

FW: LOOK AHEAD - Aquifer Testing Report

Andress, Lane, NMENV



Wed 10/23/2019 4:43 PM

To: Allen, Pam, NMENV <pam.allen@state.nm.us>;

📎 11 attachments

Table 1-1 TransducerPlacement.xlsx; Table 1-02 Step test pumping well data_dtj.xlsx; Table 1-3 Observation Wells.docx; Table 1-4 Step Drawdown Test Obs Well Data.xlsx; Table 1-5 Constant rate test pumping well data.xlsx; Table 1-6 Constant Rate Test Observation Well Data_rev3.xlsx; Table 1-7 FieldChemistry.xlsx; Table 1-8 Aquifer Test Constant Rate Gw Sampling.xlsx; Table 1-9 Manganese Measurements.xlsx; Table 1-10 pH Measurements.xlsx; Table 3-1 Long Term Test Results_dtj.xlsx;

Pam,
Can you please add this email and attachments to the admin record?
Thanks,
Lane

Lane Andress, P.G.
NM Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

From: Cobrain, Dave, NMENV <dave.cobrain@state.nm.us>
Sent: Wednesday, October 23, 2019 4:02 PM
To: Andress, Lane, NMENV <Lane.Andress@state.nm.us>
Subject: FW: LOOK AHEAD - Aquifer Testing Report

Dave Cobrain
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East Bldg 1
Santa Fe, NM 87505-6313
Main Office Phone 505-476-6000
Direct Line 505-476-6055
Fax 505-476-6030

From: Kieling, John, NMENV <john.kieling@state.nm.us>
Sent: Tuesday, January 21, 2014 3:43 PM
To: Spalding, Susan <Spalding.Susan@epa.gov>; King, Laurie <king.laurie@epa.gov>; Hubner, Tara

KAFB4903



<Hubner.Tara@epa.gov>; Torcoletti, Paul <Torcoletti.Paul@epa.gov>; Ellinger, Scott <Ellinger.Scott@epa.gov>
Cc: Blaine, Tom, NMENV <Tom.Blaine@state.nm.us>; Cobrain, Dave, NMENV <dave.cobrain@state.nm.us>;
Reuter, Stephen, NMENV <stephen.reuter@state.nm.us>
Subject: RE: LOOK AHEAD - Aquifer Testing Report

Attached is Tables for the report.

This should be everything now with the one exception as indicated in the most recent e-mail.

From: Kieling, John, NMENV
Sent: Tuesday, January 21, 2014 9:29 AM
To: Spalding, Susan (Spalding.Susan@epa.gov); King, Laurie (king.laurie@epa.gov); Hubner, Tara (Hubner.Tara@epa.gov); 'Torcoletti, Paul'; Ellinger, Scott (Ellinger.Scott@epa.gov)
Cc: Blaine, Tom, NMENV (Tom.Blaine@state.nm.us); Cobrain, Dave, NMENV; Reuter, Stephen, NMENV
Subject: RE: LOOK AHEAD - Aquifer Testing Report

Appendix B – Transducer Logs and the Tables are not included at this time. We were unable to download these from CB&I portal. We have requested these be e-mailed to us.

From: Kieling, John, NMENV
Sent: Friday, January 17, 2014 2:50 PM
To: Spalding, Susan (Spalding.Susan@epa.gov); King, Laurie (king.laurie@epa.gov); Hubner, Tara (Hubner.Tara@epa.gov); Torcoletti, Paul; Ellinger, Scott (Ellinger.Scott@epa.gov)
Cc: Blaine, Tom, NMENV (Tom.Blaine@state.nm.us); Cobrain, Dave, NMENV; Reuter, Stephen, NMENV
Subject: FW: LOOK AHEAD - Aquifer Testing Report

Susan and others.

Attached is the Aquifer Test Report (in a draft form) regarding the Kirtland AFB fuel spill. I have ask the contractor to provide the appendices. Once we receive the appendices we will forward to EPA.

If you could please review and provide any comments on this document NMED would appreciate.

Thanks, John

John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505

(505) 476-6000 (HWB Main)
(505) 476-6030 (fax)
john.kieling@state.nm.us

From: Agnew, Diane [<mailto:diane.agnew@CBIFederalServices.com>]
Sent: Wednesday, January 15, 2014 12:01 PM

To: Blaine, Tom, NMENV; Kieling, John, NMENV; Cobrain, Dave, NMENV; Reuter, Stephen, NMENV
Cc: Amdurer, Mike; Cooper, Thomas; Hobbs, Rachel G; BITNER, LUDIE W JR GS-13 USAF AFMC 377 MSG/CEIR; CLARK, SCOTT C GS-12 USAF AFMC 377 MSG/CEIR (scott.clark@us.af.mil); john.m.mcbee@usace.army.mil
Subject: LOOK AHEAD - Aquifer Testing Report

Hello:

Please see attached for the "Look Ahead" copy of the Aquifer Testing Results Report. Due to the size of appendices, they are not included in this look ahead copy.

We are asking for feedback by **COB Monday, January 21, 2014.**

Please let me know if you have any edits or comments.

Diane



Diane Agnew
Project Manager
Environmental & Infrastructure Group
Tel: +1 505 262 8928
Cell: +1 505 615 4085
Fax: +1 505 262 8855
diane.agnew@cbifederaleservices.com

CB&I Federal Services
2440 Louisiana Blvd NE, Suite 300
Albuquerque, NM 87110
USA
www.CBI.com



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**Table 1-1
Initial Placement of Transducers in Observation Wells**

Well ID	Initial Depth to Water (ft bgs)	Initial Transducer Depth (ft below water)	Logging Start Time	Logging Interval (minutes)
KAFB-106032	458.91	17.57	10/18/2013 10:32	20
KAFB-106033	459.11	16.14	10/18/2013 10:32	20
KAFB-106034	459.92	16.14	10/18/2013 10:52	20
KAFB-106073	480.89	17.57	10/18/2013 11:32	20
KAFB-106074	482.10	16.22	10/21/2013 8:12	20
KAFB-106075	482.06	16.71	10/21/2013 8:32	20
KAFB-106082	476.72	16.58	10/18/2013 14:32	20
KAFB-106083	476.61	16.98	10/18/2013 15:12	20
KAFB-106084	476.84	16.38	10/18/2013 14:52	20
KAFB-10610	484.69	17.53	10/18/2013 12:12	20
KAFB-106157	463.28	21.72	10/18/2013 15:52	20
KAFB-10617	481.05	11.08	10/18/2013 13:52	20
KAFB-10618	474.67	15.45	10/18/2013 15:32	20

bgs - below ground surface

ID - identification

ft - foot/feet

Step-drawdown test pumping well data

Initial depth to water 482.25 ft. bgs
Initial water column height 62.75 ft
Transducer depth 36.18 ft below water
Pump depth 527 ft bgs

Date and Time	Transducer depth (ft below water)	Water Level (ft below top of sounding tube)	Flow meter (gallons)	Pumping rate (gpm)	
10/30/2013 8:18	21.36	485.65	149900	0	
10/30/2013 8:32	36.18	485.68	149900	0	Lower Transducer
10/30/2013 8:36	NR	NR	NR		Begin Test
10/30/2013 8:39	32.06	489.9	150060	50	
10/30/2013 9:06	30.41	491.5	151550	50	
10/30/2013 9:40	29.82	492.01	153260	50	
10/30/2013 10:08	29.5	492.35	154740	50	
10/30/2013 10:37	29.25	492.62	156310	50	Download and stop log
10/30/2013 10:39	NR	NR	NR		Increase to 100 gpm
10/30/2013 10:42	23.79	498.28	156790	100	
10/30/2013 11:10	21.89	499.95	159470	100	
10/30/2013 11:34	21.04	500.86	161940	100	
10/30/2013 12:06	20	501.88	165070	100	
10/30/2013 12:37	19.09	502.81	168130	100	
10/30/2013 12:39	NR	NR	NR		Download and stop log
10/30/2013 12:40	NR	NR	NR		Increase to 150 gpm
10/30/2013 12:45	8.01	513.29	169230	150	
10/30/2013 13:14	0.03	NR	173200	150	Reduce to 125 gpm
10/30/2013 13:19	0.02	NR	173850	125	Reduce to 110 gpm
10/30/2013 13:40	3.83	514.52	176140	110	
10/30/2013 14:07	1.35	520	179280	110	
10/30/2013 14:32	0.03	NR	NR	110	Reduce slightly to 90 gpm
10/30/2013 14:40	2.99	517.48	182590	90	Download and stop log
10/30/2013 14:43	NR	NR	182820	0	Begin Recovery
10/31/2013 9:50	36.04	NR	NR	0	Recovery
10/31/2013 16:12	36.15	NR	NR	0	Recovery ends, start new log

