
	MW-4	7/24/2013	30	7:34	purge end time		
	MW-5	7/19/2013	17	10:10	28.92	0.357	6.95
	MW-5	7/19/2013	44	10:15	29.57	0.349	7.10
	MW-5	7/19/2013	72	10:20	29.35	0.347	7.11
	MW-5	7/19/2013	99	10:25	29.69	0.344	7.07
	MW-5	7/19/2013	127	10:30	29.79	0.343	7.07
	MW-5	7/19/2013	154	10:35	29.72	0.342	7.09
	MW-5	7/19/2013	171	10:38	purge end time		
	MW-6	7/23/2013	20	8:50	30.43	0.468	7.29
	MW-6	7/23/2013	36	8:54	well went dry		
	MW-6	7/24/2013	56	8:20	purge end time		
	MW-7	7/24/2013	28	10:55	28.60	0.368	7.65
	MW-7	7/24/2013	83	11:05	30.07	0.367	7.70
	MW-7	7/24/2013	138	11:15	29.44	0.367	7.70
	MW-7	7/24/2013	193	11:25	29.41	0.366	7.70
	MW-7	7/24/2013	193	11:25	purge end time		
	MW-8	7/16/2013	15	7:33	28.52	0.291	8.17
	MW-8	7/16/2013	40	7:38	29.10	0.245	8.66
	MW-8	7/16/2013	65	7:43	29.46	0.248	8.58
	MW-8	7/16/2013	75	7:45	well went dry		
	MW-8	7/17/2013	100	8:20	purge end time		
	MW-9	7/17/2013	25	6:02	28.81	0.472	7.34
	MW-9	7/17/2013	75	6:12	28.65	0.479	7.20
	MW-9	7/17/2013	125	6:22	28.69	0.477	7.27
	MW-9	7/17/2013	175	6:32	28.71	0.475	7.27
	MW-9	7/17/2013	175	6:32	purge end time		
	MW-10	7/16/2013	20	11:54	33.09	0.406	7.35
	MW-10	7/16/2013	40	11:58	31.33	0.401	7.21
	MW-10	7/16/2013	60	12:02	31.05	0.406	7.20
	MW-10	7/16/2013	70	12:04	well went dry		
	MW-10	7/17/2013	95	11:43	purge end time		

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Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Third Quarter 2013 (cont.)	MW-11	7/16/2013	14	14:32	27.98	0.573	6.94
	MW-11	7/16/2013	49	14:37	28.25	0.575	7.02
	MW-11	7/16/2013	84	14:42	28.29	0.577	7.04
	MW-11	7/16/2013	119	14:47	28.32	0.578	7.13
	MW-11	7/16/2013	154	14:52	28.30	0.578	7.18
	MW-11	7/16/2013	189	14:57	28.30	0.578	7.21
	MW-11	7/16/2013	224	15:02	28.30	0.578	7.24
	MW-11	7/16/2013	245	15:05	purge end time		
	MW-12	7/16/2013	27	15:57	28.24	0.413	7.22
	MW-12	7/16/2013	203	16:10	29.10	0.412	7.50
	MW-12	7/16/2013	337	16:20	29.14	0.404	7.32
	MW-12	7/16/2013	473	16:30	29.16	0.401	7.32
	MW-12	7/16/2013	500	16:32	pump off to dump tank		
	MW-12	7/16/2013	527	17:05	28.97	0.400	7.40
	MW-12	7/16/2013	729	17:20	29.13	0.398	7.41
	MW-12	7/16/2013	797	17:25	29.16	0.398	7.41
	MW-12	7/16/2013	864	17:30	29.16	0.398	7.40
	MW-12	7/16/2013	918	17:34	purge end time		
	MW-13	7/18/2013	132	15:00	30.75	0.407	6.93
	MW-13	7/18/2013	462	15:30	30.35	0.407	6.86
	MW-13	7/18/2013	517	15:35	pump off to dump tank		
	MW-13	7/18/2013	539	16:06	30.11	0.413	6.97
	MW-13	7/18/2013	638	16:15	30.10	0.408	6.98
	MW-13	7/18/2013	693	16:20	30.00	0.408	6.97
	MW-13	7/18/2013	748	16:25	29.97	0.409	6.93
	MW-13	7/18/2013	803	16:30	30.01	0.410	6.96
	MW-13	7/18/2013	858	16:35	30.09	0.408	6.95
	MW-13	7/18/2013	880	16:37	purge end time		
	MW-14	7/16/2013	20	19:20	28.94	0.710	7.23
	MW-14	7/16/2013	70	19:25	28.89	0.709	7.24
	MW-14	7/16/2013	120	19:30	28.78	0.710	7.25
	MW-14	7/16/2013	135	19:35	28.79	0.710	7.27
	MW-14	7/16/2013	150	19:40	28.94	0.710	7.25
	MW-14	7/16/2013	180	19:50	well went dry		
	MW-14	7/17/2013	250	19:55	28.95	0.712	7.21
	MW-14	7/17/2013	300	20:00	28.95	0.713	7.21
	MW-14	7/17/2013	350	20:05	28.85	0.714	7.16
	MW-14	7/17/2013	370	20:07	purge end time		
	MW-15	7/16/2013	13	18:20	28.12	0.433	7.38
	MW-15	7/16/2013	76	18:30	28.33	0.428	7.42
	MW-15	7/16/2013	107	18:35	28.36	0.426	7.42
	MW-15	7/16/2013	139	18:40	28.37	0.434	7.42
	MW-15	7/16/2013	170	18:45	28.39	0.447	7.32
	MW-15	7/16/2013	202	18:50	28.40	0.448	7.29
	MW-15	7/16/2013	233	18:55	28.41	0.448	7.29
	MW-15	7/16/2013	252	18:58	purge end time		

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Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Third Quarter 2013 (cont.)	MW-16	7/17/2013	15	16:35	29.13	0.470	6.90
	MW-16	7/17/2013	465	17:35	29.78	0.478	7.18
	MW-16	7/17/2013	503	17:40	pump off to dump tank		
	MW-16	7/17/2013	525	18:15	29.46	0.467	7.26
	MW-16	7/17/2013	713	18:40	29.74	0.476	7.23
	MW-16	7/17/2013	750	18:45	29.77	0.475	7.22
	MW-16	7/17/2013	788	18:50	29.79	0.474	7.22
	MW-16	7/17/2013	825	18:55	29.80	0.473	7.22
	MW-16	7/17/2013	878	19:02	purge end time		
	MW-17	7/16/2013	20	8:46	29.79	0.358	7.46
	MW-17	7/16/2013	45	8:51	29.50	0.357	7.32
	MW-17	7/16/2013	70	8:56	29.14	0.397	7.29
	MW-17	7/16/2013	95	9:01	29.18	0.396	7.34
	MW-17	7/16/2013	120	9:06	29.27	0.393	7.37
	MW-17	7/16/2013	130	9:08	well went dry		
	MW-17	7/17/2013	155	10:37	purge end time		
	MW-18	7/16/2013	20	6:29	28.00	0.434	7.48
	MW-18	7/16/2013	45	6:34	28.04	0.435	7.58
	MW-18	7/16/2013	70	6:39	28.13	0.435	7.82
	MW-18	7/16/2013	90	6:43	well went dry		
	MW-18	7/17/2013	115	9:01	purge end time		
	MW-19	7/19/2013	36	12:30	28.85	0.414	7.17
	MW-19	7/19/2013	96	12:35	29.01	0.424	7.17
	MW-19	7/19/2013	156	12:40	29.02	0.425	7.16
	MW-19	7/19/2013	216	12:45	28.99	0.425	7.22
	MW-19	7/19/2013	240	12:47	purge end time		
	MW-20	7/19/2013	50	11:30	29.01	0.476	7.04
	MW-20	7/19/2013	100	11:35	29.04	0.478	7.00
	MW-20	7/19/2013	150	11:40	29.07	0.481	7.06
	MW-20	7/19/2013	200	11:45	29.10	0.483	7.05
	MW-20	7/19/2013	280	11:53	purge end time		
	MW-21	7/18/2013	26	13:42	29.56	0.350	6.81
	MW-21	7/18/2013	91	13:47	29.69	0.344	6.78
	MW-21	7/18/2013	156	13:52	29.77	0.341	6.88
	MW-21	7/18/2013	221	13:57	29.82	0.340	6.96
	MW-21	7/18/2013	286	14:02	29.82	0.339	6.99
	MW-21	7/18/2013	325	14:05	purge end time		
	PW-1	7/18/2013	58	11:04	29.84	0.425	6.99
	PW-1	7/18/2013	348	11:24	29.62	0.409	7.32
	PW-1	7/18/2013	508	11:35	pump off to dump tank		
	PW-1	7/18/2013	537	11:53	29.79	0.423	7.35
	PW-1	7/18/2013	827	12:13	29.79	0.424	7.33
	PW-1	7/18/2013	1117	12:33	29.77	0.426	7.36
	PW-1	7/18/2013	1262	12:43	29.85	0.427	7.34
	PW-1	7/18/2013	1334	12:48	29.74	0.427	7.33
	PW-1	7/18/2013	1407	12:53	29.85	0.428	7.33
	PW-1	7/18/2013	1479	12:58	29.86	0.428	7.34
	PW-1	7/18/2013	1581	13:05	purge end time		

