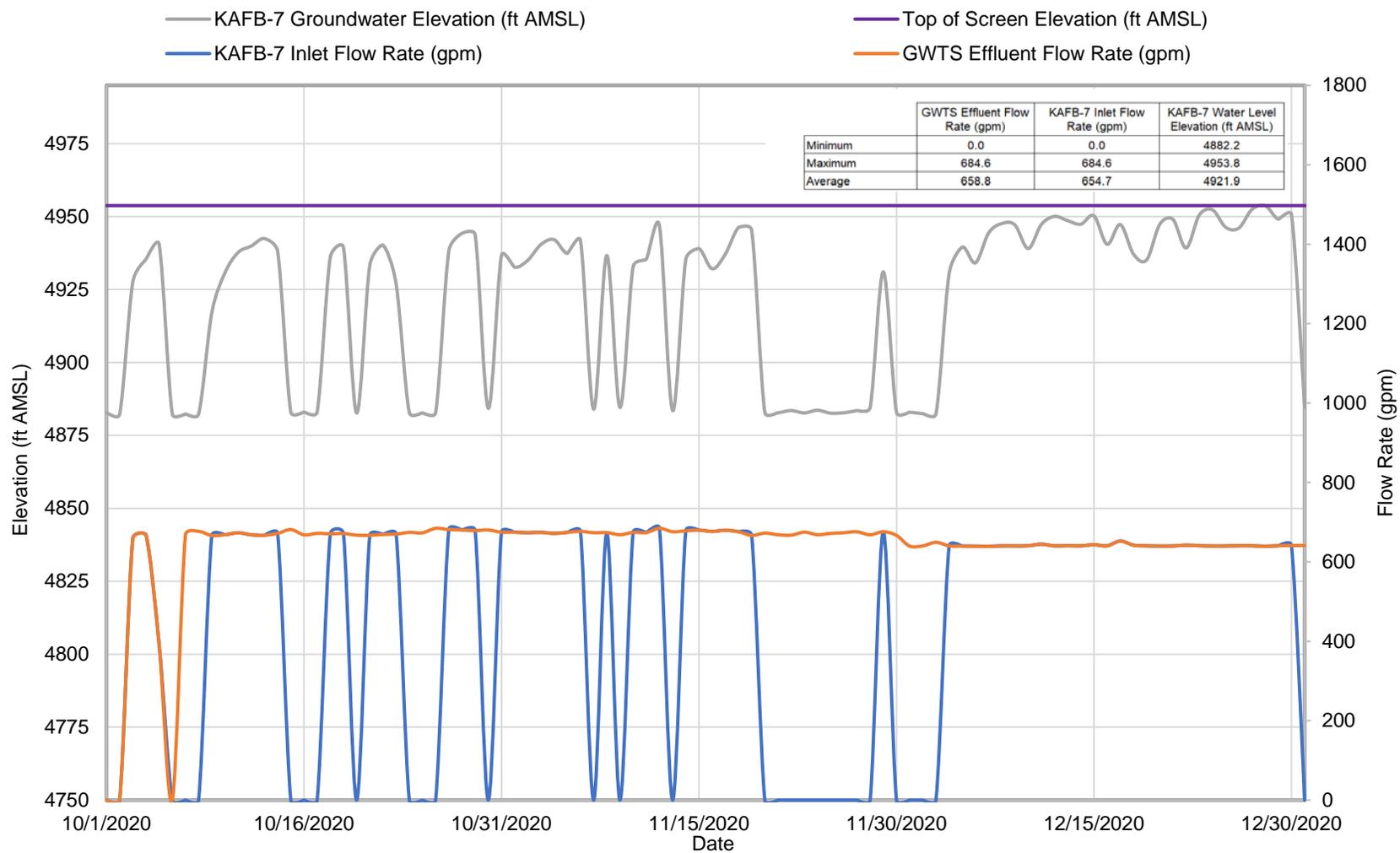


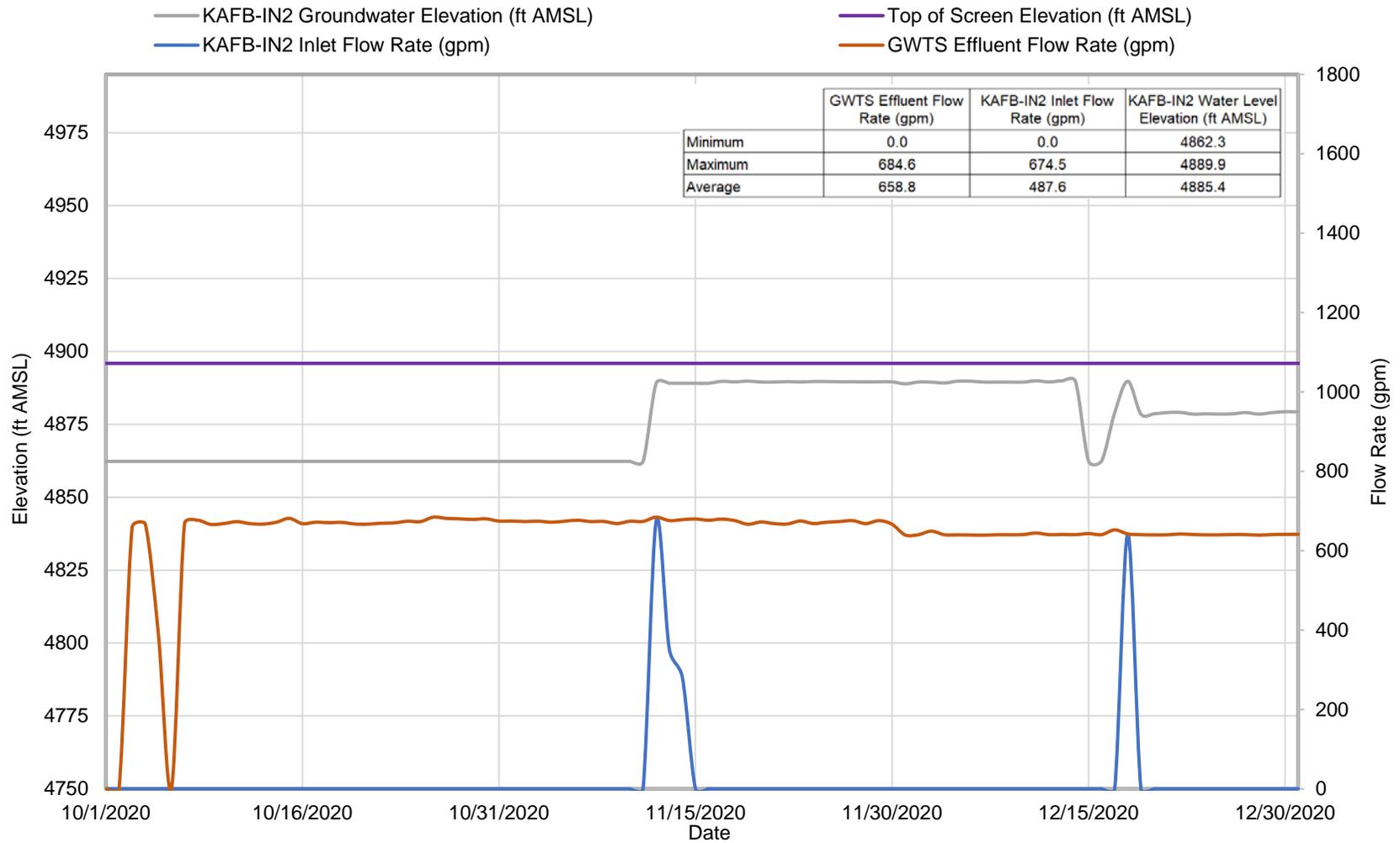
Q4 2020 WELL PERFORMANCE FIGURES

**Figure I-1-1a
Well KAFB-7**



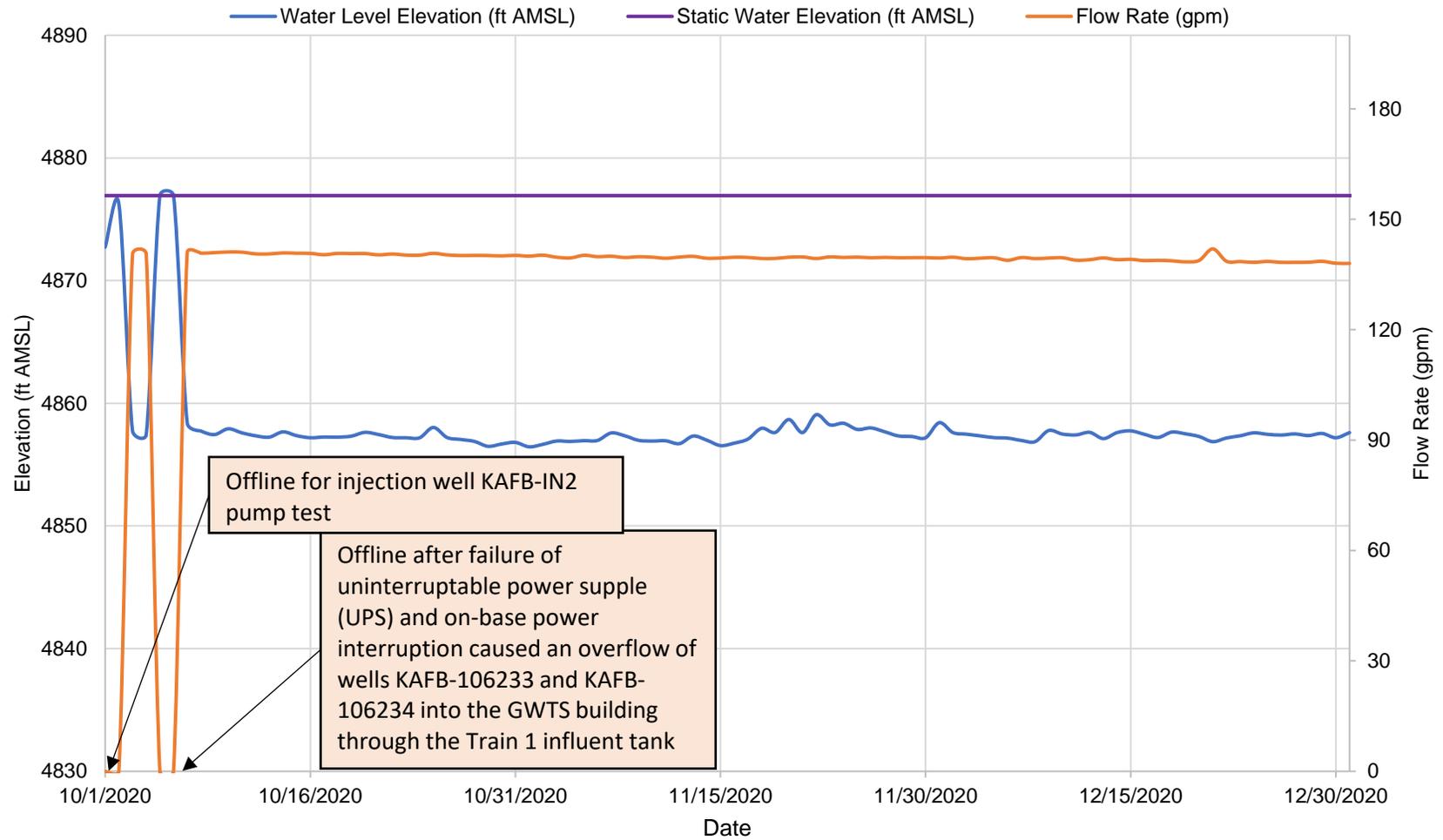
AMSL = above mean sea level
ft = foot/feet
gpm = gallons per minute

**Figure I-1-1b
Well KAFB-IN2**



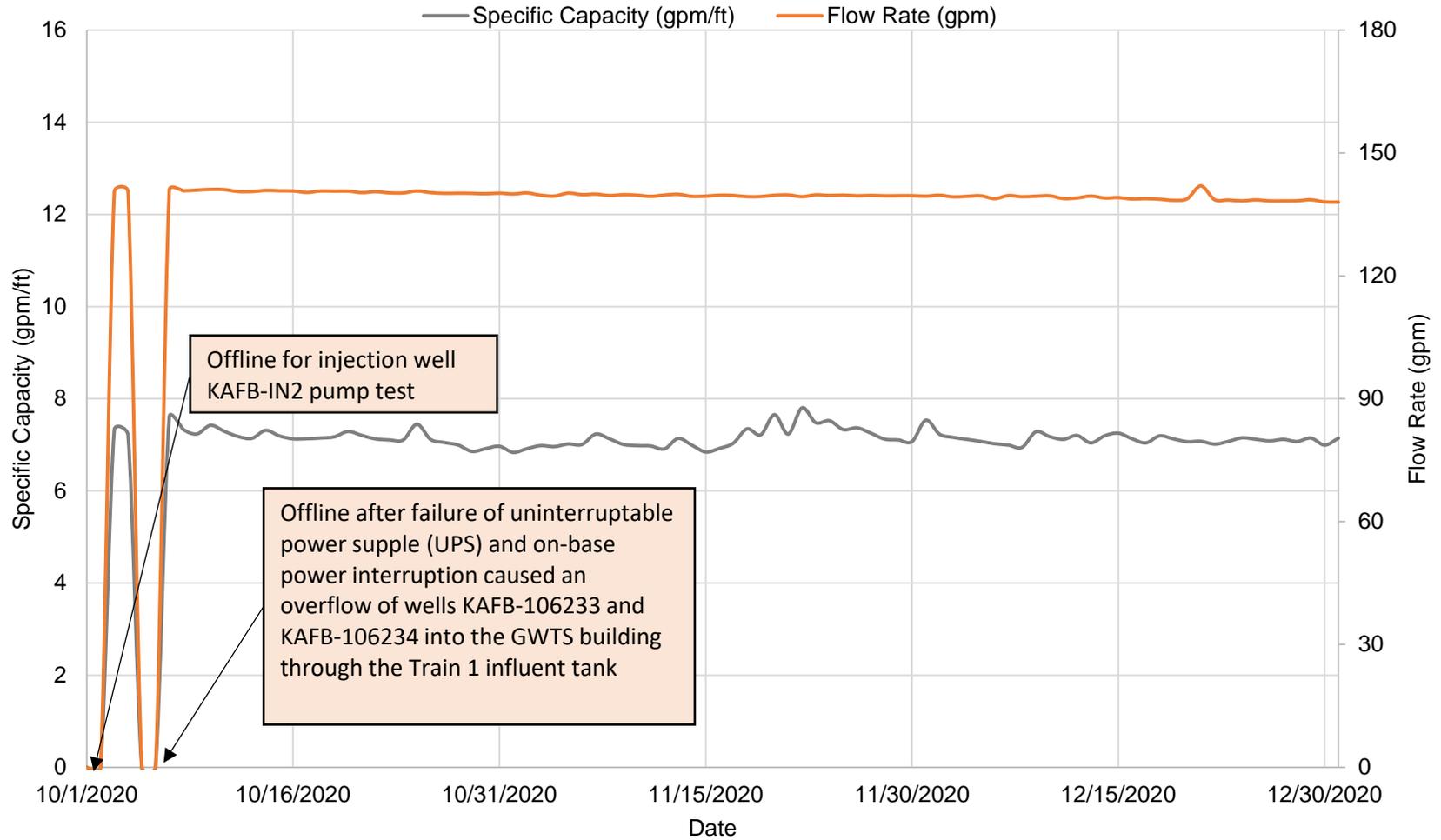
AMSL = above mean sea level