**Table 1-2
Step-Drawdown Test Pumping Well Data (Well KAFB-106157)**

Date and Time	Transducer Depth (ft below water)	Water Level (ft below top of sounding tube)	Flow Meter (gallons)	Pumping Rate (gpm)	Comments
10/30/2013 8:18	21.36	485.65	149900	0	
10/30/2013 8:32	36.18	485.68	149900	0	Lower Transducer
10/30/2013 8:36	NR	NR	NR		Begin Test
10/30/2013 8:39	32.06	489.9	150060	50	
10/30/2013 9:06	30.41	491.5	151550	50	
10/30/2013 9:40	29.82	492.01	153260	50	
10/30/2013 10:08	29.5	492.35	154740	50	
10/30/2013 10:37	29.25	492.62	156310	50	Download and stop log
10/30/2013 10:39	NR	NR	NR		Increase to 100 gpm
10/30/2013 10:42	23.79	498.28	156790	100	
10/30/2013 11:10	21.89	499.95	159470	100	
10/30/2013 11:34	21.04	500.86	161940	100	
10/30/2013 12:06	20	501.88	165070	100	
10/30/2013 12:37	19.09	502.81	168130	100	
10/30/2013 12:39	NR	NR	NR		Download and stop log
10/30/2013 12:40	NR	NR	NR		Increase to 150 gpm
10/30/2013 12:45	8.01	513.29	169230	150	
10/30/2013 13:14	0.03	NR	173200	150	Reduce to 125 gpm
10/30/2013 13:19	0.02	NR	173850	125	Reduce to 110 gpm
10/30/2013 13:40	3.83	514.52	176140	110	
10/30/2013 14:07	1.35	520	179280	110	
10/30/2013 14:32	0.03	NR	NR	110	Reduce slightly to 90 gpm
10/30/2013 14:40	2.99	517.48	182590	90	Download and stop log
10/30/2013 14:43	NR	NR	182820	0	Begin Recovery
10/31/2013 9:50	36.04	NR	NR	0	Recovery
10/31/2013 16:12	36.15	NR	NR	0	Recovery ends, start new log

bgs - below ground surface

ft - foot/feet

gpm - gallons per minute

KAFB - Kirtland Air Force Base

NR - Not Recorded

**Table 1-3
Aquifer Test Well Summary**

Well	NMED Location	Screen Interval (feet bgs)	Horizontal Distance from KAFB-106157 (feet)	Pumping Test Use
KAFB-106157	LNAPL Extraction	495-550	-	Pumping well (transducer)
KAFB-10610	Previously Existing	483-508	439	Observation Well (transducer)
KAFB-10617	Previously Existing	482-507	314	Observation Well (transducer)
KAFB-10618	Previously Existing	476-501	324	Observation Well (transducer)
KAFB-10620	Previously Existing	482-507	773	Observation Well (manual)
KAFB-106032	GWM-02-1	456-476	1439	Observation Well (transducer)
KAFB-106033	GWM-02-2	477-492	1463	Observation Well (transducer)
KAFB-106034	GWM-02-3	502-517	1429	Observation Well (transducer)
KAFB-106038	GWM-04-1	478-508	706	Observation Well (manual)
KAFB-106039	GWM-04-2	508-523	731	Observation Well (manual)
KAFB-106040	GWM-4	531-546	711	Observation Well (manual)
KAFB-106067	GWM-14-1	485-505	468	Observation Well (manual)
KAFB-106068	GWM-14-2	580-595	453	Observation Well (manual)
KAFB-106073	GWM-16-1	500-514	433	Observation Well (transducer)
KAFB-106074	GWM-16-2	570-584	453	Observation Well (transducer)
KAFB-106075	GWM-16-3	480-500	419	Observation Well (transducer)
KAFB-106082	GWM-19-1	472-492	172	Observation Well (transducer)
KAFB-106083	GWM-19-2	495-510	195	Observation Well (transducer)
KAFB-106084	GWM-19	566-581	198	Observation Well (transducer)
KAFB-106095	GWM-23-2	503-519	677	Observation Well (manual)
KAFB-106096	GWM-23-3	576-591	706	Observation Well (manual)

bgs below ground surface
LNAPL light non-aqueous phase liquid
NMED New Mexico Environment Department

**Table 1-4
Step-Drawdown Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-10610	Shallow	483-508	439	Transducer	10/30/2013 10:27	484.35
					10/30/2013 11:55	484.33
					10/30/2013 13:05	484.28
					10/31/2013 9:15	484.48
					10/31/2013 15:51	484.36
KAFB-10617	Shallow	482-507	314	Transducer	10/30/2013 9:00	480.75
					10/30/2013 10:50	480.77
					10/30/2013 13:33	480.70
					10/31/2013 9:23	480.87
					10/31/2013 16:05	480.78
KAFB-10618	Shallow	476-501	324	Transducer	10/30/2013 9:18	474.38
					10/30/2013 12:12	474.35
					10/30/2013 14:01	474.29
					10/31/2013 9:30	474.49
					10/31/2013 16:21	474.38
KAFB-10620	Shallow	482-507	773	Manual	10/30/2013 9:26	482.22
					10/30/2013 13:04	482.13
					10/30/2013 15:44	482.04
					10/31/2013 8:53	482.35
					10/31/2013 12:36	482.26
KAFB-106032	Shallow	456-476	1444	Transducer	10/30/2013 9:54	458.55
					10/30/2013 11:19	458.53
					10/30/2013 15:45	458.38
					10/31/2013 8:48	458.66
					10/31/2013 15:08	458.56
KAFB-106033	Intermediate	477-492	1444	Transducer	10/30/2013 9:50	458.75
					10/30/2013 11:25	458.72
					10/30/2013 15:42	458.57
					10/31/2013 8:40	458.85
					10/31/2013 15:01	458.75

**Table 1-4
Step-Drawdown Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106034	Deep	502-517	1444	Transducer	10/30/2013 9:57	459.54
					10/30/2013 11:22	459.52
					10/30/2013 15:35	459.37
					10/31/2013 8:44	459.64
					10/31/2013 15:13	459.54
KAFB-106038	Shallow	478-508	715	Manual	10/30/2013 9:42	490.00
					10/30/2013 13:18	490.00
					10/30/2013 15:57	489.99
					10/31/2013 9:06	490.04
					10/31/2013 13:00	490.03
KAFB-106039	Intermediate	508-523	715	Manual	10/30/2013 9:59	489.95
					10/30/2013 13:35	489.94
					10/30/2013 16:11	489.87
					10/31/2013 9:23	490.19
					10/31/2013 13:24	490.12
KAFB-106040	Deep	531-546	715	Manual	10/30/2013 9:49	488.89
					10/30/2013 13:28	488.76
					10/30/2013 16:04	488.72
					10/31/2013 9:16	489.02
					10/31/2013 13:17	488.95
KAFB-106067	Shallow	485-505	460	Manual	10/30/2013 8:57	488.99
					10/30/2013 12:39	488.96
					10/30/2013 15:32	488.98
					10/31/2013 8:25	489.07
					10/31/2013 12:26	489.05
KAFB-106068	Deep	580-595	460	Manual	10/30/2013 8:49	488.73
					10/30/2013 12:28	488.68
					10/30/2013 15:23	488.58
					10/31/2013 8:17	488.85
					10/31/2013 12:17	485.85

**Table 1-4
Step-Drawdown Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106073	Intermediate	500-514	435	Transducer	10/30/2013 10:18	480.50
					10/30/2013 11:45	480.47
					10/30/2013 12:57	480.42
					10/31/2013 9:06	480.59
					10/31/2013 15:35	480.50
KAFB-106074	Deep	570-584	435	Transducer	10/30/2013 10:21	481.73
					10/30/2013 11:48	481.70
					10/30/2013 12:59	481.70
					10/31/2013 9:02	481.83
					10/31/2013 15:30	481.73
KAFB-106075	Shallow	480-500	435	Transducer	10/30/2013 10:15	481.65
					10/30/2013 11:43	481.61
					10/30/2013 12:55	481.57
					10/31/2013 8:58	481.74
					10/31/2013 15:25	481.65
KAFB-106082	Shallow	472-492	185	Transducer	10/30/2013 9:29	476.44
					10/30/2013 12:17	476.46
					10/30/2013 14:57	476.41
					10/31/2013 9:40	476.54
					10/31/2013 16:30	NR ^a
KAFB-106083	Intermediate	495-510	185	Transducer	10/30/2013 9:34	476.36
					10/30/2013 12:19	476.37
					10/30/2013 15:02	476.30
					10/31/2013 9:44	476.46
					10/31/2013 16:30	NR ^a

**Table 1-4
Step-Drawdown Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106084	Deep	566-581	185	Transducer	10/30/2013 9:25	476.34
					10/30/2013 12:15	476.50
					10/30/2013 14:52	476.40
					10/31/2013 9:35	476.63
					10/31/2013 16:30	NR ^a
KAFB-106095	Intermediate	503-519	692	Manual	10/30/2013 8:25	485.58
					10/30/2013 12:16	485.53
					10/30/2013 15:11	485.49
					10/31/2013 8:06	485.81
					10/31/2013 12:05	485.77
KAFB-106096	Deep	576-591	692	Manual	10/30/2013 8:14	486.21
					10/30/2013 12:05	486.18
					10/30/2013 15:04	486.08
					10/31/2013 7:57	486.43
					10/31/2013 11:58	486.34

^a Active paving was occurring in the area of KAFB-106082, KAFB-106083, and KAFB-106084. For safety reasons, transducer values were not recorded at this time.