Appendix G

2013 Field Data Summary

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Fourth Quarter 2013	MW-1	10/9/2013	43	13:10	28.68	0.365	7.36
	MW-1	10/9/2013	73	13:15	28.77	0.368	7.40
	MW-1	10/9/2013	104	13:20	28.92	0.367	7.42
	MW-1	10/9/2013	128	13:24	28.97	0.369	7.42
	MW-1	10/9/2013	140	13:26	purge end time		
	MW-2	10/9/2013	56	13:55	27.99	0.422	7.49
	MW-2	10/9/2013	96	14:00	28.11	0.420	7.50
	MW-2	10/9/2013	136	14:05	28.13	0.419	7.52
	MW-2	10/9/2013	176	14:10	28.06	0.419	7.52
	MW-2	10/9/2013	200	14:13	purge end time		
	MW-5	10/9/2013	28	12:20	28.48	0.375	7.46
	MW-5	10/9/2013	55	12:25	28.71	0.367	7.53
	MW-5	10/9/2013	82	12:30	28.75	0.364	7.55
	MW-5	10/9/2013	110	12:35	28.85	0.362	7.58
	MW-5	10/9/2013	138	12:40	28.83	0.361	7.58
	MW-5	10/9/2013	165	12:45	28.82	0.360	7.59
	MW-5	10/9/2013	181	12:48	purge end time		
	MW-6	10/8/2013	16	20:15	26.64	0.433	7.28
	MW-6	10/8/2013	42	20:20	27.44	0.436	7.30
	MW-6	10/8/2013	69	20:25	27.80	0.440	7.33
	MW-6	10/8/2013	74	20:26	well went dry		
	MW-6	10/9/2013	85	11:40	27.71	0.421	7.38
	MW-6	10/9/2013	111	11:45	28.42	0.429	7.42
	MW-6	10/9/2013	127	11:48	purge end time		
	MW-13	10/9/2013	69	9:50	29.00	0.423	7.40
	MW-13	10/9/2013	241	10:05	29.08	0.423	7.42
	MW-13	10/9/2013	379	10:17	pump off to dump tank		
	MW-13	10/9/2013	494	10:50	29.08	0.424	7.45
	MW-13	10/9/2013	552	10:55	29.14	0.425	7.45
	MW-13	10/9/2013	609	11:00	29.13	0.425	7.44
	MW-13	10/9/2013	667	11:05	29.21	0.425	7.45
	MW-13	10/9/2013	724	11:10	29.23	0.424	7.44
	MW-13	10/9/2013	759	11:13	purge end time		
	MW-19	10/9/2013	78	15:43	27.72	0.437	7.57
	MW-19	10/9/2013	155	15:48	27.81	0.444	7.57
	MW-19	10/9/2013	232	15:53	27.80	0.443	7.57
	MW-19	10/9/2013	279	15:56	purge end time		
	MW-20	10/9/2013	50	14:42	28.24	0.496	7.34
	MW-20	10/9/2013	100	14:47	28.30	0.497	7.38
	MW-20	10/9/2013	150	14:52	28.31	0.497	7.41
	MW-20	10/9/2013	200	14:57	28.22	0.498	7.42
	MW-20	10/9/2013	250	15:02	28.25	0.500	7.43
	MW-20	10/9/2013	300	15:07	28.19	0.498	7.44
	MW-20	10/9/2013	330	15:10	purge end time		
	MW-21	10/8/2013	70	19:20	27.79	0.368	7.24
	MW-21	10/8/2013	128	19:25	27.94	0.360	7.35
	MW-21	10/8/2013	186	19:30	27.99	0.359	7.36
	MW-21	10/8/2013	244	19:35	27.76	0.358	7.36
	MW-21	10/8/2013	302	19:40	27.73	0.357	7.36
	MW-21	10/8/2013	336	19:43	purge end time		

2013 Field Data Summary

UTC Aerospace Systems
Former UPCO Facility
Phoenix, Arizona

Quarter Sampled	Well ID	Date	Purge Volume (gallons)[a]	Time (HH:MM)	Temperature (°C)	Conductivity (µs/cm)	pH (SU)
Fourth Quarter 2013 (cont.)	PW-1	10/8/2013	210	16:45	28.90	0.431	7.74
	PW-1	10/8/2013	490	17:05	pump off to dump tank		
	PW-1	10/8/2013	700	17:30	28.90	0.453	7.65
	PW-1	10/8/2013	1050	17:55	pump off to dump tank		
	PW-1	10/8/2013	1120	18:20	28.93	0.452	7.64
	PW-1	10/8/2013	1190	18:25	28.94	0.453	7.64
	PW-1	10/8/2013	1260	18:30	28.95	0.454	7.63
	PW-1	10/8/2013	1330	18:35	28.95	0.454	7.63
	PW-1	10/8/2013	1372	18:38	purge end time		

Notes:
[a] = Calculated purge volumes are approximate
HH:MM = Hour : Minute
°C = Degrees Celsius
µs/cm = Microsiemen per centimeter
SU = Standard unit

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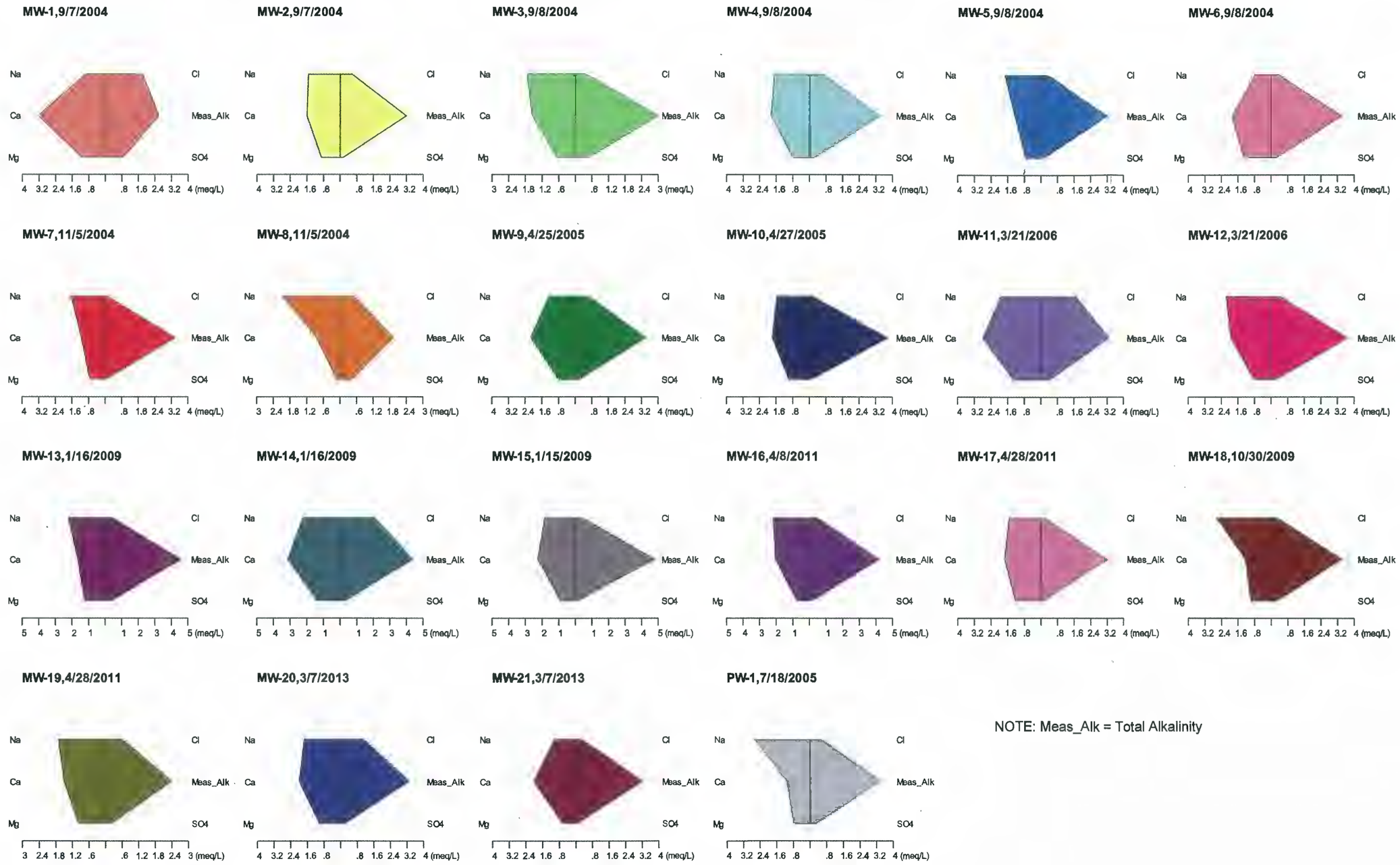
Appendix H

Piper and Stiff Diagrams



NOTE: Meas_Alk = Total Alkalinity

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PROJECT TITLE

UTC AEROSPACE SYSTEMS
FORMER UPCO FACILITY
PHOENIX, ARIZONA

PROJECT MANAGER	DEPT MANAGER	DESIGNER	CHECKED
M. NESKY	R. MONGRAIN	R. KOSCIOLEK	K. NOONAN
SHEET TITLE: 2013 ANNUAL MONITORING REPORT MONITOR WELL STIFF DIAGRAMS		PHASE/TASK NUMBER: .0003.00002	DRAWN BY: R. KOSCIOLEK
		PROJECT NUMBER: 03994018	DRAWING NUMBER: H-1