ft = foot/feet
gpm = gallons per minute

**Figure I-1-2
KAFB-106228**



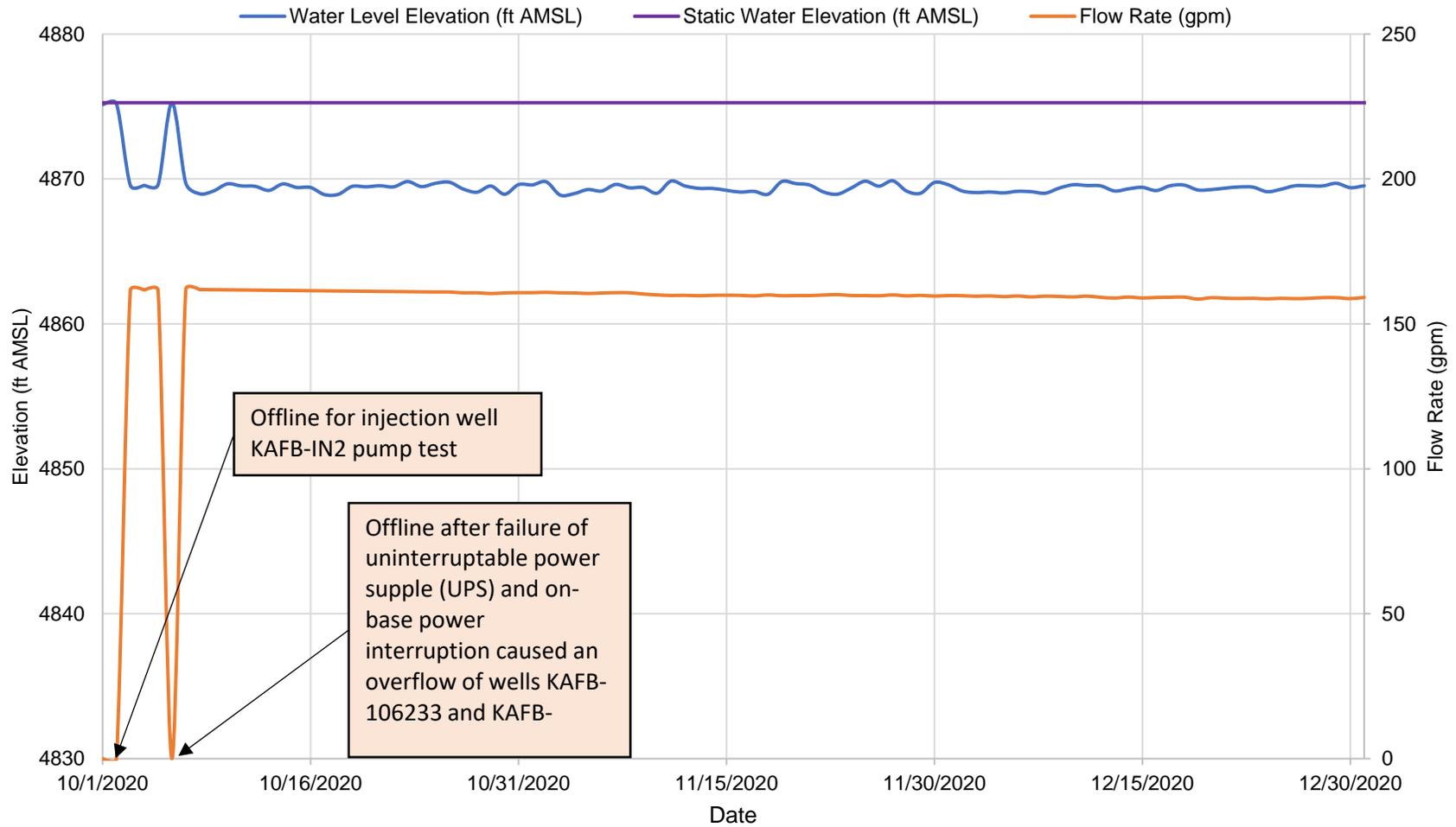
Water level elevation and flow rate are graphed from daily values.
 Static water elevation is approximately groundwater elevation when GWTS is non-operational.
 AMSL = above mean sea level
 ft = foot/feet
 gpm = gallons per minute