bgs - below ground surface

ft - foot/feet

ID - identification

KAFB - Kirtland Air Force Base

NR - Not Recorded

Well ID	Date and Time	depth to water (ft. bgs)
106020	10/30/2013 9:26	482.22
106020	10/30/2013 13:04	482.13
106020	10/30/2013 15:44	482.04
106020	10/31/2013 8:53	482.35
106020	10/31/2013 12:36	482.26
106038	10/30/2013 9:42	490
106038	10/30/2013 13:18	490
106038	10/30/2013 15:57	489.99
106038	10/31/2013 9:06	490.04
106038	10/31/2013 13:00	490.03
106039	10/30/2013 9:59	489.95
106039	10/30/2013 13:35	489.94
106039	10/30/2013 16:11	489.87
106039	10/31/2013 9:23	490.19
106039	10/31/2013 13:24	490.12
106040	10/30/2013 9:49	488.89
106040	10/30/2013 13:28	488.76
106040	10/30/2013 16:04	488.72
106040	10/31/2013 9:16	489.02
106040	10/31/2013 13:17	488.95
106067	10/30/2013 8:57	488.99
106067	10/30/2013 12:39	488.96
106067	10/30/2013 15:32	488.98
106067	10/31/2013 8:25	489.07
106067	10/31/2013 12:26	489.05
106068	10/30/2013 8:49	488.73
106068	10/30/2013 12:28	488.68
106068	10/30/2013 15:23	488.58
106068	10/31/2013 8:17	488.85
106068	10/31/2013 12:17	485.85
106095	10/30/2013 8:25	485.58
106095	10/30/2013 12:16	485.53
106095	10/30/2013 15:11	485.49
106095	10/31/2013 8:06	485.81
106095	10/31/2013 12:05	485.77
106096	10/30/2013 8:14	486.21
106096	10/30/2013 12:05	486.18
106096	10/30/2013 15:04	486.08
106096	10/31/2013 7:57	486.43
106096	10/31/2013 11:58	486.34

**Table 1-5
Constant-Rate Test Pumping Well Data**

Date and Time	Transducer Depth (ft below water)	Water Level (ft below top of sounding tube)	Flow Meter (gallons)	Pumping Rate (gpm)	Comments
12/3/13 9:30	36.99	484.83	232,285	0	Initial Conditions
12/3/13 9:35	NR	NR	NR	95	Begin Pumping
12/3/13 9:40	21.48	501.10	232,860	95	
12/3/13 9:55	18.18	503.85	234,150	90	
12/3/13 10:10	16.93	505.04	235,620	98	
12/3/13 10:27	16.00	505.95	237,130	95	
12/3/13 10:40	15.40	506.57	238,340	95	
12/3/13 11:42	13.34	508.58	244,120	95	
12/3/13 12:40	11.67	510.21	249,520	90	
12/3/13 13:40	10.17	511.79	254,900	100	
12/3/13 14:40	8.47	513.03	260,450	90	
12/3/13 15:57	6.34	506.20	267,310	90	
12/3/13 16:42	NR	NR	NR	50	Reduce flow rate
12/3/13 16:47	22.52	499.54	271,620	50	
12/3/13 17:50	20.94	501.10	274,170	50	
12/3/13 18:40	20.31	501.68	277,150	50	
12/4/13 7:36	17.87	504.14	314,200	45	
12/4/13 8:31	17.70	504.32	316,790	45	
12/4/13 9:34	17.50	504.48	319,770	50	
12/4/13 10:31	17.41	504.58	322,480	50	
12/4/13 11:34	17.34	NR	325,450	50	
12/4/13 12:31	17.26	504.71	328,110	50	
12/4/13 13:32	17.17	504.81	330,980	50	
12/4/13 14:32	17.07	504.91	333,820	45	
12/4/13 15:32	16.87	505.11	336,650	50	
12/4/13 16:31	16.71	505.22	339,410	45	
12/4/13 17:32	16.53	505.41	342,280	45	
12/4/13 18:32	16.40	505.61	345,090	50	
12/5/13 7:36	15.23	506.76	380,920	45	

**Table 1-5
Constant-Rate Test Pumping Well Data**

Date and Time	Transducer Depth (ft below water)	Water Level (ft below top of sounding tube)	Flow Meter (gallons)	Pumping Rate (gpm)	Comments
12/5/13 8:37	15.15	506.85	383,690	50	
12/5/13 9:38	15.10	506.91	386,440	45	
12/5/13 10:36	15.01	507.00	389,100	45	
12/5/13 11:35	14.94	507.05	391,740	45	
12/5/13 12:40	14.94	507.08	394,690	45	
12/5/13 13:35	14.90	507.11	397,190	50	
12/5/13 14:31	14.84	507.18	399,760	45	
12/5/13 15:32	14.79	507.21	402,490	50	
12/5/13 16:37	14.72	507.29	405,440	45	
12/5/13 17:37	14.69	507.29	400,120	50	
12/5/13 18:37	14.61	507.41	418,820	50	
12/6/13 7:52	13.54	508.47	446,000	45	
12/6/13 8:57	13.41	508.62	448,890	50	
12/6/13 9:42	13.33	508.70	450,910	45	
12/6/13 10:33	13.26	508.74	453,210	45	
12/6/13 11:44	13.17	508.80	456,370	45	
12/6/13 12:36	13.18	508.82	458,680	45	
12/6/13 13:36	13.16	508.85	461,380	50	
12/6/13 14:32	13.06	508.98	463,910	45	
12/6/13 15:39	13.00	509.05	466,940	50	
12/6/13 16:33	12.98	509.13	469,340	50	
12/6/13 17:37	12.90	509.09	472,220	45	Tape sticking due to cold temperatures, manual measurement may be off
12/6/13 18:41	12.79	509.21	475,080	45	As above.
12/7/13 8:00	12.39	509.61	510,380	45	As above.
12/7/13 8:47	12.41	509.55	512,450	45	As above.
12/7/13 9:44	12.38	509.62	514,960	45	As above.
12/7/13 10:41	12.35	509.65	517,500	45	As above.
12/7/13 11:37	12.36	509.65	519,960	45	As above.

**Table 1-5
Constant-Rate Test Pumping Well Data**

Date and Time	Transducer Depth (ft below water)	Water Level (ft below top of sounding tube)	Flow Meter (gallons)	Pumping Rate (gpm)	Comments
12/7/13 12:35	12.40	509.65	522,560	45	As above.
12/7/13 13:41	12.42	509.63	525,470	50	As above.
12/7/13 14:37	12.44	509.61	527,950	45	As above.
12/7/13 15:36	12.95	509.61	530,560	45	As above.
12/7/13 16:35	12.43	509.53	533,200	45	As above.
12/7/13 17:43	12.42	509.61	536,180	50	As above.
12/7/13 18:41	12.37	509.65	538,730	45	As above.
12/8/13 7:53	11.81	510.05	573,560	45	As above.
12/8/13 8:39	11.75	510.12	575,560	50	As above.
12/8/13 9:45	11.69	510.15	578,450	45	As above.
12/8/13 10:38	11.60	510.22	580,770	45	As above.
12/8/13 11:40	11.53	510.35	583,480	45	As above.
12/8/13 12:38	11.48	510.35	486,020	45	As above.
12/8/13 13:36	11.43	510.41	588,580	50	As above.
12/8/13 14:39	11.37	510.46	591,360	45	As above.
12/8/13 15:37	11.37	510.47	593,890	45	As above.
12/8/13 16:30	11.41	510.44	596,220	45	As above.
12/8/13 17:46	11.32	510.48	599,530	45	As above.
12/8/13 18:45	11.30	510.54	602,120	45	As above.
12/9/13 8:10	10.58	511.28	636,990	45	As above.
12/9/13 9:05	10.32	511.53	639,370	45	As above.
12/9/13 9:57	10.27	511.52	641,600	45	As above.
12/9/13 10:01	NR	NR	641,790	0	Pump off
12/9/13 14:50	36.34	NR	641,790	0	Recovery

bgs - below ground surface

ft - foot/feet

gpm - gallons per minute

KAFB - Kirtland Air Force Base

NR - Not Recorded

Initial depth to water: 481.4 ft bgs
 Initial water column height: 63.6 ft

Transducer depth: 36.99 ft below water
 Pump depth: 527 ft bgs

Date and Time	Transducer depth (ft below water)	Water Level (ft below top of sounding tube)	Flow meter (gallons)	Pumping rate (gpm)	Comments
12/3/13 9:30	36.99	484.83	232,285	0	Initial Conditions
12/3/13 9:35				95	Begin Pumping
12/3/13 9:40	21.48	501.10	232,860	95	
12/3/13 9:55	18.18	503.85	234,150	90	
12/3/13 10:10	16.93	505.04	235,620	98	
12/3/13 10:27	16.00	505.95	237,130	95	
12/3/13 10:40	15.40	506.57	238,340	95	
12/3/13 11:42	13.34	508.58	244,120	95	
12/3/13 12:40	11.67	510.21	249,520	90	
12/3/13 13:40	10.17	511.79	254,900	100	
12/3/13 14:40	8.47	513.03	260,450	90	
12/3/13 15:57	6.34	506.20	267,310	90	
12/3/13 16:42				50	Reduce flow rate
12/3/13 16:47	22.52	499.54	271,620	50	
12/3/13 17:50	20.94	501.10	274,170	50	
12/3/13 18:40	20.31	501.68	277,150	50	
12/4/13 7:36	17.87	504.14	314,200	45	
12/4/13 8:31	17.70	504.32	316,790	45	
12/4/13 9:34	17.50	504.48	319,770	50	
12/4/13 10:31	17.41	504.58	322,480	50	
12/4/13 11:34	17.34	NR	325,450	50	
12/4/13 12:31	17.26	504.71	328,110	50	
12/4/13 13:32	17.17	504.81	330,980	50	
12/4/13 14:32	17.07	504.91	333,820	45	
12/4/13 15:32	16.87	505.11	336,650	50	
12/4/13 16:31	16.71	505.22	339,410	45	
12/4/13 17:32	16.53	505.41	342,280	45	
12/4/13 18:32	16.40	505.61	345,090	50	
12/5/13 7:36	15.23	506.76	380,920	45	
12/5/13 8:37	15.15	506.85	383,690	50	
12/5/13 9:38	15.10	506.91	386,440	45	
12/5/13 10:36	15.01	507.00	389,100	45	
12/5/13 11:35	14.94	507.05	391,740	45	
12/5/13 12:40	14.94	507.08	394,690	45	
12/5/13 13:35	14.90	507.11	397,190	50	
12/5/13 14:31	14.84	507.18	399,760	45	
12/5/13 15:32	14.79	507.21	402,490	50	
12/5/13 16:37	14.72	507.29	405,440	45	
12/5/13 17:37	14.69	507.29	400,120	50	
12/5/13 18:37	14.61	507.41	418,820	50	
12/6/13 7:52	13.54	508.47	446,000	45	
12/6/13 8:57	13.41	508.62	448,890	50	
12/6/13 9:42	13.33	508.70	450,910	45	
12/6/13 10:33	13.26	508.74	453,210	45	
12/6/13 11:44	13.17	508.80	456,370	45	
12/6/13 12:36	13.18	508.82	458,680	45	
12/6/13 13:36	13.16	508.85	461,380	50	