Acad Version : R18.1s (LMS Tech)
User Name : RKosciolek

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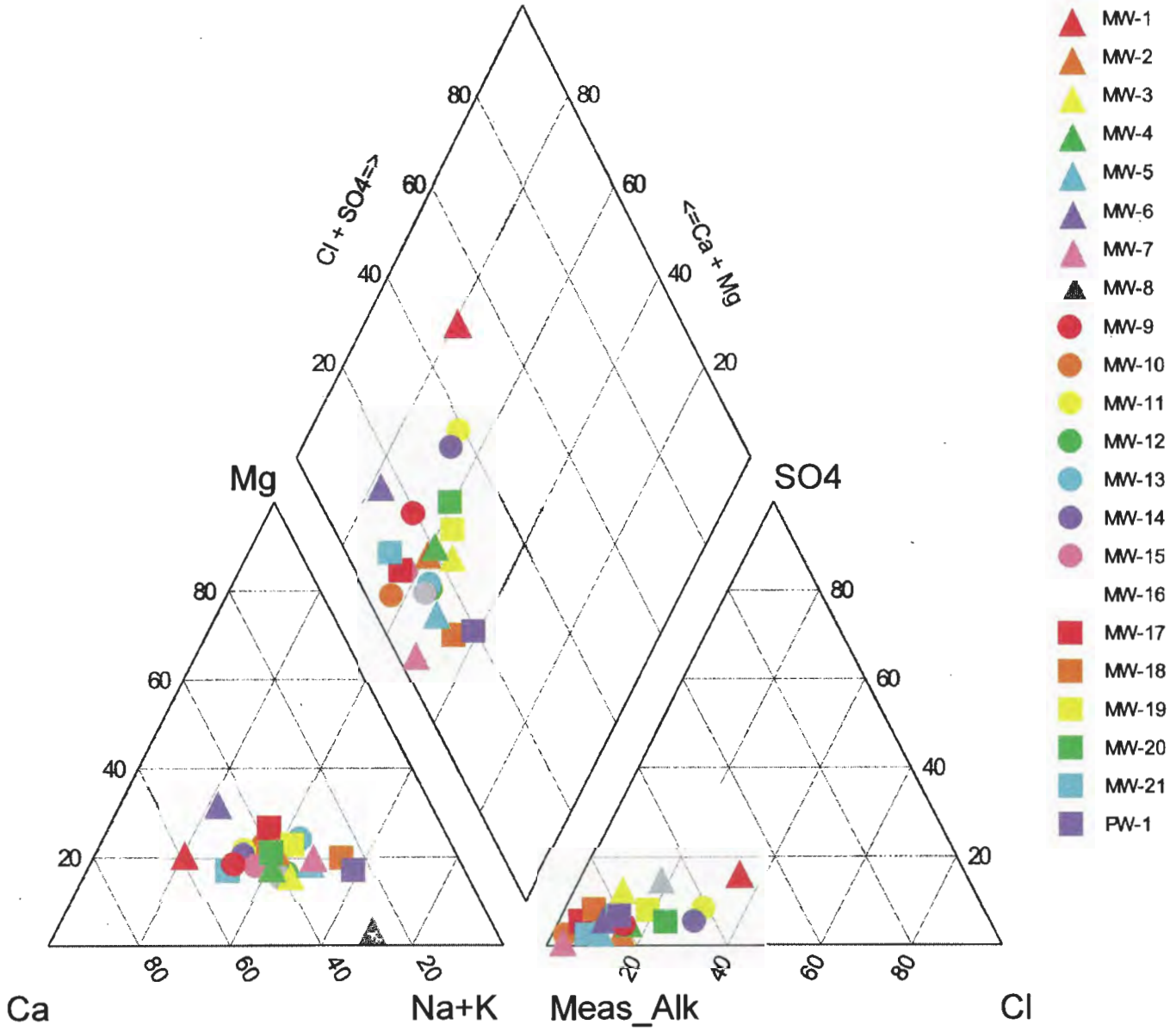

NOTE: Meas_Alk = Total Alkalinity

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	SHEET TITLE 2013 ANNUAL MONITORING REPORT MONITOR WELL PIPER DIAGRAM		PHASE/TASK NUMBER .0003.00002	DRAWN BY R. KOSCIOLEK
			PROJECT NUMBER 03994018	DRAWING NUMBER H-2

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Appendix I

2013 Data Verification Summaries

Data Verification Summary for Compliance Groundwater Monitoring Samples

1. Introduction

This summary presents data verification results for groundwater samples collected from Universal Propulsion Company, Inc. (UPCO) wells during the February and March 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (QAPP; Hargis + Associates, Inc. 2004), United States Environmental Protection Agency (USEPA) Functional Guidelines for Organic and Inorganic Data Review (USEPA 1999 and 2002), and quality assurance and control parameters set by the project laboratories (Accutest and TestAmerica).

A total of 22 groundwater samples were collected and submitted to Accutest for the following parameters:

- alkalinity by Standard Method 2320B;
- specific conductivity by Standard Method 2510B;
- total dissolved solids by Standard Method 2540C;
- perchlorate by USEPA Method 314.0;
- inorganics by USEPA Method 300.0;
- total metals by USEPA Methods 200.7, 200.8, and 245.1;
- 1,4-dioxane by USEPA Method 8260B; and
- volatile organic compounds (VOCs) by USEPA Method 8260B.

A total of 13 groundwater samples were collected and submitted to TestAmerica for perchlorate analysis by USEPA Method 332.0.

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

2. Quality Control Parameters Reviewed

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

- Chain-of-Custody;
- Sample preservation and Temperature Upon Laboratory Receipt;
- Holding Times;
- Blank Contamination (method blanks, trip blanks);
- Surrogate Recovery (for organic parameters);
- Laboratory Control Sample (LCS) Recovery and Relative Percent Difference (RPD);
- Serial Dilution Recovery;
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recovery and RPD; and
- Duplicates (lab and field duplicates).

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives (DQOs) 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 are 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.

Data that required qualification are listed in Table A-2.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. Samples were received at the correct temperature (4+2 degrees Celsius) at the project laboratory with the following exceptions:

- Samples that were collected on February 27, 2013 were received at TestAmerica at 0.6 degrees Celsius. The samples were not impacted by this temperature outlier.
- Samples that were collected on February 28, 2013 were received at TestAmerica at 1.4 degrees Celsius. The samples were not impacted by this temperature outlier.

- Samples that were collected on March 7, 2013 were received at Accutest at 1.6 degrees Celsius. The samples were not impacted by this temperature outlier.

2.3 Holding Times

Samples were extracted and analyzed within the holding time limits set by the respective USEPA methods, with the following exception:

- Samples MW-12 and MW-17 were analyzed for 1,4-dioxane one day outside of the holding time limit of 14 days. Data was qualified "UJ" to indicate a potential low bias.

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified in the project laboratory's QAPP. Target compounds were not detected in method blanks with the following exceptions:

- 1,4-dioxane was detected in the method blank associated with analytical batch VN1186 at 0.51 micrograms per liter (µg/L). Associated samples with results less than 10 times the method blank detection were qualified "J" to indicate a potential high bias.
- Alkalinity was detected in the method blank associated with analytical batch GN10268 at 1.6 milligrams per liter (mg/L). Associated sample results were greater than 10 times the method blank detection; therefore, data qualification was not required.
- Sulfate was detected in the method blank associated with analytical batch GP4729/GN10280 at 0.14 mg/L. Associated sample results were greater than 10 times the method blank detection; therefore, data qualification was not required.

2.4.2 Trip Blank

Trip blanks were analyzed at the appropriate frequency as specified in the Remedial Investigation Workplan Vol. II QAPP (Hargis + Associates, Inc. 2004). Target compounds were not detected in the trip blanks.

2.5 Surrogate Recovery

Surrogate recoveries for the organic analyses were within laboratory acceptance limits.

2.6 LCS Recovery and RPD

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 the 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 the 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".

LCS/LCS duplicate percent recoveries and RPDs were within acceptance limits.

2.7 Serial Dilution Recovery

Serial dilution recoveries were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for the serial dilution and the analyte was not detected in associated sample results, then the analyte results were qualified "UJ".
- If the analyte recovery was above acceptance limits for the serial dilution and the analyte was detected in associated sample results, then the analyte results were qualified "J".

Serial dilution percent recoveries were within acceptance limits with the following exceptions:

- The serial dilution recoveries associated with the analytical batch MA7919 were outside of acceptance limits for chromium, lead, and silver. Data qualification was not required for silver results because the original sample result was less than 50 times the instrument detection limit (IDL). Associated samples were qualified "J" and "UJ" for chromium and lead to indicate a potential bias.
- The serial dilution recoveries associated with the analytical batch MA7930 were outside of acceptance limits for chromium and lead. Data qualification was not required because the diluted sample was non-project specific (i.e., batch QC).
- The serial dilution recoveries associated with the analytical batch MA7966 were outside of acceptance limits for several metals. Data qualification was not required because the diluted sample was non-project specific (i.e., batch QC).

- The serial dilution recoveries associated with the analytical batches MA3043 and MA3058 were outside of acceptance limits for several metals. Data qualification was not required because the diluted sample was non-project specific (i.e., batch QC).

- The serial dilution recoveries associated with the analytical batches MA8014 and MA8020 were outside of acceptance limits for chromium, lead, selenium, and silver. Data qualification was not required for selenium and silver results because the original sample results were less than 50 times the IDL. Associated samples were qualified "J" and "UJ" for chromium and lead to indicate a potential bias.

2.8 MS/MSD Recovery and RPD

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

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.

- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then 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.