**Figure I-1-3
KAFB-106228**



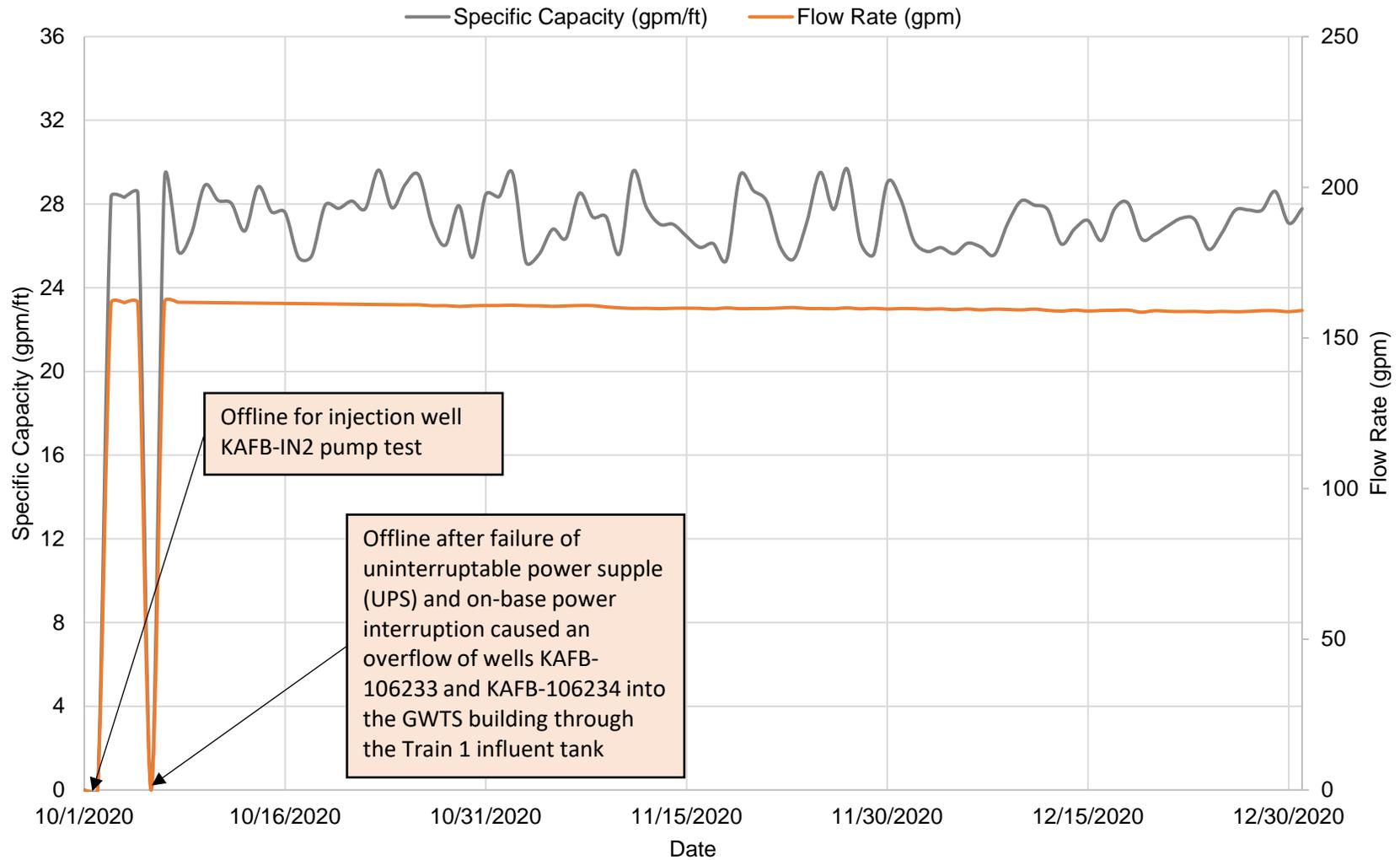
Flow rate is graphed from daily values.
ft = foot/feet
gpm = gallons per minute

**Figure I-1-4
KAFB-106233**



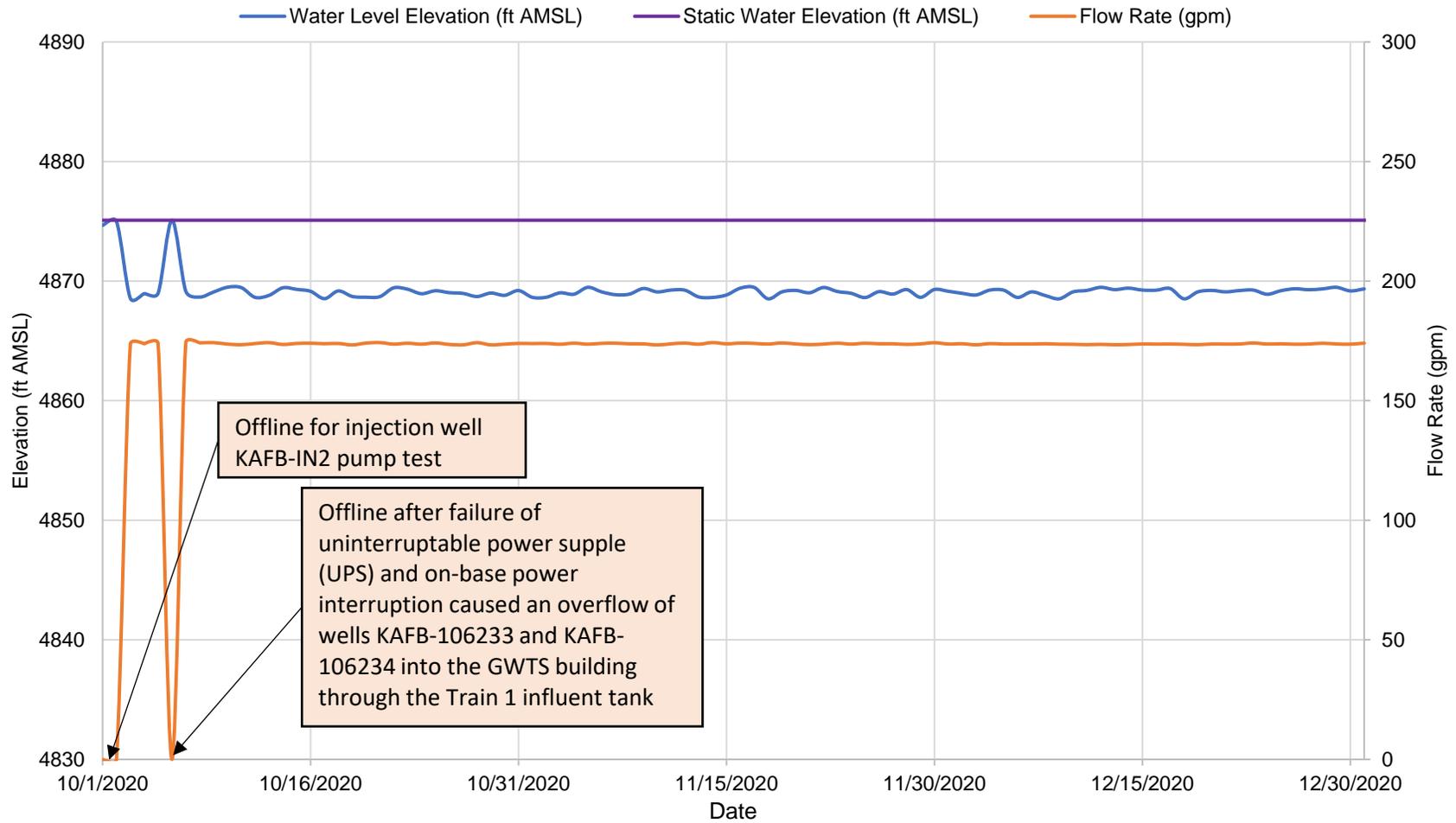
Water level elevation and flow rate are graphed from daily values.
 Static water elevation is approximately groundwater elevation when GWTS is non-operational.
 AMSL = above mean sea level
 ft = foot/feet
 gpm = gallons per minute