12/6/13 14:32	13.06	508.98	463,910	45	
12/6/13 15:39	13.00	509.05	466,940	50	
12/6/13 16:33	12.98	509.13	469,340	50	
12/6/13 17:37	12.90	509.09	472,220	45	Tape sticking, manual measurement may be off
12/6/13 18:41	12.79	509.21	475,080	45	"
12/7/13 8:00	12.39	509.61	510,380	45	"
12/7/13 8:47	12.41	509.55	512,450	45	"
12/7/13 9:44	12.38	509.62	514,960	45	"
12/7/13 10:41	12.35	509.65	517,500	45	"
12/7/13 11:37	12.36	509.65	519,960	45	"
12/7/13 12:35	12.40	509.65	522,560	45	"
12/7/13 13:41	12.42	509.63	525,470	50	"
12/7/13 14:37	12.44	509.61	527,950	45	"
12/7/13 15:36	12.95	509.61	530,560	45	"
12/7/13 16:35	12.43	509.53	533,200	45	"
12/7/13 17:43	12.42	509.61	536,180	50	"
12/7/13 18:41	12.37	509.65	538,730	45	"
12/8/13 7:53	11.81	510.05	573,560	45	"
12/8/13 8:39	11.75	510.12	575,560	50	"
12/8/13 9:45	11.69	510.15	578,450	45	"
12/8/13 10:38	11.60	510.22	580,770	45	"
12/8/13 11:40	11.53	510.35	583,480	45	"
12/8/13 12:38	11.48	510.35	486,020	45	"
12/8/13 13:36	11.43	510.41	588,580	50	"
12/8/13 14:39	11.37	510.46	591,360	45	"
12/8/13 15:37	11.37	510.47	593,890	45	"
12/8/13 16:30	11.41	510.44	596,220	45	"
12/8/13 17:46	11.32	510.48	599,530	45	"
12/8/13 18:45	11.30	510.54	602,120	45	"
12/9/13 8:10	10.58	511.28	636,990	45	"
12/9/13 9:05	10.32	511.53	639,370	45	"
12/9/13 9:57	10.27	511.52	641,600	45	"
12/9/13 10:01	NR	NR	641,790	0	Pump off
12/9/13 14:50	36.34	NR	641,790	0	Recovery

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-10610	Shallow	483-508	439	Transducer	12/3/2013 10:25	483.48
					12/3/2013 12:05	483.43
					12/3/2013 13:40	483.40
					12/3/2013 15:41	483.37
					12/3/2013 17:48	483.35
					12/4/13 8:52	483.40
					12/4/13 9:50	483.48
					12/4/13 11:32	483.45
					12/4/13 14:03	483.42
					12/4/13 16:04	483.44
					12/4/13 17:36	483.48
					12/5/13 8:52	484.01
					12/5/13 10:10	483.67
					12/5/13 11:27	483.67
					12/5/13 13:43	483.60
					12/5/13 15:35	483.71
					12/5/13 17:30	483.65
					12/6/13 9:35	483.89
					12/6/13 11:56	483.90
					12/6/13 13:24	483.88
					12/6/13 15:30	483.85
					12/6/13 17:28	483.85
					12/7/13 9:03	483.82
					12/7/13 10:07	483.81
					12/7/13 11:53	483.77
					12/7/13 13:37	483.69
					12/7/13 15:32	483.65
					12/7/13 17:23	483.62
					12/8/13 9:33	483.72
					12/8/13 11:33	483.75
12/8/13 13:58	483.73					
12/8/13 15:12	483.28					
12/8/13 17:32	483.73					
12/9/13 8:32	483.90					
12/9/13 12:20	483.96					
12/9/13 16:58	484.10					
12/10/13 10:01	484.13					
12/10/13 14:12	483.95					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-10617	Shallow	482-507	314	Transducer	12/3/2013 10:07	479.94
					12/3/2013 11:56	479.88
					12/3/2013 13:34	479.84
					12/3/2013 15:28	479.82
					12/3/2013 17:34	479.81
					12/4/13 8:42	479.89
					12/4/13 9:44	479.9
					12/4/13 12:11	479.85
					12/4/13 13:55	479.84
					12/4/13 15:52	479.89
					12/4/13 17:29	479.98
					12/5/13 8:37	480.11
					12/5/13 10:00	480.12
					12/5/13 11:17	480.12
					12/5/13 13:35	480.06
					12/5/13 15:26	480.07
					12/5/13 17:22	480.11
					12/6/13 9:17	480.36
					12/6/13 11:50	480.36
					12/6/13 13:11	480.34
					12/6/13 15:20	480.31
					12/6/13 17:20	480.32
					12/7/13 8:53	480.29
					12/7/13 10:01	480.28
					12/7/13 11:44	480.24
					12/7/13 13:30	480.16
					12/7/13 15:20	480.11
					12/7/13 17:16	480.07
					12/8/13 9:25	480.18
					12/8/13 11:28	480.21
12/8/13 13:52	480.19					
12/8/13 15:04	480.19					
12/8/13 17:22	480.18					
12/9/13 8:24	480.34					
12/9/13 12:10	480.39					
12/9/13 16:50	480.5					
12/10/13 8:51	480.54					
12/10/13 15:38	480.37					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-10618	Shallow	476-501	324	Transducer	12/3/2013 10:48	473.56
					12/3/2013 12:05	473.5
					12/3/2013 13:58	473.46
					12/3/2013 16:14	473.45
					12/3/2013 18:04	473.47
					12/4/13 7:59	473.54
					12/4/13 9:28	473.55
					12/4/13 12:48	473.5
					12/4/13 13:45	473.49
					12/4/13 15:53	473.55
					12/4/13 17:52	473.66
					12/5/13 8:02	473.76
					12/5/13 9:56	473.78
					12/5/13 11:55	473.76
					12/5/13 14:01	473.73
					12/5/13 15:47	473.75
					12/5/13 17:56	473.79
					12/6/13 8:19	474
					12/6/13 9:56	474.03
					12/6/13 11:59	474.02
					12/6/13 13:50	473.99
					12/6/13 15:56	473.98
					12/6/13 18:01	473.99
					12/7/13 8:22	473.95
					12/7/13 10:00	473.94
					12/7/13 11:50	473.9
					12/7/13 13:58	473.81
					12/7/13 15:55	473.77
					12/7/13 18:06	473.75
					12/8/13 8:21	473.82
12/8/13 10:00	473.85					
12/8/13 11:54	473.86					
12/8/13 13:52	473.85					
12/8/13 15:53	473.86					
12/8/13 18:06	483.85					
12/9/13 8:41	474.02					
12/9/13 15:17	474.12					
12/10/13 9:32	474.21					
12/10/13 15:53	474.03					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-10620 ^a	Shallow	482-507	773	Manual	12/3/13 11:30 AM	481.18
					12/3/13 1:08 PM	481.12
					12/3/13 4:25 PM	481.1
					12/4/13 9:43 AM	481.24
					12/4/13 12:40 PM	481.12
					12/4/13 4:20 PM	481.22
					12/5/13 9:55 AM	481.44
					12/5/13 12:40 PM	481.44
					12/5/13 4:32 PM	481.43
					12/6/13 10:00 AM	481.7
					12/6/13 12:43 PM	481.67
					12/6/13 4:41 PM	481.69
					12/7/13 11:43 AM	481
					12/7/13 1:23 PM	480.89
					12/7/13 4:39 PM	480.82
					12/8/13 9:54 AM	480.9
					12/8/13 12:34 PM	480.9
					12/8/13 4:26 PM	480.93
					12/9/13 9:09 AM	481.7
					12/9/13 12:00 PM	481.75
12/9/13 4:24 PM	481.88					
12/10/13 10:23 AM	482.22					
12/10/13 12:52 PM	482.11					
12/10/13 4:32 PM	482.08					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106032	Shallow	456-476	1444	Transducer	12/3/2013 11:45	457.69
					12/3/2013 12:37	457.66
					12/3/2013 14:15	457.61
					12/3/2013 16:14	457.58
					12/3/2013 18:24	457.6
					12/4/13 9:27	457.68
					12/4/13 10:22	457.67
					12/4/13 12:04	457.63
					12/4/13 14:49	457.63
					12/4/13 16:46	457.7
					12/4/13 18:24	457.79
					12/5/13 9:40	457.91
					12/5/13 10:48	457.91
					12/5/13 12:06	457.94
					12/5/13 14:37	457.86
					12/5/13 16:05	457.84
					12/5/13 18:17	457.88
					12/6/13 10:21	458.12
					12/6/13 12:40	458.11
					12/6/13 14:10	458.08
					12/6/13 16:08	458.07
					12/6/13 18:12	458.09
					12/7/13 9:46	458.04
					12/7/13 10:55	458.02
					12/7/13 12:28	457.96
					12/7/13 14:05	457.9
					12/7/13 16:04	457.86
					12/7/13 18:27	457.84
					12/8/13 10:39	457.95
					12/8/13 11:58	457.95
					12/8/13 14:25	457.94
					12/8/13 15:47	457.95
12/8/13 18:02	457.95					
12/9/13 9:23	458.13					
12/9/13 13:08	458.18					
12/9/13 17:23	458.32					
12/10/13 10:52	458.36					
12/10/13 16:55	458.21					
12/11/13 8:26	458.32					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106033	Intermediate	477-492	1444	Transducer	12/3/2013 11:40	457.9
					12/3/2013 12:32	457.86
					12/3/2013 14:11	457.81
					12/3/2013 16:11	457.78
					12/3/2013 18:20	457.79
					12/4/13 9:23	457.87
					12/4/13 10:18	457.87
					12/4/13 12:00	457.83
					12/4/13 14:45	457.82
					12/4/13 16:43	457.9
					12/4/13 18:20	457.99
					12/5/13 9:37	458.11
					12/5/13 10:45	458.11
					12/5/13 12:03	458.08
					12/5/13 14:34	458.05
					12/5/13 16:02	458.07
					12/5/13 18:15	458.11
					12/6/13 10:17	458.35
					12/6/13 12:36	458.34
					12/6/13 14:06	458.3
					12/6/13 16:04	458.35
					12/6/13 18:08	458.31
					12/7/13 9:41	458.25
					12/7/13 10:53	458.23
					12/7/13 12:26	458.17
					12/7/13 14:03	458.11
					12/7/13 16:02	458.07
					12/7/13 18:23	458.05
					12/8/13 10:34	458.16
					12/8/13 11:55	458.16
					12/8/13 14:22	458.15
					12/8/13 15:35	458.16
12/8/13 18:00	458.15					
12/9/13 9:17	458.34					
12/9/13 13:03	458.39					
12/9/13 17:21	458.54					
12/10/13 10:48	458.58					
12/10/13 16:54	458.41					
12/11/13 8:17	458.53					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106034	Deep	502-517	1444	Transducer	12/3/2013 11:36	458.69
					12/3/2013 12:29	458.65
					12/3/2013 14:07	458.61
					12/3/2013 16:07	458.58
					12/3/2013 18:16	458.59
					12/4/13 9:19	458.67
					12/4/13 10:14	458.67
					12/4/13 11:57	458.63
					12/4/13 14:42	458.62
					12/4/13 16:40	458.69
					12/4/13 18:17	458.79
					12/5/13 9:34	458.91
					12/5/13 10:42	458.9
					12/5/13 11:59	458.88
					12/5/13 14:30	458.85
					12/5/13 16:00	458.87
					12/5/13 18:10	458.9
					12/6/13 10:13	459.15
					12/6/13 12:31	459.13
					12/6/13 14:02	459.1
					12/6/13 16:00	459.09
					12/6/13 18:04	459.11
					12/7/13 9:36	459.05
					12/7/13 10:50	459.03
					12/7/13 12:23	458.97
					12/7/13 14:00	458.91
					12/7/13 16:00	458.87
					12/7/13 18:20	458.84
					12/8/13 10:28	458.96
					12/8/13 11:53	458.96
12/8/13 14:20	458.95					
12/8/13 15:52	458.96					
12/8/13 17:57	458.95					
12/9/13 9:12	459.14					
12/9/13 12:57	459.19					
12/9/13 17:18	459.33					
12/10/13 10:45	459.37					
12/10/13 16:52	459.21					
12/11/13 8:21	459.33					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106038	Shallow	478-508	715	Manual	12/3/13 10:08 AM	489.8
					12/3/13 12:50 PM	489.77
					12/3/13 4:05 PM	489.75
					12/4/13 9:26 AM	489.77
					12/4/13 12:21 PM	489.78
					12/4/13 4:03 PM	489.81
					12/5/13 9:37 AM	489.83
					12/5/13 12:15 PM	489.81
					12/5/13 4:14 PM	489.8
					12/6/13 9:38 AM	489.85
					12/6/13 12:18 PM	489.83
					12/6/13 4:18 PM	489.83
					12/7/13 10:04 AM	489.21
					12/7/13 12:05 PM	489.18
					12/7/13 3:41 PM	489.17
					12/8/13 9:46 AM	489.17
					12/8/13 12:22 PM	489.18
					12/8/13 4:14 PM	489.18
					12/9/13 10:24 AM	489.87
					12/9/13 12:06 PM	489.86
12/9/13 4:11 PM	489.88					
12/10/13 8:41 AM	490.06					
12/10/13 12:37 PM	490.05					
12/10/13 3:38 PM	490.03					
KAFB-106039	Intermediate	508-523	715	Manual	12/3/13 10:15 AM	489.54
					12/3/13 12:45 PM	489.4
					12/3/13 4:10 PM	489.34
					12/4/13 9:31 AM	489.43
					12/4/13 12:26 PM	489.37
					12/4/13 4:09 PM	489.47
					12/5/13 9:34 AM	489.67
					12/5/13 12:25 PM	489.64
					12/5/13 4:22 PM	489.64
					12/6/13 9:45 AM	489.91
					12/6/13 12:23 PM	489.86
					12/6/13 4:28 PM	489.83
					12/7/13 10:14 AM	489.18
					12/7/13 12:21 PM	489.18
					12/7/13 3:49 PM	489.02
					12/8/13 9:39 AM	489.05
					12/8/13 12:14 PM	489.08
12/8/13 4:06 PM	489.11					
12/9/13 8:56 AM	489.91					
12/9/13 12:13 PM	489.95					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
					12/9/13 4:03 PM	490.06
					12/10/13 8:27 AM	490.35
					12/10/13 12:31 PM	490.25
					12/10/13 3:28 PM	490.19