MS/MSD percent recoveries and RPDs were within acceptance limits except for the following:

- The MS and MSD percent recoveries associated with the analytical batch MA7930 were outside of acceptance limits for silver (64 percent, limits 70 to 130 percent). Data qualification was not required because the spiked sample was non project-specific (i.e., batch QC).

- The RPD associated with the analytical batch VR551 was outside of acceptance limits for styrene. Data qualification was not required because the spiked sample was non project-specific (i.e., batch QC).

- The MS and MSD percent recoveries associated with the analytical batch VV470 were outside of acceptance limits for styrene, vinyl acetate, tetrachloroethylene, and trichloroethene. Data qualification was not required because the spiked sample was non project-specific (i.e., batch QC).

- The MS and MSD percent recoveries associated with the analytical batch MP20065 were outside of acceptance limits for silver (33 and 34 percent, limits 70 to 130 percent). Associated samples were qualified "UJ" and "J" to indicate a potential low bias.

- The MS and MSD percent recoveries associated with the analytical batch 91409 were outside of acceptance limits for perchlorate (77 and 78 percent, limits 80 to 120 percent). Associated samples were qualified "J" to indicate a potential low bias.

2.9 Duplicates

2.9.1 Laboratory Duplicates

Laboratory duplicates are evaluated based on the acceptance limits set forth by the project laboratory's guidelines. Laboratory duplicates were performed at the appropriate frequencies for specific conductivity and total dissolved solids.

2.9.2 Field Duplicates

Two field duplicates were collected during this monitoring event and submitted for analysis. The RPDs between the field duplicates and their associated samples were calculated and are presented in Table A-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.

The field duplicates met acceptance criteria.

3. Completeness Summary

Two types of completeness were calculated for this project: contract and technical. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations were used to calculate the two types of completeness:

$$\%\ Contract\ Completeness = \left(\frac{Number\ of\ contract\ compliant\ results}{Number\ of\ reported\ results}\right) \times 100$$

$$\%\ Technical\ Completeness = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) \times 100$$

The overall contract completeness, which includes the evaluation of protocol and contract deviations, which includes the evaluation of the QC parameters listed in Section 2.0, was 98 percent. The technical completeness attained for this monitoring period was 100 percent. The completeness results are

provided in Table A-4. The results for the performance monitoring events were considered usable for the intended purposes and the project DQOs have been met.

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA540/R-99/008. October.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-7	C26450-1	2/27/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39459-1			
MW-18	C26450-2	2/27/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39459-2			
MW-8	C26450-3	2/27/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39459-3			
TRIP BLANK	C26450-4	2/27/2013	TB	VOCs, 1,4-dioxane
MW-12	C26501-1	2/28/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39846-1			
MW-17	C26501-2	2/28/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39846-2			
MW-3	C26501-3	3/1/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39846-3			
MW-15	C26501-4	3/1/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39846-4			
MW-16	C26501-5	3/1/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-39846-5			
TRIP BLANK	C26501-6	2/28/2013	TB	VOCs, 1,4-dioxane
TB030713A	C26568-1	3/7/2013	TB	VOCs
TB030713B	C26568-2	3/7/2013	TB	1,4-dioxane
MW-21	C26568-3	3/7/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity, alkalinity, chloride, nitrate, sulfate, total dissolved solids
MW-2	C26568-4	3/7/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
MW-20	C26568-5	3/7/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity, alkalinity, chloride, nitrate, sulfate, total dissolved solids
MW-19	C26568-6	3/7/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
FD030713	C26568-7	3/7/2013	FD of MW-20	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity, alkalinity, chloride, nitrate, sulfate, total dissolved solids
MW-11	C26573-1	3/4/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-40360-1			
MW-9	C26573-2	3/4/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-40360-2			
MW-4	C26573-3	3/5/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-40360-3			
MW-10	C26573-4	3/5/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-40360-4			
MW-14	C26573-5	3/5/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
	440-40360-5			
PW-1	C26573-6	3/5/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
TB030413A	C26573-7	3/4/2013	TB	VOCs
MW-6	C26573-8	3/6/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
MW-13	C26573-9	3/6/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
TB030413B	C26573-10	3/4/2013	TB	1,4-dioxane
FD030613	C26573-11	3/6/2013	FD of MW-5	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
MW-5	C26573-12	3/6/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity
MW-1	C26573-13	3/6/2013	N	VOCs, 1,4-dioxane, total metals, perchlorate, specific conductivity

Notes:
N = normal field sample
FD = field duplicate
TB = trip blank
VOCs = volatile organic compounds by EPA Method 8260B
Total metals = arsenic, barium, cadmium, chromium, iron, lead, magnesium, manganese, mercury, selenium, and silver
Samples MW-20, MW-21, and FD030713 were also analyzed for calcium, potassium, and sodium
Perchlorate = EPA Methods 314.0 and 332.0

Table A-2

Qualified Results

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Analyte	Result	Units	Data Qualifier	Comments
MW-12	1,4-Dioxane	<2.0	µg/L	UJ	Qualified due to holding time exceedance
MW-17	1,4-Dioxane	<2.0	µg/L	UJ	Qualified due to holding time exceedance
MW-2	1,4-Dioxane	2.5	µg/L	J	Qualified due to method blank detection
MW-20	1,4-Dioxane	14.2	µg/L	J	Qualified due to method blank detection
MW-21	1,4-Dioxane	2.1	µg/L	J	Qualified due to method blank detection
MW-10	Chromium	3.1	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-11	Chromium	2.1	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-13	Chromium	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-14	Chromium	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-18	Chromium	15.5	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-4	Chromium	2.1	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-5	Chromium	28.2	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-6	Chromium	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-7	Chromium	3.0	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-8	Chromium	22.4	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-9	Chromium	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
PW-1	Chromium	3.1	µg/L	J	Qualified due to serial dilution recovery exceedance
MW-10	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-11	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-13	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-14	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-18	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-4	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-5	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-6	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-7	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-8	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-9	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
PW-1	Lead	<2.0	µg/L	UJ	Qualified due to serial dilution recovery exceedance
MW-12	Perchlorate (314.0)	0.71	µg/L	J	Qualified due to low MS/MSD recoveries
MW-15	Perchlorate (314.0)	0.66	µg/L	J	Qualified due to low MS/MSD recoveries
MW-16	Perchlorate (314.0)	0.57	µg/L	J	Qualified due to low MS/MSD recoveries
MW-17	Perchlorate (314.0)	0.43	µg/L	J	Qualified due to low MS/MSD recoveries
MW-3	Perchlorate (314.0)	0.48	µg/L	J	Qualified due to low MS/MSD recoveries
MW-10	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-11	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-13	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-14	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-4	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-5	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-6	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
MW-9	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries
PW-1	Silver	<2.0	µg/L	UJ	Qualified due to low MS/MSD recoveries

Notes:
µg/L = micrograms per liter
J = estimated result
UJ = estimated detection limit
MS/MSD = matrix spike/matrix spike duplicate samples

Table A-3

Field Duplicate Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate	RL	Difference	RPD (%)
MW-20/ FD030713	**VOCs (µg/L)**					
	1,4-Dioxane	14.2	17.8	2.0	NA	23
	All Other VOCs	ND	ND	Varies	NC	NC
	Metals (µg/L)					
	Arsenic	7.0	6.8	4.0	0.2	NA
	Barium	93.1	92.2	2.0	NA	1.0
	Cadmium	<2.0	<2.0	2.0	NC	NC
	Calcium	39700	39400	5000	NA	<1.0
	Chromium	12	11.9	2.0	NA	<1.0
	Iron	<200	<200	200	NC	NC
	Lead	<2.0	2.0	2.0	NC	NC
	Magnesium	12600	12500	5000	100	NA
	Manganese	<15	<15	15	NC	NC
	Mercury	<0.20	<0.20	0.2	NC	NC
	Potassium	<10000	<10000	10000	NC	NC
	Selenium	<4.0	<4.0	4.0	NC	NC
	Silver	<2.0	<2.0	2.0	NC	NC
	Sodium	39600	38900	10000	700	NA
	General Chemistry (mg/L)					
	Alkalinity as CaCO3	166	166	5.0	NA	<1.0
	Specific Conductivity (umhos/cm)	456	462	1.0	NA	1.3
	Total Dissolved Solids	304	304	10	NA	<1.0
	Inorganics (mg/L)					
	Chloride	40.3	40.7	2.5	NA	1.0
	Nitrate	6.3	6.3	0.1	NA	<1.0
	Perchlorate (µg/L)	447	444	60	NA	<1.0
	Sulfate	11.4	11.3	0.5	NA	<1.0
MW-5/ FD030613	**VOCs (µg/L)**					
	1,4-Dioxane	<2.0	<2.0	2.0	NC	NC
	All Other VOCs	ND	ND	Varies	NC	NC
	Metals (µg/L)					
	Arsenic	9.6	9.5	4.0	0.1	NA
	Barium	52.9	52.5	2.0	NA	<1.0
	Cadmium	<2.0	<2.0	2.0	NC	NC
	Chromium	28.2	27.9	2.0	NA	1.1
	Iron	<200	<200	200	NC	NC
	Lead	<2.0	<2.0	2.0	NC	NC
	Magnesium	7920	7970	5000	50	NA
	Manganese	<15	<15	15	NC	NC
	Mercury	<0.20	<0.20	0.2	NC	NC
	Selenium	<4.0	<4.0	4.0	NC	NC
	Silver	<2.0	<2.0	2.0	NC	NC
	Others					
	Perchlorate (µg/L)	24.6	24.2	3.0	NA	1.6
	Specific Conductivity (umhos/cm)	330	328	1.0	NA	<1.0

Notes:
mg/L = milligrams per liter
NA = Not analyzed
ND = No analytes detected
NC = Not calculated
RL = reporting limit
RPD = Relative percent difference; [(difference)/(average)]*100
µg/L = micrograms per liter
VOCs = volatile organic compounds
Field duplicate RPD acceptance limits is 25 percent for results greater than 5 times the reporting limit; for results less than 5 times the reporting limit, the difference between sample and field duplicate results should be less than the reporting limit.