**Figure I-1-5
KAFB-106233**



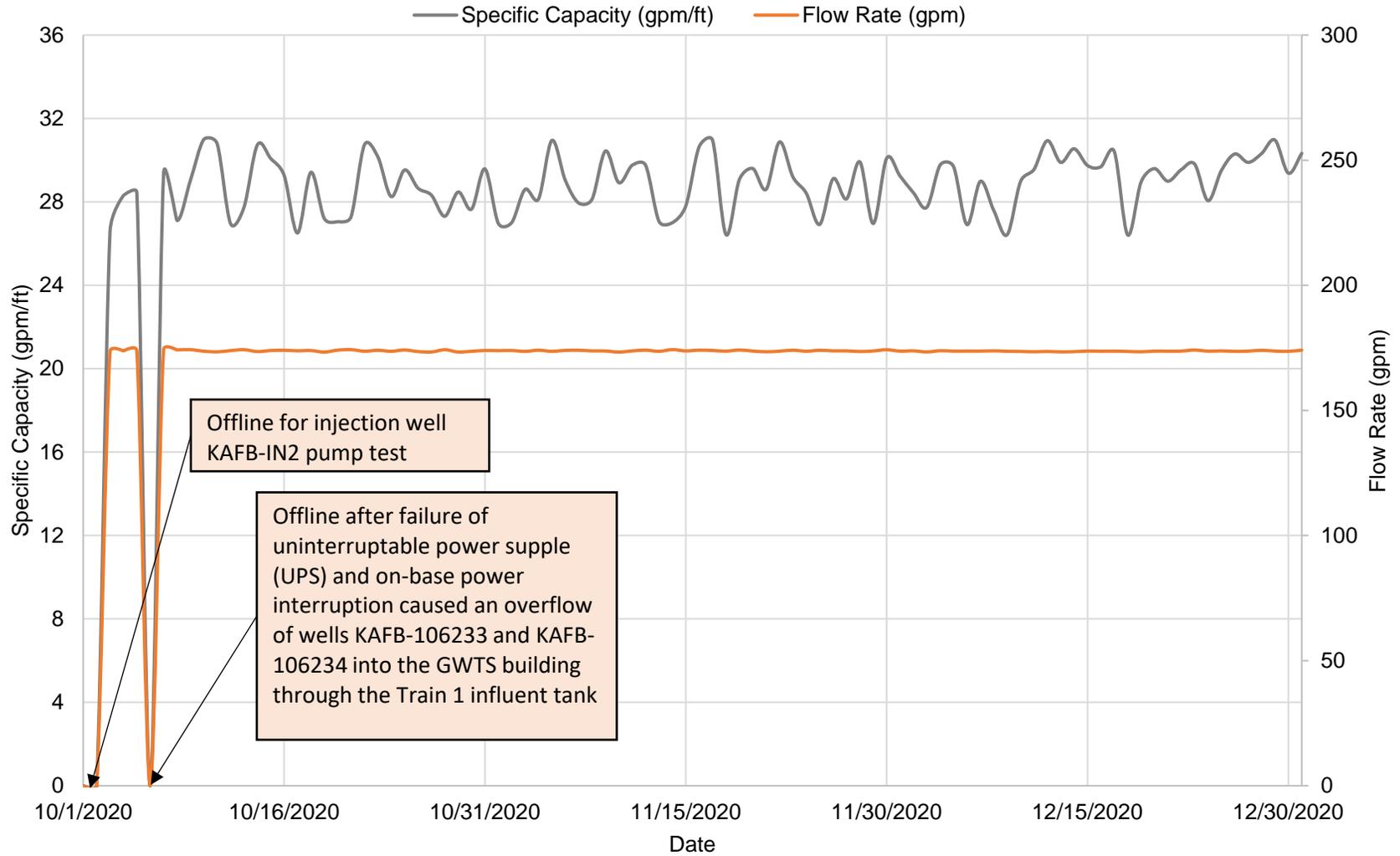
Flow rate is graphed from daily values.
ft = foot/feet
gpm = gallons per minute

**Figure I-1-6
KAFB-106234**



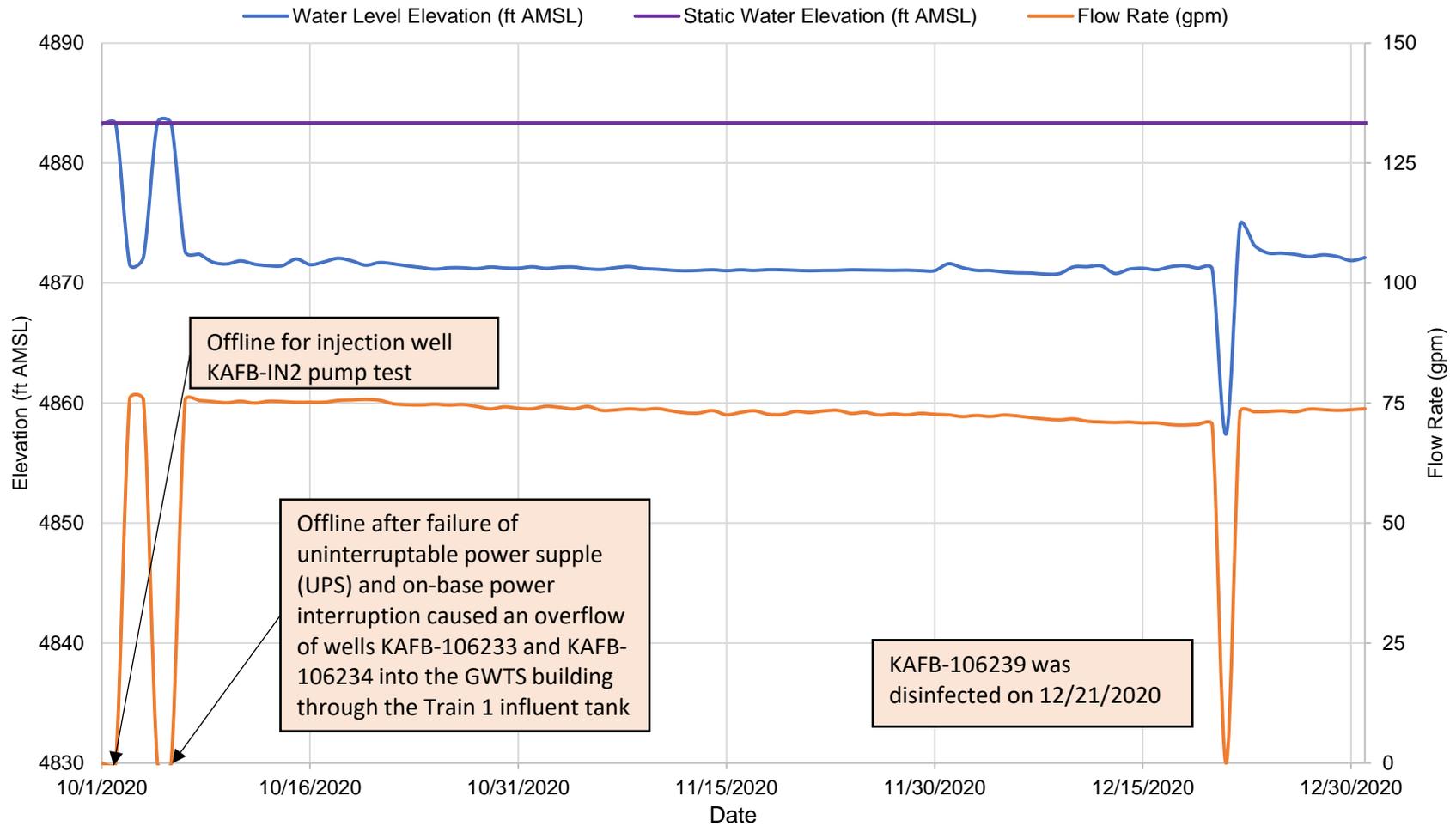
Water level and flow rate are graphed from daily values.
 Static water elevation is approximately groundwater elevation when GWTS is non-operational.
 AMSL = above mean sea level
 ft = foot/feet
 gpm = gallons per minute