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106040	Deep	531-546	715	Manual	12/3/13 10:00 AM	488.38
					12/3/13 12:40 PM	488.3
					12/3/13 4:00 PM	488.22
					12/4/13 9:19 AM	488.35
					12/4/13 12:14 PM	488.23
					12/4/13 3:55 PM	488.32
					12/5/13 9:30 AM	488.61
					12/5/13 12:05 PM	488.5
					12/5/13 4:08 PM	488.51
					12/6/13 9:31 AM	488.85
					12/6/13 12:08 PM	488.75
					12/6/13 4:10 PM	488.72
					12/7/13 9:52 AM	488.08
					12/7/13 12:13 PM	487.88
					12/7/13 3:35 PM	487.91
					12/8/13 9:32 AM	487.95
					12/8/13 12:07 PM	487.94
					12/8/13 4:00 PM	487.95
					12/9/13 8:46 AM	488.79
					12/9/13 11:59 AM	488.85
12/9/13 3:56 PM	488.99					
12/10/13 8:18 AM	489.26					
12/10/13 12:24 PM	489.11					
12/10/13 3:22 PM	489.06					
KAFB-106067	Shallow	485-505	460	Manual	12/3/13 12:05 PM	488.76
					12/3/13 1:45 PM	488.74
					12/3/13 4:50 PM	488.75
					12/4/13 10:09 AM	488.76
					12/4/13 1:07 PM	488.77
					12/4/13 4:57 PM	488.79
					12/5/13 10:36 AM	488.85
					12/5/13 1:26 PM	488.8
					12/5/13 5:12 PM	488.82
					12/6/13 10:30 AM	488.89
					12/6/13 1:29 PM	488.9
					12/6/13 5:22 PM	488.9
					12/7/13 10:33 AM	488.25
					12/7/13 12:41 PM	488.22
					12/7/13 4:02 PM	488.22
					12/8/13 10:29 AM	488.22
					12/8/13 1:03 PM	488.21
12/8/13 4:53 PM	488.23					
12/9/13 9:43 AM	488.91					
12/9/13 1:09 PM	488.91					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
					12/9/13 5:16 PM	488.97
					12/10/13 10:11 AM	489.76
					12/10/13 1:24 PM	489.74
					12/10/13 4:23 PM	489.73

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106068	Deep	580-595	460	Manual	12/3/13 12:07 PM	488.18
					12/3/13 1:40 PM	488.14
					12/3/13 4:55 PM	488.12
					12/4/13 10:19 AM	488.19
					12/4/13 1:00 PM	488.09
					12/4/13 4:48 PM	488.2
					12/5/13 10:30 AM	488.39
					12/5/13 1:21 PM	488.35
					12/5/13 5:05 PM	488.4
					12/6/13 10:40 AM	488.67
					12/6/13 1:17 PM	488.59
					12/6/13 5:14 PM	488.61
					12/7/13 10:45 AM	487.92
					12/7/13 12:50 PM	487.88
					12/7/13 4:09 PM	487.71
					12/8/13 10:37 AM	487.89
					12/8/13 1:11 PM	487.89
					12/8/13 5:01 PM	487.91
					12/9/13 9:50 AM	488.68
					12/9/13 1:00 PM	488.68
12/9/13 5:08 PM	488.85					
12/10/13 10:06 AM	489.45					
12/10/13 1:17 PM	489.26					
12/10/13 4:17 PM	489.23					
KAFB-106095	Intermediate	503-519	692	Manual	12/3/13 11:50 AM	484.96
					12/3/13 1:20 PM	484.95
					12/3/13 4:40 PM	484.91
					NA	NA
					NA	NA
					12/4/13 4:35 PM	485
					12/5/13 10:04 AM	485.24
					12/5/13 12:54 PM	485.19
					12/5/13 4:41 PM	485.19
					12/6/13 10:12 AM	485.45
					12/6/13 12:56 PM	485.42
					12/6/13 4:54 PM	485.41
					12/7/13 10:55 AM	484.76
					12/7/13 1:10 PM	484.67
					12/7/13 4:20 PM	484.61
					12/8/13 10:11 AM	484.69
					12/8/13 12:45 PM	484.7
12/8/13 4:36 PM	484.74					
12/9/13 9:23 AM	485.48					
12/9/13 12:49 PM	485.51					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
					12/9/13 4:38 PM	485.67
					12/10/13 9:49 AM	486.16
					12/10/13 1:01 PM	486
					12/10/13 4:01 PM	485.99