Table A-4

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Total Metals					
Arsenic	22	22	100	22	100
Barium	22	22	100	22	100
Cadmium	22	22	100	22	100
Calcium	3	3	100	3	100
Chromium	22	10[a]	45	22	100
Iron	22	22	100	22	100
Lead	22	10[a]	45	22	100
Magnesium	22	22	100	22	100
Manganese	22	22	100	22	100
Mercury	22	22	100	22	100
Potassium	3	3	100	3	100
Selenium	22	22	100	22	100
Silver	22	13[b]	59	22	100
Sodium	3	3	100	3	100
General Chemistry					
Alkalinity	2	2	100	2	100
Specific Conductivity	22	22	100	22	100
Total Dissolved Solids	2	2	100	2	100
Inorganics					
Chloride	2	2	100	2	100
Nitrate-N	2	2	100	2	100
Sulfate	2	2	100	2	100
Perchlorate (Method 314.0)	22	22	100	22	100
Perchlorate (Method 332.0)	13	8[b]	62	13	100
Organics					
VOCs	1474	1474	100	1474	100
1,4-Dioxane	22	17[c,d]	77	22	100
TOTAL	**1814**	**1771**	**98**	**1814**	**100**

Notes:
[a] Qualified due to serial dilution recoveries
[b] Qualified due to MS/MSD recoveries
[c] Qualified due to holding time exceedance
[d] Qualified due to method blank detection

Number of samples used in completeness calculations includes field samples, but not field duplicates or blanks
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
MS/MSD = matrix spike/matrix spike duplicate samples
SDL = serial dilution
VOCs = volatile organic compounds

Data Verification Summary for Perchlorate Comparison Private Well Samples

1. Introduction

This summary presents data verification results for private residential wells adjacent to Universal Propulsion Company, Inc. (UPCO) from the February 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (Hargis + Associates, Inc. 2004), United States Environmental Protection Agency (USEPA) Functional Guidelines for Inorganic Data Review (USEPA 2002), and quality assurance and control parameters set by the project laboratories (Accutest and TestAmerica).

A total of 12 groundwater samples were collected and submitted to Accutest for perchlorate analyses by USEPA Method 314.0. A total of 12 groundwater samples were collected and submitted to TestAmerica for perchlorate analyses by USEPA Method 332.0.

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

2. Quality Control Parameters Reviewed

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)/LCS duplicates;
- matrix spike/matrix spike duplicates (MS/MSD); and
- laboratory duplicates.

The data qualifiers used to qualify analytical results associated with QC parameters outside data quality objectives (DQOs) 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 are 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 USEPA guidelines.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. The samples were received by the laboratory at the correct temperature (4+2 degrees Celsius) with the following exception:

- Samples that were collected on February 26, 2013 were received at TestAmerica at 0.6 degrees Celsius. The samples were not impacted by this temperature outlier.

2.3 Holding Times

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

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified by the project laboratory. Target compounds were not detected in the method blanks.

2.5 LCS 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 Relative Percent Differences (RPDs) for the LCS/LCS duplicate were within acceptance limits.

2.6 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 is 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/MSD were within acceptance limits.

2.7 Duplicates

2.7.1 Laboratory Duplicates

Laboratory duplicates are evaluated based on the acceptance limits set forth by the project laboratory's guidelines. Laboratory duplicates were performed at the appropriate frequencies for perchlorate and were within acceptance limits.

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

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table B-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
16 E. Yearling	C26445-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39472-1	2/26/2013	N	Perchlorate by EPA Method 332.0
18 E. Yearling	C26444-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39458-1	2/26/2013	N	Perchlorate by EPA Method 332.0
204 E. Yearling	C26439-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39462-1	2/26/2013	N	Perchlorate by EPA Method 332.0
218 E. Yearling	C26438-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39479-1	2/26/2013	N	Perchlorate by EPA Method 332.0
412 E. Yearling	C26449-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39470-1	2/26/2013	N	Perchlorate by EPA Method 332.0
424 E. Yearling	C26448-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39467-1	2/26/2013	N	Perchlorate by EPA Method 332.0
520 E. Yearling	C26447-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39477-1	2/26/2013	N	Perchlorate by EPA Method 332.0
604 E. Yearling	C26440-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39478-1	2/26/2013	N	Perchlorate by EPA Method 332.0
8 W. Yearling	C26443-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39471-1	2/26/2013	N	Perchlorate by EPA Method 332.0
122 W. Yearling	C26441-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39460-1	2/26/2013	N	Perchlorate by EPA Method 332.0
106 W. Yearling	C26442-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39475-1	2/26/2013	N	Perchlorate by EPA Method 332.0
25825 N. 1st Place	C26446-1	2/26/2013	N	Perchlorate by EPA Method 314.0
	440-39466-1	2/26/2013	N	Perchlorate by EPA Method 332.0

Notes:
N = Normal sample

Table B-2

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Inorganics					
Perchlorate (Method 314.0)	12	12	100	12	100
Perchlorate (Method 332.0)	12	12	100	12	100
TOTALS	**24**	**24**	**100**	**24**	**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

Data Verification Summary for Compliance Groundwater Monitoring Samples

1. Introduction

This summary presents data verification results for groundwater samples collected from Universal Propulsion Company, Inc. (UPCO) wells during the May 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (QAPP; Hargis + Associates, Inc. 2004), United States Environmental Protection Agency (USEPA) Functional Guidelines for Organic and Inorganic Data Review (USEPA 1999 and 2002), and quality assurance and control parameters set by the project laboratory, Accutest Laboratories, Inc. (Accutest).

A total of nine groundwater samples were collected and submitted to Accutest for the following parameters:

- Perchlorate by USEPA Method 314.0;
- 1,4-Dioxane by USEPA Method 8260B; and
- Volatile organic compounds (VOCs) by USEPA Method 8260B.

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

2. Quality Control Parameters Reviewed

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

- Chain-of-Custody;

- Sample preservation and Temperature Upon Laboratory Receipt;
- Holding Times;
- Blank Contamination (method blanks, trip blanks);
- Surrogate Recovery (for organic parameters);
- Blank Spike/Blank Spike Duplicate (BS/BSD) Recovery and Relative Percent Difference (RPD);
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recovery and RPD; and
- Duplicates (field duplicates).

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives (DQOs) 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 are 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 USEPA guidelines.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. Samples were received at the correct temperature (4+2 degrees Celsius) at the project laboratory.

2.3 Holding Times

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

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified in the project laboratory's QAPP. Target compounds were not detected in method blanks.

2.4.2 Trip Blank

Trip blanks were analyzed at the appropriate frequency as specified in the Remedial Investigation Workplan Vol. II QAPP (Hargis + Associates, Inc. 2004). Target compounds were not detected in the trip blanks.

2.5 Surrogate Recovery

Surrogate recoveries for the organic analyses were within laboratory acceptance limits.

2.6 BS/BSD Recovery and RPD

BS/BSD recoveries were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for the BS or BSD, 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 the BS or BSD 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 BS or BSD 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".

BS/BSD percent recoveries and RPDs were within acceptance limits.

2.7 MS/MSD Recovery and RPD

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

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.
- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then 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.

MS/MSD percent recoveries and RPDs were within acceptance limits.

2.8 Duplicates

2.8.1 Field Duplicates

One field duplicate was collected during this monitoring event and submitted for analysis. The RPDs between the field duplicate and the associated sample were calculated and are presented in Table A-2. 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.

The field duplicate met acceptance criteria.

3. Completeness Summary

Two types of completeness were calculated for this project: contract and technical. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations were used to calculate the two types of completeness:

$$\%\ Contract\ Completeness = \left(\frac{Number\ of\ contract\ compliant\ results}{Number\ of\ reported\ results}\right) \times 100$$

$$\%\ Technical\ Completeness = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) \times 100$$

The overall contract completeness, which includes the evaluation of protocol and contract deviations, which includes the evaluation of the QC parameters listed in Section 2.0, was 100 percent. The technical completeness attained for this monitoring period was 100 percent. The completeness results are provided in Table A-3. The results for the performance monitoring events were considered usable for the intended purposes and the project DQOs have been met.