**Figure I-1-7
KAFB-106234**



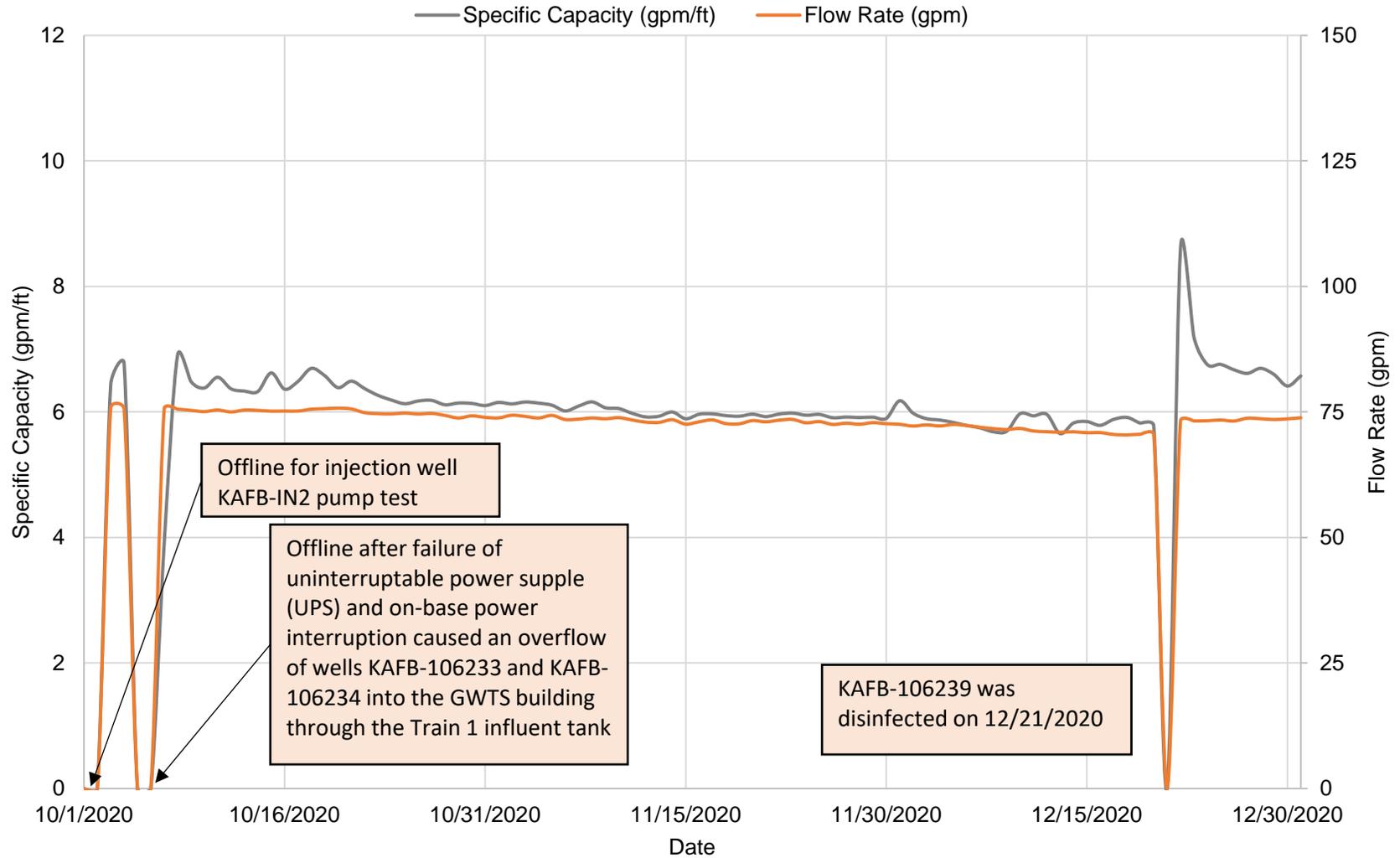
Flow rate is graphed from daily values.
ft = foot/feet
gpm = gallons per minute

**Figure I-1-8
KAFB-106239**



Water level and flow rate are graphed from daily values.
 Static water elevation is approximately groundwater elevation when GWTS is non-operational.
 AMSL = above mean sea level
 ft = foot/feet
 gpm = gallons per minute

**Figure I-1-9
KAFB-106239**



Flow rate is graphed from daily values.
ft = foot/feet
gpm = gallons per minute

Q4 2020 WELL PERFORMANCE TABLES

**Table I-1-1
Extraction Well KAFB-106228 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d•ft)
10/1/2020	0.00	4872.73	--	--	--
10/2/2020	0.00	4876.26	--	--	--
10/3/2020	140.51	4857.75	19.18	7.33	10988.79
10/4/2020	140.57	4857.44	19.49	7.21	10818.62
10/5/2020	0.00	4876.93	--	--	--
10/6/2020	0.00	4876.93	--	--	--
10/7/2020	140.97	4858.40	18.53	7.61	11411.49
10/8/2020	140.77	4857.74	--	--	--
10/9/2020	140.94	4857.45	19.48	7.24	10852.67
10/10/2020	141.11	4857.92	19.01	7.42	11134.40
10/11/2020	141.06	4857.59	19.34	7.29	10940.54
10/12/2020	140.60	4857.35	19.58	7.18	10771.20
10/13/2020	140.59	4857.24	19.69	7.14	10710.26
10/14/2020	140.86	4857.67	19.26	7.31	10970.40
10/15/2020	140.77	4857.36	19.57	7.19	10789.73
10/16/2020	140.73	4857.19	19.74	7.13	10693.77
10/17/2020	140.37	4857.25	19.68	7.13	10698.93
10/18/2020	140.73	4857.24	19.69	7.15	10720.92
10/19/2020	140.68	4857.32	19.61	7.17	10760.84
10/20/2020	140.69	4857.63	19.30	7.29	10934.46
10/21/2020	140.33	4857.45	19.48	7.20	10805.70
10/22/2020	140.56	4857.21	19.72	7.13	10691.68
10/23/2020	140.27	4857.19	19.74	7.11	10658.81
10/24/2020	140.25	4857.19	19.74	7.10	10657.29
10/25/2020	140.74	4858.03	18.90	7.45	11169.84
10/26/2020	140.33	4857.21	19.72	7.12	10674.19
10/27/2020	140.15	4857.05	19.88	7.05	10574.70
10/28/2020	140.18	4856.89	20.04	7.00	10492.51
10/29/2020	140.15	4856.49	20.44	6.86	10284.98
10/30/2020	140.05	4856.68	20.25	6.92	10374.07
10/31/2020	140.19	4856.81	20.12	6.97	10451.54
11/1/2020	139.99	4856.45	20.48	6.84	10253.17
11/2/2020	140.25	4856.65	20.28	6.92	10373.52
11/3/2020	139.70	4856.92	20.01	6.98	10472.26
11/4/2020	139.49	4856.89	20.04	6.96	10440.87
11/5/2020	140.21	4856.95	19.98	7.02	10526.28
11/6/2020	139.84	4856.97	19.96	7.01	10509.02
11/7/2020	139.96	4857.58	19.35	7.23	10849.61
11/8/2020	139.61	4857.35	19.58	7.13	10695.35
11/9/2020	139.82	4856.98	19.95	7.01	10512.78
11/10/2020	139.70	4856.92	20.01	6.98	10472.26
11/11/2020	139.41	4856.94	19.99	6.97	10460.98
11/12/2020	139.73	4856.71	20.22	6.91	10365.73
11/13/2020	139.92	4857.33	19.60	7.14	10708.16
11/14/2020	139.41	4856.99	19.94	6.99	10487.21
11/15/2020	139.47	4856.55	20.38	6.84	10265.21
11/16/2020	139.69	4856.75	20.18	6.92	10383.30