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106073	Intermediate	500-514	435	Transducer	12/3/2013 13:52	479.57
					12/3/2013 15:54	479.55
					12/3/2013 18:00	479.56
					12/4/13 9:03	479.63
					12/4/13 10:01	479.64
					12/4/13 11:43	479.6
					12/4/13 14:14	479.58
					12/4/13 16:17	479.65
					12/4/13 17:50	479.74
					12/5/13 9:06	479.86
					12/5/13 10:22	479.86
					12/5/13 11:39	479.85
					12/5/13 13:57	479.81
					12/5/13 15:46	479.83
					12/5/13 17:47	479.86
					12/6/13 9:50	480.11
					12/6/13 12:10	480.1
					12/6/13 13:40	480.07
					12/6/13 15:43	480.06
					12/6/13 17:44	480.07
					12/7/13 9:18	480.03
					12/7/13 10:22	480.01
					12/7/13 12:06	479.96
					12/7/13 13:47	479.89
					12/7/13 15:46	479.85
					12/7/13 17:35	479.82
					12/8/13 10:03	479.93
					12/8/13 11:42	479.96
					12/8/13 14:07	479.94
					12/8/13 15:30	479.94
12/8/13 17:43	479.94					
12/9/13 8:52	480.1					
12/9/13 12:36	480.16					
12/9/13 17:06	480.28					
12/10/13 10:33	480.32					
12/10/13 16:43	480.17					
12/11/13 8:36	480.27					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106074	Deep	570-584	435	Transducer	12/3/2013 10:37	480.90
					12/3/2013 12:16	480.84
					12/3/2013 13:55	480.79
					12/3/2013 15:56	480.77
					12/3/2013 18:06	480.78
					12/4/13 9:08	480.84
					12/4/13 10:05	480.85
					12/4/13 11:46	480.81
					12/4/13 14:25	480.79
					12/4/13 16:21	480.86
					12/4/13 17:54	481.01
					12/5/13 9:09	481.07
					12/5/13 10:25	481.07
					12/5/13 11:44	481.06
					12/5/13 14:01	481.03
					12/5/13 15:49	481.05
					12/5/13 17:51	481.08
					12/6/13 9:54	481.32
					12/6/13 12:13	481.31
					12/6/13 13:45	481.29
					12/6/13 15:47	481.28
					12/6/13 17:50	481.28
					12/7/13 9:24	481.24
					12/7/13 10:26	481.22
					12/7/13 12:08	481.17
					12/7/13 13:50	481.10
					12/7/13 15:49	481.06
					12/7/13 17:40	481.03
					12/8/13 10:08	481.15
					12/8/13 11:45	481.17
12/8/13 14:10	481.15					
12/8/13 15:21	481.15					
12/8/13 17:47	481.15					
12/9/13 8:57	481.31					
12/9/13 12:42	481.37					
12/9/13 17:08	481.50					
12/10/13 10:35	481.54					
12/10/13 16:41	481.39					
12/11/13 8:40	481.49					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106075	Shallow	480-500	435	Transducer	12/3/2013 10:41	478.81
					12/3/2013 12:13	480.74
					12/3/2013 13:48	480.7
					12/3/2013 15:55	480.68
					12/3/2013 17:57	480.68
					12/4/13 9:00	480.75
					12/4/13 9:58	480.76
					12/4/13 11:41	480.72
					12/4/13 14:11	480.7
					12/4/13 16:14	480.77
					12/4/13 17:46	480.86
					12/5/13 9:01	480.97
					12/5/13 10:20	480.98
					12/5/13 11:36	480.97
					12/5/13 13:54	480.93
					12/5/13 15:43	480.95
					12/5/13 17:44	480.98
					12/6/13 9:45	481.22
					12/6/13 12:06	481.22
					12/6/13 13:36	481.19
					12/6/13 15:40	481.18
					12/6/13 17:38	481.19
					12/7/13 9:13	481.14
					12/7/13 10:14	481.14
					12/7/13 12:03	481.08
					12/7/13 13:44	481.01
					12/7/13 15:43	480.96
					12/7/13 17:31	480.95
					12/8/13 9:55	481.05
					12/8/13 11:40	481.08
12/8/13 14:04	481.05					
12/8/13 15:25	481.06					
12/8/13 17:40	481.05					
12/9/13 8:47	481.22					
12/9/13 12:31	481.27					
12/9/13 17:03	481.41					
12/10/13 10:30	481.45					
12/10/13 16:38	481.28					
12/11/13 8:45	481.4					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106082	Shallow	472-492	185	Transducer	12/3/2013 10:05	475.55
					12/3/2013 11:59	475.48
					12/3/2013 13:54	475.41
					12/3/2013 16:09	475.43
					12/3/2013 17:54	475.42
					12/4/13 7:54	475.5
					12/4/13 9:40	475.49
					12/4/13 12:40	475.46
					12/4/13 13:42	475.45
					12/4/13 15:43	475.48
					12/4/13 17:45	475.58
					12/5/13 7:58	475.72
					12/5/13 9:52	475.7
					12/5/13 11:43	475.69
					12/5/13 13:50	475.66
					12/5/13 15:38	475.67
					12/5/13 17:44	475.7
					12/6/13 8:06	475.9
					12/6/13 9:48	475.93
					12/6/13 11:51	475.98
					12/6/13 11:56	475.61
					12/6/13 13:42	475.89
					12/6/13 15:48	475.88
					12/6/13 17:45	475.89
					12/7/13 8:12	475.87
					12/7/13 9:53	475.86
					12/7/13 11:43	475.82
					12/7/13 13:50	475.74
					12/7/13 15:46	475.7
					12/7/13 17:54	475.67
					12/8/13 8:05	475.74
					12/8/13 9:52	475.77
12/8/13 11:47	475.78					
12/8/13 13:44	475.76					
12/8/13 15:46	475.78					
12/8/13 17:56	475.77					
12/9/13 8:21	475.91					
12/9/13 14:57	475.94					
12/10/13 9:18	476.04					
12/10/13 15:49	475.86					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106083	Intermediate	495-510	185	Transducer	12/3/2013 10:36	475.1
					12/3/2013 11:50	475.06
					12/3/2013 13:47	475.04
					12/3/2013 16:04	475.05
					12/3/2013 17:51	475.03
					12/4/13 7:47	475.11
					12/4/13 9:46	475.13
					12/4/13 12:45	475.07
					12/4/13 13:38	475.06
					12/4/13 15:49	475.17
					12/4/13 17:41	475.22
					12/5/13 7:49	475.33
					12/5/13 9:45	475.35
					12/5/13 11:51	475.35
					12/5/13 13:57	475.3
					12/5/13 15:44	475.32
					12/5/13 17:52	475.35
					12/6/13 8:15	475.56
					12/6/13 9:53	475.59
					12/6/13 13:47	475.55
					12/6/13 15:53	475.54
					12/6/13 17:54	475.56
					12/7/13 8:19	475.52
					12/7/13 9:58	475.51
					12/7/13 11:47	475.47
					12/7/13 13:55	475.38
					12/7/13 15:52	475.34
					12/7/13 18:01	475.31
					12/8/13 8:15	475.38
					12/8/13 9:57	475.41
12/8/13 11:51	475.43					
12/8/13 13:49	475.41					
12/8/13 15:50	475.42					
12/8/13 18:03	475.42					
12/9/13 8:33	475.57					
12/9/13 15:10	475.63					
12/10/13 9:24	475.7					
12/10/13 15:51	475.52					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106084	Deep	566-581	185	Transducer	12/3/2013 10:22	477.85
					12/3/2013 11:55	477.8
					12/3/2013 13:51	477.75
					12/3/2013 16:11	477.72
					12/3/2013 17:59	477.71
					12/4/13 7:51	477.78
					12/4/13 9:43	477.78
					12/4/13 12:43	477.74
					12/4/13 13:40	477.74
					12/4/13 15:46	477.78
					12/4/13 17:49	477.88
					12/5/13 7:54	477.99
					12/5/13 9:48	478.01
					12/5/13 11:47	478
					12/5/13 13:53	477.96
					12/5/13 15:41	477.98
					12/5/13 17:48	478.01
					12/6/13 8:11	478.22
					12/6/13 9:50	478.25
					12/6/13 11:53	478.25
					12/6/13 13:45	478.22
					12/6/13 15:51	478.21
					12/6/13 17:50	478.21
					12/7/13 8:15	478.18
					12/7/13 9:56	478.16
					12/7/13 11:45	478.12
					12/7/13 13:53	478.04
					12/7/13 15:50	477.99
					12/7/13 17:58	477.96
					12/8/13 8:10	478.03
12/8/13 9:55	478.06					
12/8/13 11:49	478.09					
12/8/13 13:47	478.07					
12/8/13 15:48	478.08					
12/8/13 18:00	478.07					
12/9/13 8:28	478.21					
12/9/13 15:04	478.34					
12/10/13 9:11	478.45					
12/10/13 15:47	478.29					