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA540/R-99/008. October.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-21	C26450-1	5/1/2013	N	Perchlorate
MW-13	C26450-2	5/1/2013	N	Perchlorate
MW-5	C26450-3	5/1/2013	N	Perchlorate
MW-2	C26450-4	5/1/2013	N	Perchlorate
PW-1	C26501-1	5/2/2013	N	Perchlorate
MW-1	C26501-2	5/2/2013	N	Perchlorate
MW-20	C26501-3	5/2/2013	N	VOCs, 1,4-Dioxane, Perchlorate
FD050213	C26501-4	5/2/2013	FD of MW-20	VOCs, 1,4-Dioxane, Perchlorate
MW-19	C26501-5	5/3/2013	N	Perchlorate
MW-6	C26501-6	5/3/2013	N	Perchlorate
TB050213-A/B	C26568-1	5/2/2013	TB	VOCs, 1,4-Dioxane

Notes:
N = normal field sample
FD = field duplicate
TB = trip blank
VOCs = volatile organic compounds by EPA Method 8260B
Perchlorate = EPA Method 314.0

Table A-2

Field Duplicate Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate	RL	Difference	RPD (%)
MW-20/ FD050213	VOCs (µg/L)					
	1,1-Dichloroethylene	0.50	<0.50	0.50	NC	NA
	1,4-Dioxane	12.2	12.4	2.0	NA	1.6
	All Other VOCs	ND	ND	Varies	NC	NC
	Inorganics (µg/L)					
	Perchlorate	417	428	60	NA	2.6

Notes:
NA = Not analyzed
ND = No analytes detected
NC = Not calcutated
RL = reporting limit
RPD = Relative percent difference; [(difference)/(average)]*100
µg/L = micrograms per liter
VOCs = volatile organic compounds
Field duplicate RPD acceptance limits is 25 percent for results greater than 5 times the reporting limit; for results less than 5 times the reporting limit, the difference between sample and field duplicate results should be less than the reporting limit.

Table A-3

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Organics					
VOCs	67	67	100	67	100
1,4-Dioxane	1	1	100	1	100
Inorganics					
Perchlorate (Method 314.0)	9	9	100	9	100
TOTAL	77	77	100	77	100

Notes:
Number of samples used in completeness calculations includes field samples, but not field duplicates or blanks
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
MS/MSD = matrix spike/matrix spike duplicate samples s A1
SDL = serial dilution
VOCs = volatile organic compounds

Data Verification Summary for Soil-Vapor Monitoring Well (SVMW-1)

1. Introduction

This summary presents data verification results for soil-gas samples collected from the soil-vapor monitoring well (SVMW-1) at Universal Propulsion Company, Inc. (UPCO) during the May 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (QAPP; Hargis + Associates, Inc. 2004), United States Environmental Protection Agency (USEPA) Functional Guidelines for Organic Data Review (USEPA 1999), and quality assurance and control parameters set by the project laboratory, Air Toxics Ltd. (Air Toxics).

A total of four soil-gas samples were collected and submitted to Air Toxics for the following parameters:

- Volatile organic compounds (VOCs) by USEPA Method TO-15.

Additionally, one field quality assurance sample (field duplicate) was collected and analyzed as part of the sampling program. Table B-1 lists the samples and associated analytical parameters.

2. Quality Control Parameters Reviewed

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

- Chain-of-Custody;
- Sample preservation and Temperature Upon Laboratory Receipt;
- Holding Times;
- Blank Contamination (method blanks, trip blanks);

- Surrogate Recovery (for organic parameters);
- Laboratory Control Sample (LCS) Recovery and Relative Percent Difference (RPD);
- Calibration Verification Recovery; and
- Duplicates (field duplicates).

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives (DQOs) 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 are 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 USEPA guidelines.

Results from this monitoring event that required data qualification are provided in Table B-2.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. Samples were received at the correct temperature (ambient) at the project laboratory.

2.3 Holding Times

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

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified in the project laboratory's QAPP. Target compounds were not detected in method blanks.

2.4.2 Common Laboratory Contaminants

Per USEPA guidelines, common laboratory contaminants for VOC analysis are acetone, 2-butanone (MEK), cyclohexane, and methylene chloride. Analytical results are qualified if the detected sample concentration is less than 10 times the method reporting limit. Common lab contaminant compounds were detected in the samples and were qualified "J" to indicate a potential bias.

2.5 Surrogate Recovery

Surrogate recoveries for the organic analyses were within laboratory acceptance limits.

2.6 LCS Recovery and RPD

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

- If the analyte recovery was above acceptance limits for the 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 the 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".

LCS/LCS duplicate percent recoveries and RPDs were within acceptance limits.

2.7 Duplicates

2.7.1 Field Duplicates

One field duplicate was collected during this monitoring event and submitted for analysis. The RPDs between the field duplicate and the associated sample were calculated and are presented in Table B-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.

The field duplicate met acceptance criteria.

3. Completeness Summary

Two types of completeness were calculated for this project: contract and technical. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations were used to calculate the two types of completeness:

$$\%\ Contract\ Completeness = \left(\frac{Number\ of\ contract\ compliant\ results}{Number\ of\ reported\ results}\right) \times 100$$

$$\%\ Technical\ Completeness = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) \times 100$$

The overall contract completeness, which includes the evaluation of protocol and contract deviations, which includes the evaluation of the QC parameters listed in Section 2.0, was 97 percent. The technical completeness attained for this monitoring period was 100 percent. The completeness results are provided in Table B-4. The results for the performance monitoring events were considered usable for the intended purposes and the project DQOs have been met.

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA540/R-99/008. October.

Table B-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
SVMW-1-30-40	1305244-01	5/7/2013	N	VOCs
SVMW-1-90-100	1305244-02	5/7/2013	N	VOCs
SVMW-1-140-150	1305244-03	5/7/2013	N	VOCs
SVMW-1-190-200	1305244-04	5/7/2013	N	VOCs
FD050713	1305244-05	5/7/2013	FD of SVMW-1-90-100	VOCs

Notes:
N = normal field sample
FD = field duplicate
VOCs = volatile organic compounds by EPA Method TO-15

Table B-2

Qualified Results

Universal Propulsion Company, Inc.
Phoenix, AZ

Sample ID	Analyte	Result	Units	Data Qualifier	Comments
SVMW-1-30-40	Acetone	68	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-30-40	2-Butanone	30	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-140-150	Acetone	42	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-140-150	2-Butanone	15	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-140-150	Cyclohexane	2.5	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-190-200	Acetone	28	ppbv	J	Qualified due to common laboratory contaminant
SVMW-1-190-200	2-Butanone	8.7	ppbv	J	Qualified due to common laboratory contaminant

Notes:
ppbv = parts per billion by volume
J = estimated result

Table B-3

Field Duplicate Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate	RL	Difference	RPD (%)
SVMW-1-90-100/ FD050713	**VOCs (ppbv)**					
	Ethanol	37	37	4.6	NA	<1.0
	1,1-Dichloroethene	4.6	5.3	1.2	0.7	NA
	Acetone	140	140	12	NA	<1.0
	Hexane	2.5	2.5	1.2	0.0	NA
	2-Butanone	78	75	4.6	NA	3.9
	Tetrahydrofuran	2.6	2.1	1.2	0.5	NA
	2,2,4-Trimethylpentane	4.2	4	1.2	0.2	NA
	Benzene	2.1	2.3	1.2	0.2	NA
	Heptane	1.8	1.7	1.2	0.1	NA
	Toluene	16	16	1.2	NA	<1.0
	Tetrachloroethene	1.2	1.6	1.2	0.4	NA
	2-Hexanone	7.9	8.8	4.6	0.9	NA
	Ethyl benzene	3	3.2	1.2	0.2	NA
	m,p-xylene	9.5	9.3	1.2	NA	2.1
	o-xylene	3.2	3.1	1.2	0.1	NA
	4-Ethyltoluene	1.7	1.6	1.2	0.1	NA
	1,2,4-Trimethylbenzene	2.2	2.2	1.2	0.0	NA
	Butane	8.4	7.6	4.6	0.8	NA
	All Other VOCs	ND	ND	Varies	NC	NC

Notes:
NA = Not analyzed
ND = No analytes detected
NC = Not calculated
RL = reporting limit
RPD = Relative percent difference; [(difference)/(average)]*100
ppbv = parts per billion by volume
VOCs = volatile organic compounds
Field duplicate RPD acceptance limits is 25 percent for results greater than 5 times the reporting limit; for results less than 5 times the reporting limit, the difference between sample and field duplicate results should be less than the reporting limit.

Table B-4

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Organics					
Acetone	4	1[a]	75	4	100
2-Butanone	4	1[a]	75	4	100
Cyclohexane	4	3[a]	75	4	100
All Other VOCs	240	240	100	240	100
TOTAL	**252**	**245**	**97**	**252**	**100**

a = qualified due to common laboratory contaminant

Notes:
Number of samples used in completeness calculations includes field samples, but not field duplicates or blanks.
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
MS/MSD = matrix spike/matrix spike duplicate samples
SDL = serial dilution
VOCs = volatile organic compounds

Data Verification Summary for Compliance Groundwater Monitoring Samples

1. Introduction

This summary presents data verification results for groundwater samples collected from Universal Propulsion Company, Inc. (UPCO) wells during the July 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (QAPP; Hargis + Associates, Inc. 2004), U.S. Environmental Protection Agency (USEPA) Functional Guidelines for Organic and Inorganic Data Review (USEPA 1999 and 2002), and quality assurance and control parameters set by the project laboratories (Accutest Laboratories, Inc. [Accutest] and Test America, Inc. [Test America]).

A total of 22 groundwater samples were collected and submitted to Accutest for the following parameters:

- Perchlorate by USEPA Method 314.0;
- Total metals by USEPA Methods 200.7, 200.8, and 245.1;
- 1,4-Dioxane by USEPA Method 8260B; and
- Volatile organic compounds (VOCs) by USEPA Method 8260B.

A total of 13 groundwater samples were collected and submitted to Test America for perchlorate analysis by USEPA Method 332.0.

Additionally, 11 field quality assurance samples (i.e., field duplicates, field blanks, and trip blanks) were collected and analyzed as part of the sampling program. Table A-1 lists the samples and associated analytical parameters.