Table I-1-1
Extraction Well KAFB-106228 Performance Figure Data, Q4 2020

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d•ft)
11/17/2020	139.63	4857.08	19.85	7.03	10551.39
11/18/2020	139.35	4857.96	18.97	7.35	11018.71
11/19/2020	139.37	4857.62	19.31	7.22	10826.26
11/20/2020	139.69	4858.68	18.25	7.65	11481.37
11/21/2020	139.76	4857.61	19.32	7.23	10850.93
11/22/2020	139.34	4859.07	17.86	7.80	11702.69
11/23/2020	139.78	4858.24	18.69	7.48	11218.30
11/24/2020	139.63	4858.37	18.56	7.52	11284.75
11/25/2020	139.72	4857.87	19.06	7.33	10995.80
11/26/2020	139.55	4857.99	18.94	7.37	11052.01
11/27/2020	139.64	4857.68	19.25	7.25	10881.04
11/28/2020	139.55	4857.34	19.59	7.12	10685.30
11/29/2020	139.57	4857.29	19.64	7.11	10659.62
11/30/2020	139.58	4857.19	19.74	7.07	10606.38
12/1/2020	139.47	4858.42	18.51	7.53	11302.27
12/2/2020	139.69	4857.61	19.32	7.23	10845.50
12/3/2020	139.29	4857.48	19.45	7.16	10742.16
12/4/2020	139.43	4857.34	19.59	7.12	10676.11
12/5/2020	139.55	4857.20	19.73	7.07	10609.48
12/6/2020	138.85	4857.16	19.77	7.02	10534.90
12/7/2020	139.60	4856.97	19.96	6.99	10490.98
12/8/2020	139.32	4856.87	20.06	6.95	10417.75
12/9/2020	139.46	4857.78	19.15	7.28	10923.76
12/10/2020	139.55	4857.49	19.44	7.18	10767.75
12/11/2020	138.88	4857.42	19.51	7.12	10677.60
12/12/2020	139.02	4857.63	19.30	7.20	10804.66
12/13/2020	139.49	4857.12	19.81	7.04	10562.09
12/14/2020	139.02	4857.61	19.32	7.20	10793.48
12/15/2020	139.11	4857.75	19.18	7.25	10879.30
12/16/2020	138.77	4857.47	19.46	7.13	10696.56
12/17/2020	138.85	4857.21	19.72	7.04	10561.61
12/18/2020	138.71	4857.65	19.28	7.19	10791.75
12/19/2020	138.44	4857.51	19.42	7.13	10693.10
12/20/2020	138.82	4857.29	19.64	7.07	10602.34
12/21/2020	141.96	4856.87	20.06	7.08	10615.15
12/22/2020	138.59	4857.17	19.76	7.01	10520.50
12/23/2020	138.51	4857.35	19.58	7.07	10611.08
12/24/2020	138.31	4857.59	19.34	7.15	10727.25
12/25/2020	138.54	4857.47	19.46	7.12	10678.83
12/26/2020	138.30	4857.41	19.52	7.09	10627.56
12/27/2020	138.30	4857.50	19.43	7.12	10676.79
12/28/2020	138.33	4857.37	19.56	7.07	10608.13
12/29/2020	138.57	4857.54	19.39	7.15	10719.70
12/30/2020	138.05	4857.19	19.74	6.99	10490.12
12/31/2020	138.01	4857.61	19.32	7.14	10715.06

Notes:

AMSL = above mean sea level

d = day

ft = foot/feet

gal = gallon

gpm = gallons per minute

WL = water level

Table I-1-2
Extraction Well KAFB-106233 Performance Figure Data, Q4 2020

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d*ft)
10/1/2020	0.00	4875.13	--	--	--
10/2/2020	0.00	4875.18	--	--	--
10/3/2020	161.51	4869.56	5.70	28.34	42502.63
10/4/2020	161.69	4869.55	5.71	28.32	42475.48
10/5/2020	161.51	4869.60	5.66	28.54	42803.00
10/6/2020	0.00	4875.26	--	--	--
10/7/2020	161.89	4869.71	5.55	29.17	43754.05
10/8/2020	161.84	4868.98	6.28	25.76	38642.00
10/9/2020	161.79	4869.17	6.09	26.57	39856.55
10/10/2020	161.74	4869.66	5.60	28.88	43324.62
10/11/2020	161.69	4869.52	5.74	28.18	42262.90
10/12/2020	161.64	4869.49	5.77	28.03	42041.64
10/13/2020	161.59	4869.21	6.05	26.71	40071.33
10/14/2020	161.54	4869.66	5.60	28.83	43240.19
10/15/2020	161.49	4869.41	5.85	27.62	41429.64
10/16/2020	161.45	4869.41	5.85	27.60	41397.12
10/17/2020	161.40	4868.92	6.34	25.46	38189.12
10/18/2020	161.35	4868.94	6.32	25.53	38289.18
10/19/2020	161.30	4869.49	5.77	27.94	41911.92
10/20/2020	161.25	4869.46	5.80	27.79	41686.44
10/21/2020	161.20	4869.53	5.73	28.14	42209.17
10/22/2020	161.15	4869.46	5.80	27.77	41660.88
10/23/2020	161.10	4869.82	5.44	29.63	44437.68
10/24/2020	161.05	4869.47	5.79	27.82	41733.26
10/25/2020	161.00	4869.70	5.56	28.95	43420.93
10/26/2020	161.00	4869.78	5.48	29.38	44064.44
10/27/2020	160.70	4869.31	5.95	27.01	40517.61
10/28/2020	160.73	4869.09	6.17	26.04	39058.06
10/29/2020	160.46	4869.51	5.75	27.92	41876.55
10/30/2020	160.68	4868.95	6.31	25.44	38166.28
10/31/2020	160.75	4869.61	5.65	28.45	42680.49
11/1/2020	160.76	4869.59	5.67	28.35	42528.12
11/2/2020	160.88	4869.80	5.46	29.48	44225.08
11/3/2020	160.70	4868.89	6.37	25.23	37842.47
11/4/2020	160.67	4868.99	6.27	25.61	38409.23
11/5/2020	160.49	4869.27	5.99	26.79	40190.41
11/6/2020	160.64	4869.17	6.09	26.37	39551.18
11/7/2020	160.76	4869.62	5.64	28.51	42771.02
11/8/2020	160.73	4869.39	5.87	27.38	41066.88
11/9/2020	160.29	4869.41	5.85	27.38	41076.96
11/10/2020	160.00	4869.02	6.24	25.62	38436.70
11/11/2020	159.80	4869.85	5.41	29.56	44336.75
11/12/2020	159.85	4869.52	5.74	27.85	41773.04
11/13/2020	159.71	4869.35	5.91	27.04	40555.93
11/14/2020	159.85	4869.35	5.91	27.03	40544.51
11/15/2020	159.88	4869.22	6.04	26.46	39690.09
11/16/2020	159.83	4869.10	6.16	25.93	38889.00
11/17/2020	159.65	4869.14	6.12	26.11	39161.33
11/18/2020	159.97	4868.95	6.31	25.33	38000.77
11/19/2020	159.71	4869.82	5.44	29.38	44063.65

**Table I-1-2
Extraction Well KAFB-106233 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d*ft)
11/20/2020	159.77	4869.68	5.58	28.64	42957.40
11/21/2020	159.77	4869.58	5.68	28.13	42195.41
11/22/2020	159.94	4869.10	6.16	25.97	38947.81
11/23/2020	160.10	4868.95	6.31	25.37	38048.22
11/24/2020	159.78	4869.37	5.89	27.14	40716.14
11/25/2020	159.77	4869.85	5.41	29.51	44269.19
11/26/2020	159.69	4869.50	5.76	27.74	41609.85
11/27/2020	159.98	4869.87	5.39	29.68	44523.44
11/28/2020	159.66	4869.16	6.10	26.17	39261.25
11/29/2020	159.83	4869.02	6.24	25.60	38400.61
11/30/2020	159.59	4869.76	5.50	29.02	43524.64
12/1/2020	159.77	4869.60	5.66	28.23	42341.87
12/2/2020	159.72	4869.17	6.09	26.23	39339.90
12/3/2020	159.54	4869.06	6.20	25.73	38598.39
12/4/2020	159.66	4869.10	6.16	25.92	38878.25
12/5/2020	159.40	4869.04	6.22	25.63	38440.51
12/6/2020	159.62	4869.15	6.11	26.12	39186.58
12/7/2020	159.31	4869.12	6.14	25.95	38919.38
12/8/2020	159.57	4869.02	6.24	25.57	38358.17
12/9/2020	159.46	4869.37	5.89	27.07	40609.51
12/10/2020	159.30	4869.60	5.66	28.14	42217.31
12/11/2020	159.57	4869.55	5.71	27.95	41918.56
12/12/2020	159.16	4869.52	5.74	27.73	41592.33
12/13/2020	158.91	4869.17	6.09	26.09	39140.39
12/14/2020	159.25	4869.32	5.94	26.81	40214.65
12/15/2020	158.93	4869.42	5.84	27.21	40821.06
12/16/2020	159.11	4869.20	6.06	26.26	39383.66
12/17/2020	159.17	4869.53	5.73	27.78	41667.54
12/18/2020	159.25	4869.58	5.68	28.04	42055.46
12/19/2020	158.55	4869.24	6.02	26.34	39505.81
12/20/2020	159.05	4869.27	5.99	26.55	39828.88
12/21/2020	158.84	4869.37	5.89	26.97	40451.61
12/22/2020	158.76	4869.45	5.81	27.33	40987.95
12/23/2020	158.82	4869.43	5.83	27.24	40862.78
12/24/2020	158.64	4869.12	6.14	25.84	38755.70
12/25/2020	158.82	4869.29	5.97	26.60	39904.52
12/26/2020	158.70	4869.53	5.73	27.70	41544.50
12/27/2020	158.81	4869.53	5.73	27.72	41573.30
12/28/2020	159.05	4869.52	5.74	27.71	41563.59
12/29/2020	159.04	4869.70	5.56	28.60	42906.47
12/30/2020	158.72	4869.40	5.86	27.09	40627.99
12/31/2020	159.14	4869.53	5.73	27.77	41659.69

Notes:

AMSL = above mean sea level

d = day

ft = foot/feet

gal = gallon

gpm = gallons per minute

WL = water level

**Table I-1-3
Extraction Well KAFB-106234 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d*ft)
10/1/2020	0.00	4874.67	--	--	--
10/2/2020	0.00	4874.99	--	--	--
10/3/2020	173.55	4868.56	6.53	26.58	39866.00
10/4/2020	173.81	4868.95	6.14	28.31	42461.73
10/5/2020	173.85	4868.98	6.11	28.45	42680.03
10/6/2020	0.00	4875.09	--	--	--
10/7/2020	174.27	4869.15	5.94	29.34	44007.58
10/8/2020	174.19	4868.66	6.43	27.11	40665.49
10/9/2020	174.29	4869.09	6.00	29.02	43536.08
10/10/2020	173.67	4869.49	5.60	30.99	46489.29
10/11/2020	173.41	4869.46	5.63	30.79	46192.01
10/12/2020	173.90	4868.64	6.45	26.96	40441.45
10/13/2020	174.27	4868.81	6.28	27.73	41597.06
10/14/2020	173.52	4869.44	5.65	30.73	46091.21
10/15/2020	173.93	4869.31	5.78	30.08	45123.39
10/16/2020	174.04	4869.15	5.94	29.28	43915.91
10/17/2020	173.83	4868.53	6.56	26.51	39761.58
10/18/2020	173.93	4869.18	5.91	29.42	44126.78
10/19/2020	173.32	4868.72	6.37	27.21	40811.10
10/20/2020	174.09	4868.65	6.44	27.05	40573.46
10/21/2020	174.29	4868.70	6.39	27.28	40925.83
10/22/2020	173.66	4869.44	5.65	30.73	46101.05
10/23/2020	174.03	4869.32	5.77	30.17	45249.55
10/24/2020	173.64	4868.94	6.15	28.25	42381.00
10/25/2020	174.15	4869.19	5.90	29.53	44297.88
10/26/2020	173.53	4869.04	6.05	28.66	42989.35
10/27/2020	173.36	4868.97	6.12	28.33	42488.34
10/28/2020	174.25	4868.71	6.38	27.31	40966.81
10/29/2020	173.35	4869.00	6.09	28.47	42710.66
10/30/2020	173.64	4868.81	6.28	27.65	41480.25
10/31/2020	173.95	4869.21	5.88	29.58	44375.68
11/1/2020	173.89	4868.64	6.45	26.97	40453.01
11/2/2020	173.94	4868.65	6.44	27.01	40512.38
11/3/2020	173.61	4869.02	6.07	28.60	42903.83
11/4/2020	174.05	4868.90	6.19	28.14	42208.39
11/5/2020	173.63	4869.48	5.61	30.95	46424.21
11/6/2020	173.99	4869.10	5.99	29.04	43554.53
11/7/2020	174.05	4868.86	6.23	27.95	41920.83
11/8/2020	173.79	4868.91	6.18	28.13	42197.01
11/9/2020	173.75	4869.38	5.71	30.44	45660.43
11/10/2020	173.32	4869.10	5.99	28.92	43386.72
11/11/2020	173.78	4869.25	5.84	29.76	44636.96
11/12/2020	174.08	4869.24	5.85	29.76	44635.99
11/13/2020	173.63	4868.68	6.41	27.07	40602.62
11/14/2020	174.30	4868.64	6.45	27.00	40505.00
11/15/2020	173.78	4868.84	6.25	27.81	41712.61
11/16/2020	174.08	4869.41	5.68	30.65	45981.46
11/17/2020	173.96	4869.47	5.62	30.95	46429.30
11/18/2020	173.69	4868.52	6.57	26.43	39650.15
11/19/2020	174.14	4869.10	5.99	29.07	43607.12

**Table I-1-3
Extraction Well KAFB-106234 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d*ft)
11/20/2020	173.73	4869.22	5.87	29.60	44403.83
11/21/2020	173.44	4869.03	6.06	28.61	42907.74
11/22/2020	173.68	4869.47	5.62	30.88	46316.23
11/23/2020	174.05	4869.13	5.96	29.20	43802.86
11/24/2020	173.66	4868.98	6.11	28.41	42622.25
11/25/2020	174.04	4868.63	6.46	26.92	40380.54
11/26/2020	173.80	4869.12	5.97	29.11	43660.57
11/27/2020	173.80	4868.91	6.18	28.14	42215.04
11/28/2020	173.55	4869.29	5.80	29.92	44882.07
11/29/2020	173.77	4868.65	6.44	26.96	40443.37
11/30/2020	174.25	4869.30	5.79	30.09	45137.43
12/1/2020	173.70	4869.15	5.94	29.24	43863.64
12/2/2020	173.81	4868.98	6.11	28.44	42658.40
12/3/2020	173.38	4868.84	6.25	27.74	41611.20
12/4/2020	173.87	4869.25	5.84	29.77	44661.14
12/5/2020	173.69	4869.24	5.85	29.69	44536.39
12/6/2020	173.72	4868.64	6.45	26.91	40370.33
12/7/2020	173.70	4869.10	5.99	28.99	43481.79
12/8/2020	173.81	4868.79	6.30	27.59	41383.33
12/9/2020	173.64	4868.52	6.57	26.43	39638.12
12/10/2020	173.58	4869.10	5.99	28.98	43466.57
12/11/2020	173.44	4869.22	5.87	29.55	44330.28
12/12/2020	173.56	4869.48	5.61	30.94	46406.42
12/13/2020	173.40	4869.29	5.80	29.90	44844.33
12/14/2020	173.49	4869.41	5.68	30.55	45825.03
12/15/2020	173.72	4869.25	5.84	29.75	44622.61
12/16/2020	173.66	4869.24	5.85	29.69	44528.70
12/17/2020	173.70	4869.38	5.71	30.42	45630.47
12/18/2020	173.58	4868.52	6.57	26.42	39624.42
12/19/2020	173.43	4869.10	5.99	28.95	43429.01
12/20/2020	173.70	4869.22	5.87	29.60	44396.74
12/21/2020	173.67	4869.10	5.99	28.99	43489.11
12/22/2020	173.72	4869.21	5.88	29.54	44316.33
12/23/2020	174.13	4869.25	5.84	29.82	44725.17
12/24/2020	173.69	4868.90	6.19	28.06	42089.66
12/25/2020	173.79	4869.20	5.89	29.51	44258.91
12/26/2020	173.61	4869.36	5.73	30.30	45447.64
12/27/2020	173.70	4869.28	5.81	29.90	44845.09
12/28/2020	174.02	4869.35	5.74	30.32	45475.61
12/29/2020	173.72	4869.48	5.61	30.97	46449.20
12/30/2020	173.63	4869.18	5.91	29.38	44068.53
12/31/2020	174.07	4869.35	5.74	30.33	45488.68

Notes:

AMSL = above mean sea level

d = day

ft = foot/feet

gal = gallon

gpm = gallons per minute

WL = water level

**Table I-1-4
Extraction Well KAFB-106239 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d•ft)
10/1/2020	0.00	4883.23	--	--	--
10/2/2020	0.00	4883.26	--	--	--
10/3/2020	75.83	4871.57	11.78	6.44	9655.77
10/4/2020	75.59	4872.18	11.17	6.77	10150.85
10/5/2020	0.00	4883.35	--	--	--
10/6/2020	0.00	4883.26	--	--	--
10/7/2020	75.62	4872.64	19.34	3.91	5865.05
10/8/2020	75.54	4872.41	10.94	6.90	10357.20
10/9/2020	75.31	4871.74	11.61	6.49	9727.61
10/10/2020	75.07	4871.59	11.76	6.38	9572.78
10/11/2020	75.38	4871.85	11.50	6.55	9829.65
10/12/2020	75.00	4871.57	11.78	6.37	9552.30
10/13/2020	75.38	4871.45	11.90	6.33	9497.96
10/14/2020	75.31	4871.44	11.91	6.32	9487.44
10/15/2020	75.15	4872.00	11.35	6.62	9934.11
10/16/2020	75.17	4871.54	11.81	6.36	9544.17
10/17/2020	75.17	4871.76	11.59	6.49	9729.31
10/18/2020	75.54	4872.07	11.28	6.69	10040.70
10/19/2020	75.64	4871.85	11.50	6.58	9867.67
10/20/2020	75.76	4871.49	11.86	6.39	9579.79
10/21/2020	75.59	4871.70	11.65	6.49	9736.32
10/22/2020	74.85	4871.60	11.75	6.37	9555.91
10/23/2020	74.66	4871.43	11.92	6.26	9394.53
10/24/2020	74.61	4871.29	12.06	6.19	9283.01
10/25/2020	74.77	4871.15	12.20	6.13	9195.43
10/26/2020	74.58	4871.27	12.08	6.17	9261.54
10/27/2020	74.71	4871.27	12.08	6.18	9275.85
10/28/2020	74.30	4871.20	12.15	6.11	9171.12
10/29/2020	73.79	4871.34	12.01	6.14	9212.76
10/30/2020	74.22	4871.25	12.10	6.14	9203.17
10/31/2020	73.92	4871.24	12.11	6.10	9152.45
11/1/2020	73.81	4871.35	12.00	6.15	9227.46
11/2/2020	74.34	4871.22	12.13	6.13	9191.80
11/3/2020	74.11	4871.32	12.03	6.16	9237.15
11/4/2020	73.79	4871.33	12.02	6.14	9210.39
11/5/2020	74.30	4871.18	12.17	6.11	9160.41
11/6/2020	73.48	4871.14	12.21	6.02	9023.68
11/7/2020	73.57	4871.28	12.07	6.09	9141.16
11/8/2020	73.79	4871.37	11.98	6.16	9239.24
11/9/2020	73.63	4871.21	12.14	6.07	9098.97
11/10/2020	73.85	4871.15	12.20	6.05	9080.45
11/11/2020	73.40	4871.07	12.28	5.98	8966.15
11/12/2020	72.97	4871.03	12.32	5.92	8880.73
11/13/2020	72.92	4871.06	12.29	5.93	8896.45
11/14/2020	73.45	4871.11	12.24	6.00	8998.01
11/15/2020	72.56	4871.03	12.32	5.89	8836.40
11/16/2020	73.03	4871.10	12.25	5.96	8944.60
11/17/2020	73.41	4871.05	12.30	5.97	8952.50
11/18/2020	72.68	4871.12	12.23	5.94	8912.48
11/19/2020	72.63	4871.10	12.25	5.93	8896.94