**Table 1-6
Constant Rate Test Observation Well Data**

Well ID	Aquifer Zone Designation	Screened Interval (ft bgs)	Horizontal Distance from KAFB-106157 (ft)	Observation Method	Date and Time	Water Level (ft bgs)
KAFB-106096	Deep	576-591	692	Manual	12/3/13 11:56 AM	485.7
					12/3/13 1:20 PM	485.75
					12/3/13 4:35 PM	485.65
					12/4/13 10:00 AM	485.72
					12/4/13 12:50 PM	485.69
					12/4/13 4:38 PM	485.71
					12/5/13 10:14 AM	485.91
					12/5/13 1:00 PM	485.93
					12/5/13 4:47 PM	485.97
					12/6/13 10:20 AM	486.16
					12/6/13 1:04 PM	486.14
					12/6/13 5:03 PM	486.15
					12/7/13 11:05 AM	485.5
					12/7/13 1:02 PM	485.4
					12/7/13 4:28 PM	485.31
					12/8/13 10:19 AM	485.43
					12/8/13 12:53 PM	485.42
					12/8/13 4:43 PM	485.42
					12/9/13 9:33 AM	486.2
					12/9/13 12:42 PM	486.24
12/9/13 4:48 PM	486.4					
12/10/13 9:55 AM	486.85					
12/10/13 1:07 PM	486.69					
12/10/13 4:04 PM	486.68					

^a Groundwater Depth Measured from Top of PVC at Well KAFB-10620

bgs - below ground surface

ft - foot/feet

ID - identification

KAFB - Kirtland Air Force Base

NR - Not Recorded

Well ID	Date and Time	Transducer reading	
106032	12/3/2013 11:45	18.79	457.69
106032	12/3/2013 12:37	18.82	457.66
106032	12/3/2013 14:15	18.87	457.61
106032	12/3/2013 16:14	18.9	457.58
106032	12/3/2013 18:24	18.88	457.60
106032	12/4/13 9:27	18.8	457.68
106032	12/4/13 10:22	18.81	457.67
106032	12/4/13 12:04	18.85	457.63
106032	12/4/13 14:49	18.85	457.63
106032	12/4/13 16:46	18.78	457.70
106032	12/4/13 18:24	18.69	457.79
106032	12/5/13 9:40	18.57	457.91
106032	12/5/13 10:48	18.57	457.91
106032	12/5/13 12:06	18.54	457.94
106032	12/5/13 14:37	18.62	457.86
106032	12/5/13 16:05	18.64	457.84
106032	12/5/13 18:17	18.6	457.88
106032	12/6/13 10:21	18.36	458.12
106032	12/6/13 12:40	18.37	458.11
106032	12/6/13 14:10	18.4	458.08
106032	12/6/13 16:08	18.41	458.07
106032	12/6/13 18:12	18.39	458.09
106032	12/7/13 9:46	18.44	458.04
106032	12/7/13 10:55	18.46	458.02
106032	12/7/13 12:28	18.52	457.96
106032	12/7/13 14:05	18.58	457.90
106032	12/7/13 16:04	18.62	457.86
106032	12/7/13 18:27	18.64	457.84
106032	12/8/13 10:39	18.53	457.95
106032	12/8/13 11:58	18.53	457.95
106032	12/8/13 14:25	18.54	457.94
106032	12/8/13 15:47	18.53	457.95
106032	12/8/13 18:02	18.53	457.95
106032	12/9/13 9:23	18.35	458.13
106032	12/9/13 13:08	18.3	458.18
106032	12/9/13 17:23	18.16	458.32
106032	12/10/13 10:52	18.12	458.36
106032	12/10/13 16:55	18.27	458.21
106032	12/11/13 8:26	18.16	458.32

KAFB-106032	458.91	17.57
KAFB-106083	475.81	17.39

**Table 1-7
Groundwater Sampling Field Chemistry Parameters**

Date	Time	Temp (°C)	pH	Cond (ms/cm)	DO (mg/L)	ORP (mV)
3-Dec-13	1014	17.1	7.79	0.6	4.35	64.8
	1237	19.3	8.04	0.58	2.94	32.7
	1456	19.2	7.8	0.58	13.91	67.8
	1651	15.1	7.67	0.59	2.82	71.6
4-Dec-13	800	15.2	7.69	0.61	2.03	100.4
	1013	18.6	7.6	0.57	2.03	326.6
	1255	19.7	7.55	0.57	2.19	184.1
	1505	19.6	7.3	0.57	1.76	135.2
	1648	18.7	7.54	0.57	6.82	125.6
5-Dec-13	758	16.9	7.36	0.68	2.41	262.9
	1024	16.2	7.66	0.62	2.82	264.6
	1222	19	7.52	0.63	2.75	161.6
	1420	20	7.55	0.63	5.59	143
	1711	18.6	7.49	0.63	2.74	120.2
6-Dec-13	810	10.9	7.41	0.63	3.23	363
	1017	17	7.66	0.542	2.86	389.1
	1311	19.6	7.59	0.536	3.92	246.6
	1506	19.1	7.68	0.517	3.17	240.4
	1654	15.4	7.62	0.538	3.48	220.3
7-Dec-13	817	17.7	7.65	0.55	3.16	411.3
	1009	18.1	7.61	0.54	3.55	325.3
	1207	18.1	7.53	0.55	4.42	226.6
	1413	18.9	7.61	0.54	4.09	195
	1601	19.7	7.59	0.54	3.78	193
	1700	18.7	7.59	0.54	4.29	177.5
	1828	19	7.59	0.55	5.92	284.1
8-Dec-13	749	13	7.93	0.53	5.57	141.4
	1001	15.2	7.65	0.52	3.26	306.6
	1204	18.8	7.59	0.51	2.81	226.1
	1402	15.9	7.61	0.51	3.25	171
	1650	10	7.63	0.57	3.59	174.8
9-Dec-13	755	14.1	7.62	0.77	3.96	248.4

Cond - Specific conductance measured in millisiemens per centimeter

DO - Dissolved oxygen measured in milligrams per liter

ORP - Oxidation-reduction potential measured in millivolts

pH - Hydrogen ion concentration measured in standard units

Temp - Temperature measured in degrees Celcius

**Table 1-8
Aquifer Testing Groundwater Sampling Schedule**

Test	Approximate Sample Time	Frequency	Location(s)	Analytical	Lab	Lab Delivery Deadline	Turn-Around-Time
Step-Drawdown	13:30 - 15:00	Once - During 150 gpm step	Well Head, After First and Second Carbon Beds, Post-treatment	VOCs by SW8260B, EDB by SW8011, SVOCs by SW8270D, TPH-DRO and TPH-GRO by SW8015B, Total cations and dissolved Fe and Mn by SW6010B, Anions by 300.0, Ammonia as nitrogen by SM4500 NH3BG, Sulfide by SM4500 S2CF, nitrate and nitrite by 353.2, Alkalinity by SM2320B	Empirical Laboratories LLC	N/A	72 hour TAT for all analytes
Constant Rate	8:00 AM	Daily	Well Head	VOCs by SW8260B, EDB by 504.1, SVOCs by SW8270C, TPH-DRO and TPH-GRO by SW8015D, Total cations and dissolved Fe and Mn by SW6010B, Anions by 300.0, Ammonia as nitrogen by SM4500 NH3, Sulfide by SM4500 S2CF, Alkalinity by SM2320B, RCRA metals by SW6010B and 7470, Corrosivity by 150.1, Ignitibility by SW1010, Reactivity by SW7.3.4.2	Hall Analytical Laboratories / Anatek Labs, Inc.	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 48 hr TAT for SVOCs, total cations, sulfide, 3 business day TAT for RCI and TCLP RCRA Metals
Constant Rate	8:00 AM	Daily	After First Carbon Bed	VOCs by SW8260B, EDB by 504.1, and TPH-DRO and TPH-GRO by SW8015D	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB
Constant Rate	8:00 AM	Daily	After Second Carbon Bed	VOCs by SW8260B, EDB by 504.1, and TPH-DRO and TPH-GRO by SW8015D	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB
Constant Rate	8:00 AM	Daily	Post-treatment	VOCs by SW8260B, EDB by 504.1, SVOCs by SW8270C, TPH-DRO and TPH-GRO by SW8015D, Total cations and dissolved Fe and Mn by SW6010B, Anions by 300.0, Ammonia as nitrogen by SM4500 NH3, Sulfide by SM4500 S2CF, Alkalinity by SM2320B, RCRA metals by SW6010B and 7470, Corrosivity by 150.1, Ignitibility by SW1010, Reactivity by SW7.3.4.2	Hall Analytical Laboratories / Anatek Labs, Inc.	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 48 hr TAT for SVOCs, total cations, sulfide, 3 business day TAT for RCI and TCLP RCRA Metals
Constant Rate	17:00	Daily	Well Head	VOCs by SW8260B, EDB by 504.1, SVOCs by SW8270C, TPH-DRO and TPH-GRO by SW8015D, Total cations and dissolved Fe and Mn by SW6010B, Anions by 300.0, Ammonia as nitrogen by SM4500 NH3, Sulfide by SM4500 S2CF, Alkalinity by SM2320B, and RCRA metals by SW6010B	Hall Analytical Laboratories	7:00 PM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 48 hr TAT for SVOCs, total cations, sulfide, 3 business day TAT for TCLP RCRA Metals
Constant Rate	17:00	Daily	Post-treatment	VOCs by SW8260B, EDB by 504.1, SVOCs by SW8270C, TPH-DRO and TPH-GRO by SW8015D, Total cations and dissolved Fe and Mn by SW6010B, Anions by 300.0, Ammonia as nitrogen by SM4500 NH3, Sulfide by SM4500 S2CF, and Alkalinity by SM2320B	Hall Analytical Laboratories	7:00 PM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 48 hr TAT for SVOCs, total cations, sulfide