2. Quality Control Parameters Reviewed

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

- Chain-of-custody;
- Sample preservation and temperature upon laboratory receipt;
- Holding times;
- Blank contamination (method blanks, trip blanks, and field blanks);
- Surrogate recovery (for organic parameters);
- Laboratory control sample (LCS) recovery and relative percent difference (RPD);
- Serial dilution recovery;
- Matrix spike/matrix spike duplicate (MS/MSD) recovery and RPD; and
- Duplicates (field duplicates).

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives (DQOs) 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 are 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 USEPA guidelines.

The sample results did not require any data qualification.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. Samples were received at the correct temperature (4+2 degrees Celsius) at the project laboratory with the following exception:

- Samples that were collected on July 16 and 17, 2013 were received at Test America at 1.6 degrees Celsius. The samples were not impacted by this temperature outlier.

2.3 Holding Times

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

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified in the project laboratory's QAPP. Target compounds were not detected in method blanks.

2.4.2 Trip Blank

Trip blanks were analyzed at the appropriate frequency as specified in the Remedial Investigation Workplan Vol. II QAPP (Hargis + Associates, Inc. 2004). Target compounds were not detected in the trip blanks.

2.4.3 Field Blank

Field blanks were analyzed at the appropriate frequency as requested by United Technologies Corporation (UTC) Aerospace Systems. Target compounds were not detected in the trip blanks.

2.5 Surrogate Recovery

Surrogate recoveries for the organic analyses were within laboratory acceptance limits.

2.6 LCS Recovery and RPD

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 the 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 the 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".

LCS/LCS duplicate percent recoveries and RPDs were within acceptance limits.

2.7 Serial Dilution Recovery

Serial dilution recoveries were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for the serial dilution and the analyte was not detected in associated sample results, then the analyte results were qualified "UJ".

- If the analyte recovery was above acceptance limits for the serial dilution and the analyte was detected in associated sample results, then the analyte results were qualified "J".

Serial dilution percent recoveries were within acceptance limits with the following exceptions:

- The serial dilution recoveries associated with the analytical batch MP6476 were outside of acceptance limits for iron and manganese. Data qualification was not required for results because the original sample result was less than 50 times the instrument detection limit.

2.8 MS/MSD Recovery and RPD

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

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.

- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then 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.

MS/MSD percent recoveries and RPDs were within acceptance limits except for the following:

- The MS and MSD percent recoveries associated with the analytical batch MP6476 were outside of acceptance limits for magnesium (140 percent and 180 percent, limits 70 to 130 percent). Data qualification was not required because the original sample concentration was greater than four times the spiked concentration.
- The MS and MSD percent recoveries associated with the analytical batch MP6490 were outside of acceptance limits for mercury (48.3 percent and 53.3 percent, limits 70 to 130 percent). Data qualification was not required because the spiked sample was non project-specific (i.e., batch QC).

2.9 Duplicates

2.9.1 Field Duplicates

Two field duplicates were collected during this monitoring event and submitted for analysis. The RPDs between the field duplicates and their associated samples were calculated and are presented in Table A-2. 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.

The field duplicates met acceptance criteria.

3. Completeness Summary

Two types of completeness were calculated for this project: contract and technical. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations were used to calculate the two types of completeness:

$$\%\ Contract\ Completeness = \left(\frac{Number\ of\ contract\ compliant\ results}{Number\ of\ reported\ results}\right) \times 100$$

$$\%\ Technical\ Completeness = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) \times 100$$

The overall contract completeness, which includes the evaluation of protocol and contract deviations, which includes the evaluation of the QC parameters listed in Section 2.0, was 100 percent. The technical completeness attained for this monitoring period was 100 percent. The completeness results are provided in Table A-3. The results for the performance monitoring events were considered usable for the intended purposes and the project DQOs have been met.

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA540/R-99/008. October.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-9	440-52132-1	7/17/2013	N	Perchlorate (332)
	C28799-1			Perchlorate (314)
MW-8	440-52132-2	7/17/2013	N	Perchlorate (332)
	C28799-2			Total Metals, Perchlorate (314)
FD-071713MS	440-52132-3	7/17/2013	FD	Perchlorate (332)
	C28799-3			Total Metals, Perchlorate (314)
MW-18	440-52132-4	7/17/2013	N	Perchlorate (332)
	C28799-4			Total Metals, Perchlorate (314)
MW-17	440-52132-5	7/17/2013	N	Perchlorate (332)
	C28799-5			Total Metals, Perchlorate (314)
MW-10	440-52132-6	7/17/2013	N	Perchlorate (332)
	C28799-6			Perchlorate (314)
TB-071713	440-52132-7	7/17/2013	TB	Perchlorate (332)
FB-071713MS	440-52132-8	7/17/2013	FB	Perchlorate (332)
FB-072313MS	440-52603-1	7/23/2013	FB	Perchlorate (332)
MW-3	440-52603-2	7/24/2013	N	Perchlorate (332)
	C28944-3			Perchlorate (314)
MW-4	440-52603-3	7/24/2013	N	Perchlorate (332)
	C28944-4			Perchlorate (314)
MW-7	440-52603-4	7/24/2013	N	Perchlorate (332)
	C28944-7			Perchlorate (314)
TB-072313MS	440-52603-5	7/23/2013	TB	Perchlorate (332)
FB071613-MT	440-52262-1	7/16/2013	FB	Perchlorate (332)
MW-11	440-52262-2	7/16/2013	N	Perchlorate (332)
	C28847-2			Perchlorate (314)
MW-12	440-52262-3	7/16/2013	N	Perchlorate (332)
	C28847-3			Perchlorate (314)
MW-15	440-52262-4	7/16/2013	N	Perchlorate (332)
	C28847-4			Perchlorate (314)
MW-16	440-52262-5	7/17/2013	N	Perchlorate (332)
	C28847-5			Perchlorate (314)
MW-14	440-52262-6	7/17/2013	N	Perchlorate (332)
	C28847-6			Perchlorate (314)
TB071613-MT	440-52262-7	7/16/2013	TB	Perchlorate (332)
	C28847-1			Perchlorate (314)
PW-1	C28847-7	7/18/2013	N	VOCs, 1,4-Dioxane, Perchlorate (314)
MW-21	C28847-8	7/18/2013	N	Perchlorate (314)
MW-13	C28847-9	7/18/2013	N	Perchlorate (314)
MW-5	C28847-10	7/19/2013	N	Perchlorate (314)
MW-20	C28847-11	7/19/2013	N	VOCs, 1,4-Dioxane, Perchlorate (314)

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
MW-19	C28847-12	7/19/2013	N	Perchlorate (314)
FD071913-MT	C28847-13	7/19/2013	FD	VOCs, 1,4-Dioxane, Perchlorate (314)
TB071913-MT-A	C28847-14	7/18/2013	TB	VOCs
TB071913-MT-B	C28847-15	7/18/2013	TB	VOCs
TB-072313MS	C28944-1	7/23/2013	TB	VOCs
MW-2	C28944-2	7/23/2013	N	VOCs, 1,4-Dioxane, Perchlorate (314)
MW-6	C28944-5	7/24/2013	N	Perchlorate (314)
MW-1	C28944-6	7/24/2013	N	VOCs, 1,4-Dioxane, Perchlorate (314)

Notes:

N = normal field sample

FB = field blank

FD = field duplicate

TB = trip blank

VOCs = volatile organic compounds by EPA Method 8260B

Total metals = arsenic, barium, cadmium, chromium, iron, lead, magnesium, manganese, mercury, selenium, and silver

Table A-2

Field Duplicate Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate	RL	RPD (%)	Difference
MW-20/ FD071913	VOCs (µg/L)					
	1,1-Dichloroethene	<0.50	0.55	0.50	NC	NC
	1,4-Dioxane	12.6	12.6	2.0	<1.0	NA
	All Other VOCs	ND	ND	Varies	NC	NC
	Others					
	Perchlorate (µg/L)	442	431	30	2.5	NA
MW-8/ FD071713MS	VOCs (µg/L)					
	1,4-Dioxane	12.6	12.6	2.0	<1.0	NA
	Metals (mg/L)					
	Arsenic	44.7	46.2	4.0	3.3	NA
	Barium	<2.0	<2.0	2.0	NA	NC
	Cadmium	<2.0	<2.0	2.0	NA	NC
	Chromium	22	22.4	2.0	1.8	NA
	Iron	216	216	200	NC	0
	Lead	<2.0	<2.0	2.0	NA	NC
	Magnesium	<5000	<5000	5000	NA	NC
	Manganese	<15	<15	15	NA	NC
	Mercury	<0.20	<0.20	0.2	NA	NC
	Selenium	<4.0	<4.0	4.0	NA	NC
	Silver	<2.0	<2.0	2.0	NA	NC
	Others					
	Perchlorate (µg/L)	3.0	<3.0	3.0	NC	NC

Notes:
mg/L = milligrams per liter
NA = Not analyzed
ND = No analytes detected
NC = Not calculated
RL = reporting limit
RPD = Relative percent difference; [(difference)/(average)]*100
µg/L = micrograms per liter
VOCs = volatile organic compounds
Field duplicate RPD acceptance limits is 25 percent for results greater than 5 times the reporting limit; for results less than 5 times the reporting limit, the difference between sample and field duplicate results should be less than the reporting limit.

Table A-3

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Total Metals					
Metals	42	42	100	42	100
Inorganics					
Perchlorate (Method 314.0)	22	22	100	22	100
Perchlorate (Method 332.0)	13	13	100	13	100
Organics					
VOCs	264	264	100	264	100
1,4-Dioxane	4	4	100	4	100
TOTAL	**345**	**345**	**100**	**345**	**100**

Notes:
Number of samples used in completeness calculations includes field samples, but not field duplicates or blanks.
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
VOCs = volatile organic compounds

Data Verification Summary for Perchlorate Comparison Private Well Samples

1. Introduction

This summary presents data verification results for private residential wells adjacent to Universal Propulsion Company, Inc. (UPCO) from the July 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (Hargis + Associates, Inc. 2004), U.S. Environmental Protection Agency (USEPA) Functional Guidelines for Inorganic Data Review (USEPA 2002), and quality assurance and control parameters set by the project laboratories (Accutest Laboratories, Inc. [Accutest] and Test America, Inc. [TestAmerica]).

A total of 12 groundwater samples were collected and submitted to Accutest for perchlorate analyses by USEPA Method 314.0. A total of 12 groundwater samples were collected and submitted to Test America for perchlorate analyses by USEPA Method 332.0.

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

2. Quality Control Parameters Reviewed

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)/LCS duplicates;
- Matrix spike/matrix spike duplicates (MS/MSD); and

- Laboratory duplicates.

The data qualifiers used to qualify analytical results associated with QC parameters outside data quality objectives (DQOs) 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 are 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 USEPA guidelines.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. The samples were received by the laboratory at the correct temperature (4+2 degrees Celsius).

2.3 Holding Times

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

2.4 Blank Contamination

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency as specified by the project laboratory. Target compounds were not detected in the method blanks.

2.5 LCS 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 Relative Percent Differences (RPDs) for the LCS/LCS duplicate were within acceptance limits.

2.6 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 is 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/MSD were within acceptance limits.

2.7 Duplicates

2.7.1 Laboratory Duplicates

Laboratory duplicates are evaluated based on the acceptance limits set forth by the project laboratory's guidelines. Laboratory duplicates were performed at the appropriate frequencies for perchlorate and were within acceptance limits.

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

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table B-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
16 E. Yearling	C28820-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52193-1	7/18/2013	N	Perchlorate by EPA Method 332.0
18 E. Yearling	C28821-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52194-1	7/18/2013	N	Perchlorate by EPA Method 332.0
204 E. Yearling	C28811-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52834-1	7/18/2013	N	Perchlorate by EPA Method 332.0
218 E. Yearling	C26438-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	C28822-1	7/18/2013	N	Perchlorate by EPA Method 332.0
412 E. Yearling	C28814-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52212-1	7/18/2013	N	Perchlorate by EPA Method 332.0
520 E. Yearling	C28817-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52192-1	7/18/2013	N	Perchlorate by EPA Method 332.0
604 E. Yearling	C28816-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52188-1	7/18/2013	N	Perchlorate by EPA Method 332.0
8 W. Yearling	C28815-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52185-1	7/18/2013	N	Perchlorate by EPA Method 332.0
106 W. Yearling	C28813	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52178-1	7/18/2013	N	Perchlorate by EPA Method 332.0
122 W. Yearling	C28812-1	7/18/2013	N	Perchlorate by EPA Method 314.1
	44052189-1	7/18/2013	N	Perchlorate by EPA Method 332.1
25825 N. 1st Place	C28819-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52208-1	7/18/2013	N	Perchlorate by EPA Method 332.0
25903 N. 1st Place	C28818-1	7/18/2013	N	Perchlorate by EPA Method 314.0
	440-52190-1	7/18/2013	N	Perchlorate by EPA Method 332.0

Notes:

N = Normal sample

Table B-2

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Inorganics					
Perchlorate (Method 314.0)	12	12	100	12	100
Perchlorate (Method 332.0)	12	12	100	12	100
TOTALS	24	24	100	24	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

Data Verification Summary for Compliance Groundwater Monitoring Samples

1. Introduction

This summary presents data verification results for groundwater samples collected from Universal Propulsion Company, Inc. (UPCO) wells during the October 2013 monitoring event. The data review was performed in accordance with the procedures specified in the Remedial Investigation Workplan Vol. II Quality Assurance Project Plan (QAPP; Hargis + Associates, Inc. 2004), U.S. Environmental Protection Agency (USEPA) Functional Guidelines for Organic and Inorganic Data Review (USEPA 1999 and 2002), and quality assurance and control parameters set by the project laboratories (Accutest Laboratories, Inc. [Accutest] and Test America, Inc. [Test America]).

A total of nine groundwater samples were collected and submitted to Accutest for perchlorate by USEPA Method 314.0.

Additionally, one field quality assurance sample (i.e. field duplicate) was collected and analyzed as part of the sampling program. Table A-1 lists the samples and associated analytical parameters.

2. Quality Control Parameters Reviewed

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

- Chain-of-custody;
- Sample preservation and temperature upon laboratory receipt;
- Holding times;
- Blank contamination (method blanks, trip blanks, and field blanks);
- Laboratory control sample (LCS) recovery and relative percent difference (RPD);

- Matrix spike/matrix spike duplicate (MS/MSD) recovery and RPD; and
- Duplicates (field duplicates).

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives (DQOs) 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 are 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 USEPA guidelines.

The sample results did not require any data qualification.

2.1 Chain-Of-Custody

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 Sample Preservation and Temperature upon Laboratory Receipt

Samples collected were received preserved and intact at the project laboratory. Samples were received at the correct temperature (4±2 degrees Celsius) at the project laboratory with the following exception:

- Samples that were collected on October 8 and October 9, 2013 were received at Accutest at 2.0 (observed)/0.5 (corrected) degrees Celsius. The samples were not impacted by this temperature outlier.

2.3 Holding Times

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

2.4 Blank Contamination

Method blanks were analyzed at the appropriate frequency as specified in the project laboratory's QAPP. Target compounds were not detected in method blanks.

2.5 LCS Recovery and RPD

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 the 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 the 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".

LCS/LCS duplicate percent recoveries and RPDs were within acceptance limits.

2.6 MS/MSD Recovery and RPD

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

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.
- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then 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.

MS/MSD percent recoveries and RPDs were within acceptance limits.

2.7 Duplicates

2.7.1 Field Duplicates

One field duplicate was collected during this monitoring event and submitted for analysis. The RPD between the field duplicate and its associated sample was calculated and is presented in Table A-2. The field duplicate was 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.

The field duplicate met acceptance criteria.

3. Completeness Summary

Two types of completeness were calculated for this project: contract and technical. Results indicated as not reportable by the laboratory are not included in the completeness calculations. The following equations were used to calculate the two types of completeness:

$$\%\ Contract\ Completeness = \left(\frac{Number\ of\ contract\ compliant\ results}{Number\ of\ reported\ results}\right) \times 100$$

$$\%\ Technical\ Completeness = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) \times 100$$

The overall contract completeness, which includes the evaluation of protocol and contract deviations, which includes the evaluation of the QC parameters listed in Section 2.0, was 100 percent. The technical completeness attained for this monitoring period was 100 percent. The completeness results are provided in Table A-3. The results for the performance monitoring events were considered usable for the intended purposes and the project DQOs have been met.

4. References

Hargis + Associates, Inc. 2004. Quality Assurance Project Plan, Goodrich Universal Propulsion Company, Inc. July 6.

USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA540/R-99/008. October.

USEPA. 2002. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA540/R-01/008. July.

Table A-1

Sampling and Analysis Schedule

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID	Lab ID	Collected	Sample Type	Parameters
PW-1	C30262-1	10/8/2013	N	Perchlorate (314.0)
MW-21	C30262-2	10/8/2013	N	Perchlorate (314.0)
MW-13	C30262-3	10/9/2013	N	Perchlorate (314.0)
MW-6	C30262-4	10/9/2013	N	Perchlorate (314.0)
MW-5	C30262-5	10/9/2013	N	Perchlorate (314.0)
MW-1	C30262-6	10/9/2013	N	Perchlorate (314.0)
MW-2	C30262-7	10/9/2013	N	Perchlorate (314.0)
MW-20	C30262-8	10/9/2013	N	Perchlorate (314.0)
MW-19	C30262-9	10/9/2013	N	Perchlorate (314.0)
FD100913	C30262-10	10/9/2013	FD of MW-20	Perchlorate (314.0)

Notes:
N = normal field sample
FD = field duplicate

Table A-2

Field Duplicate Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Sample ID / Field Duplicate ID	Parameters	Sample Result	Field Duplicate	RL	RPD (%)	Difference
MW-20/ FD100913	Perchlorate (314.0) (µg/L)					
	Perchlorate	419	427	3.00	1.9	NC

Notes:
NC = Not calculated
RL = reporting limit
RPD = Relative percent difference; [(difference)/(average)]*100
µg/L = micrograms per liter
Field duplicate RPD acceptance limits is 25 percent for results greater than 5 times the reporting limit; for results less than 5 times the reporting limit, the difference between sample and field duplicate results should be less than the reporting limit.

Table A-3

Completeness Summary

Universal Propulsion Company, Inc.
Phoenix, Arizona

Parameters	Total Number of Samples	Number in Contractual Compliance	Percent Contractual Compliance	Number of Usable Results	Percent Technical Compliance
Inorganics					
Perchlorate (Method 314.0)	10	10	100	10	100
TOTAL	10	10	100	10	100

Notes:
Number of samples used in completeness calculations includes field samples, but not field duplicates or blanks.
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

ARCADIS

Appendix J

2013 Laboratory Reports (on CD)