DRO - Diesel Range Organics

EDB - 1,2-Dibromoethane

Fe - Iron

GAC - Granular Activated Carbon

GRO - Gasoline Range Organics

Mn - Manganese

RCI - Reactivity, Corrosivity, and Ignitability

RCRA - Resource Conservation and Recovery Act

SVOC - Semivolatile Organic Compound

TAT - Turn Around Time

TCLP - Toxicity Characteristic Leaching Procedures

TPH - Total Petroleum Hydrocarbons

VOC - Volatile Organic Compound

Constant Rate Test Sampling Plan

Sample Time	Frequency	Location	Analytical	Lab	Lab Delivery Deadline	Turn-Around-Time
8:00 AM	Daily	well head	EDB by SW8011, Metals by SW6010B, SVOCs, by SW8270D, TPH-DRO and TPH-GRO by SW8015B, VOCs by SW8260B, general chemistry parameters, RCI, TCLP Metals	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 72 hr TAT for SVOCs, total cations, sulfide, 3 business day TAT for RCI and TCLP Metals
8:00 AM	Daily	After first GAC unit	EDB by SW8011, Metals by SW6010B, SVOCs, by SW8270D, TPH-DRO and TPH-GRO by SW8015B, VOCs by SW8260B, general chemistry parameters	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 72 hr TAT for SVOCs, total cations, and sulfide
8:00 AM	Daily	After second GAC unit	EDB by SW8011, Metals by SW6010B, SVOCs, by SW8270D, TPH-DRO and TPH-GRO by SW8015B, VOCs by SW8260B, general chemistry parameters	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 72 hr TAT for SVOCs, total cations, and sulfide
8:00 AM	Daily	After third GAC unit	EDB by SW8011, Metals by SW6010B, SVOCs, by SW8270D, TPH-DRO and TPH-GRO by SW8015B, VOCs by SW8260B, general chemistry parameters, RCI, TCLP Metals	Hall Analytical Laboratories	10:00 AM	Same day TAT for VOCs, TPH, EDB, dissolved Fe and Mn, anions, ammonia, sulfide, nitrate, and alkalinity, 72 hr TAT for SVOCs, total cations, sulfide, 3 business day TAT for RCI and TCLP Metals
17:00	Daily	well head	EDB by SW8011, VOCs by SW8260B,	Hall Analytical Laboratories	7:00 AM the following morning	Same day TAT for EDB and VOCs
17:00	Daily	After first GAC unit	EDB by SW8011, VOCs by SW8260B	Hall Analytical Laboratories	7:00 AM the following morning	Same day TAT
17:00	Daily	After second GAC unit	EDB by SW8011, VOCs by SW8260B	Hall Analytical Laboratories	7:00 AM the following morning	Same day TAT
17:00	Daily	After third GAC unit	EDB by SW8011, VOCs by SW8260B	Hall Analytical Laboratories	7:00 AM the following morning	Same day TAT for EDB and VOCs

**Table 1-9
Manganese Field Measurements**

Date and Time	Result (mg/L)
12/3/2013 15:00	0.057
12/3/2013 16:30	0.067
12/4/2013 8:20	0.297
12/4/2013 10:40	0.058
12/4/2013 11:43	0.045
12/4/2013 13:28	0.045
12/4/2013 16:28	0.046
12/5/2013 7:50	0.042
12/5/2013 12:10	0.04
12/5/2013 14:50	0.045
12/5/2013 19:00	0.048
12/6/2013 7:00	0.155
12/6/2013 8:00	0.106
12/6/2013 9:45	0.04
12/6/2013 13:00	0.051
12/6/2013 16:25	0.054
12/7/2013 7:30	0.127
12/7/2013 9:55	0.091
12/7/2013 12:00	0.044
12/7/2013 16:30	0.034
12/8/2013 7:30	0.053
12/8/2013 12:10	0.044
12/8/2013 16:00	0.035
12/9/2013 7:40	0.051

KAFB - Kirtland Air Force Base

L - liter

mg - milligram

NR - Not Recorded

Manganese Readings

Date and Time	Result (mg/L)
12/3/2013 15:00	0.057
12/3/2013 16:30	0.067
12/4/2013 8:20	0.297
12/4/2013 10:40	0.058
12/4/2013 11:43	0.045
12/4/2013 13:28	0.045
12/4/2013 16:28	0.046
12/5/2013 7:50	0.042
12/5/2013 12:10	0.04
12/5/2013 14:50	0.045
12/5/2013 19:00	0.048
12/6/2013 7:00	0.155
12/6/2013 8:00	0.106
12/6/2013 9:45	0.04
12/6/2013 13:00	0.051
12/6/2013 16:25	0.054
12/7/2013 7:30	0.127
12/7/2013 9:55	0.091
12/7/2013 12:00	0.044
12/7/2013 16:30	0.034
12/8/2013 7:30	0.053
12/8/2013 12:10	0.044
12/8/2013 16:00	0.035
12/9/2013 7:40	0.051

Table 1-10
pH Measurements

Date and Time	pH
12/3/2013 11:45	9.23
12/3/2013 14:30	8.72
12/3/2013 18:11	8.91
12/3/2013 21:11	8.81
12/4/2013 5:00	8.88
12/4/2013 8:47	8.58
12/4/2013 13:30	8.6
12/4/2013 15:55	8.45
12/4/2013 21:00	8.51
12/5/2013 1:21	8.53
12/5/2013 2:59	8.53
12/5/2013 4:59	8
12/5/2013 9:18	8.67
12/5/2013 21:00	8.57
12/5/2013 23:00	8.56
12/6/2013 1:00	8.57
12/6/2013 3:00	8.57
12/6/2013 5:00	8.55

KAFB - Kirtland Air Force Base

NR - Not Recorded

pH Readings

Date and Time	pH
12/3/2013 11:45	9.23
12/3/2013 14:30	8.72
12/3/2013 18:11	8.91
12/3/2013 21:11	8.81
12/4/2013 5:00	8.88
12/4/2013 8:47	8.58
12/4/2013 13:30	8.6
12/4/2013 15:55	8.45
12/4/2013 21:00	8.51
12/5/2013 1:21	8.53
12/5/2013 2:59	8.53
12/5/2013 4:59	8
12/5/2013 9:18	8.67
12/5/2013 21:00	8.57
12/5/2013 23:00	8.56
12/6/2013 1:00	8.57
12/6/2013 3:00	8.57
12/6/2013 5:00	8.55

**Table 3-1
Long Term Test Results**

Well ID	Well Type	Pumping or Recovery	Solution Method	Transmissivity (ft ³ /day)	Storativity (dimensionless)	Hydraulic Conductivity (ft/day)	Comments
KAFB-106157	Pumping	Pumping	Dougherty-Babu	420	5.00E-06	4.2	Poor fit to the data, results will not be used.
KAFB-106157	Pumping	Pumping	Moench	340	1.00E-10	3.4	Poor fit to the data, results will not be used.
KAFB-106157	Pumping	Pumping	Theis-Hantush	630	0.15	6.3	Poor fit to the data, results will not be used.
KAFB-106157	Pumping	Recovery	Dougherty-Babu, Agarwal Plot	1400	1.00E-06	14	Good fit to the data
KAFB-106157	Pumping	Recovery	Moench, Agarwal Plot	8500	0.03	85	Best fit to the data, result is considered representative of the aquifer in the vicinity of the pumping well. Similar to the average conductivity value (63 ft/day) determined during slug testing.
KAFB-106157	Pumping	Recovery	Dougherty-Babu, Residual-Drawdown plot	4700	1.00E-06	47	Acceptable fit to the data
KAFB-106157	Pumping	Recovery	Moench, Residual-Drawdown Plot	9900	0.04	99	Acceptable fit to the data
KAFB-10617	Observation	Pumping, Q = 95 gpm	Cooper-Jacob Time Drawdown	22000	0.03	220	Each solution considered representative for the portion of the aquifer between the pumping well and each observation well. In the same order of magnitude as the highest conductivity values (130 ft/day) determined during slug testing.
KAFB-10617	Observation	Recovery	Cooper-Jacob Time Drawdown	21000	0.03	210	
KAFB-10618	Observation	Pumping, Q = 95 gpm	Cooper-Jacob Time Drawdown	35000	0.05	350	
KAFB-10618	Observation	Recovery	Cooper-Jacob Time Drawdown	28000	0.07	280	
KAFB-106083	Observation	Pumping, Q = 95 gpm	Cooper-Jacob Time Drawdown	17000	0.04	170	
KAFB-106083	Observation	Recovery	Cooper-Jacob Time Drawdown	13000	0.04	130	
KAFB-10617 KAFB-10618 KAFB-106083	Observation	Pumping, Q = 95 gpm	Jacob Distance-Drawdown	14000	0.04	140	
KAFB-10617 KAFB-10618 KAFB-106083	Observation	Recovery	Jacob Distance-Drawdown	11000	0.06	110	Consistent with the highest conductivity values (130 ft/day) determined during slug testing.

bgs - below ground surface
gpm - gallons per minute
ID - identification
ft - foot/feet