**Table I-1-4
Extraction Well KAFB-106239 Performance Figure Data, Q4 2020**

Date	Flow Rate (gpm)	WL Elevation (ft AMSL)	Drawdown (ft)	Specific Capacity (gpm/ft)	Transmissivity (gal/d•ft)
11/20/2020	73.28	4871.06	12.29	5.96	8945.62
11/21/2020	73.02	4871.03	12.32	5.93	8888.78
11/22/2020	73.36	4871.05	12.30	5.97	8949.20
11/23/2020	73.50	4871.06	12.29	5.98	8971.51
11/24/2020	72.84	4871.10	12.25	5.95	8921.33
11/25/2020	73.08	4871.09	12.26	5.96	8940.06
11/26/2020	72.51	4871.08	12.27	5.91	8860.95
11/27/2020	72.75	4871.06	12.29	5.92	8877.70
11/28/2020	72.55	4871.08	12.27	5.91	8866.07
11/29/2020	72.86	4871.03	12.32	5.92	8874.59
11/30/2020	72.65	4871.03	12.32	5.90	8845.37
12/1/2020	72.53	4871.61	11.74	6.18	9267.04
12/2/2020	72.19	4871.28	12.07	5.98	8971.42
12/3/2020	72.42	4871.06	12.29	5.89	8838.89
12/4/2020	72.21	4871.05	12.30	5.87	8806.10
12/5/2020	72.50	4870.92	12.43	5.83	8748.99
12/6/2020	72.30	4870.85	12.50	5.78	8676.00
12/7/2020	71.95	4870.83	12.52	5.75	8620.21
12/8/2020	71.67	4870.74	12.61	5.68	8525.38
12/9/2020	71.49	4870.79	12.56	5.69	8537.82
12/10/2020	71.71	4871.34	12.01	5.97	8956.29
12/11/2020	71.20	4871.36	11.99	5.94	8907.42
12/12/2020	71.06	4871.43	11.92	5.96	8942.11
12/13/2020	70.96	4870.80	12.55	5.65	8481.27
12/14/2020	71.04	4871.15	12.20	5.82	8734.43
12/15/2020	70.86	4871.23	12.12	5.85	8769.80
12/16/2020	70.88	4871.10	12.25	5.79	8679.18
12/17/2020	70.51	4871.36	11.99	5.88	8821.10
12/18/2020	70.42	4871.44	11.91	5.91	8869.02
12/19/2020	70.55	4871.23	12.12	5.82	8731.44
12/20/2020	70.45	4871.16	12.19	5.78	8668.99
12/21/2020	0.00	4857.42	--	--	--
12/22/2020	73.16	4874.84	8.51	8.60	12895.42
12/23/2020	73.20	4873.18	10.17	7.20	10796.46
12/24/2020	73.24	4872.51	10.84	6.76	10134.69
12/25/2020	73.39	4872.49	10.86	6.76	10136.74
12/26/2020	73.19	4872.38	10.97	6.67	10007.75
12/27/2020	73.75	4872.20	11.15	6.61	9921.52
12/28/2020	73.64	4872.35	11.00	6.69	10041.82
12/29/2020	73.48	4872.21	11.14	6.60	9894.08
12/30/2020	73.62	4871.87	11.48	6.41	9619.34
12/31/2020	73.83	4872.12	11.23	6.57	9861.53

Notes:

AMSL = above mean sea level

d = day

ft = foot/feet

gal = gallon

gpm = gallons per minute

WL = water level

DAILY INSPECTIONS AND RECORD FORMS

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
					9/28/20	9/29/20	9/30/20	10/1/20	10/2/20	1/1	1/1		
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	141	141	141	141	141				
		Wellhead Pressure (psig)	< 150 psig	Daily	65.0	65.2	65.0	65.1	65.3				
		Water Level Above Transducer (ft)	---	Daily	8.96	9.19	9.11	9.40	10.29				
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	162	162	162	162	162				
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.9	22.8	22.8	22.7				
		Water Level Above Transducer (ft)	---	Daily	31.36	31.35	31.46	31.48	31.99				
	Well KAFB-106234	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	174	174	174	174	174				
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0	22.9	23.0	23.0	22.9				
		Water Level Above Transducer (ft)	---	Daily	22.94	22.94	23.02	23.1	23.86				
	Well KAFB-106239	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	76	76	76	76	75				
		Wellhead Pressure (psig)	< 150 psig	Daily	49.6	49.6	49.4	49.4	49.4				
		Water Level Above Transducer (ft)	---	Daily	14.37	14.43	14.42	14.60	15.80				
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	364	365	365	365				
		Totalizer (1000 gal)	---	Daily	436075180	436587656	437217532	437666420	437696552				
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.40	0.39	0.40	0.39	0.40				
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	244	245				
		Totalizer (1000 gal)	---	Daily	436016376	307590660	307694748	308109524	308123752				
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.13	0.13	0.13	0.12	0.12				
	Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	380	380	380	380				
Totalizer (1000 gal)		---	Daily	492625344	493175424	493782968	494216224	494248600					
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	261	259	260	260	260					
	Totalizer (1000 gal)	---	Daily	402954980	403214538	403498008	403699880	403711652					
Injection Well 7	Pressure (psig)	0-120 psig	Daily	13.9	14.0	13.2	2.3	2.3					
	Water Level Above Transducer (ft)	10-30 ft	Daily	10.8	9.53	11.67	56.66	56.22					
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	8.74	3.61	2.87	2.95	3.44					
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	48.52	50.37	48.01	48.07	48.05	51.22	51.10		
		Amperage (A, P112A B)	>10 A	Daily	11.5	11.4	12.0	11.4	11.5	11.3	11.8	12.2	12.4
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	10.5	11	11.1	11.5	11.5	12.5			
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	44.35	44.51	46.70	46.67	47.00	44.05	44.08	44.33	44.39
		Amperage (A, P212A B)	>10 A	Daily	9.8	9.5	10.3	10.1	10.3	9.7	9.5	9.7	9.6
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.1	10	11.5	5	5				
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.12	48.25	48.39	49.15	48.66				
		Amperage (A, P118)	>10 A	Daily	16.3	16.4	16.4	16.60	16.5				
Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	42.80	43.08	42.84	44.97	42.82					
	Amperage (A, P218)	>10 A	Daily	12.9	13.0	12.9	13.6	12.9					
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	152,7213								
		GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	136.7								
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	87,2437								
		GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	75.8								
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly	100.84								
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	161.9								
		Totalizer (Mgal)	---	Weekly	199,6688								
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly	79.631								
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	172.9								
Well Control House	Totalizer (Mgal)	---	Weekly	306,9097									
Well Head	KAFB-7	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	22.1								
		*Totalizer (1000 gal)	---	Weekly									
		GW flow (gpm)	0-800 gpm	Weekly									

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

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9-28
 VFD 22.3
 AC 76°F
 Amb 51°F
 H2 55.38
 Amps 33.75

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					9/12/20 Time: 0955	9/12/20 0808	9/13/20 0820	10/1/20 0832	1/1	1/1	1/1
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	37.5	42	31.5	38	43		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.389	0.389	0.391	0.393	0.388		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.392	0.391	0.388	0.403	0.392		
		Sand filter differential pressure, SF-101 (1)	---	Daily	44	39	35	47	39		
		Sand filter differential pressure, SF-101 (2)	---	Daily	27.5	37.31	27.5	37.47	31		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.0	12.0	12.1	11.9	13.4		
		GW flow (gpm)	0-500 gpm	Daily	365.6	365.1	365.2	365.4	365.8		
		Totalizer (Mgal)	---	Daily	440,865.7	441,310.7	441,794.3	442,139.7	442,126.1		
		Bag filters changed?	yes/no	Daily	No	No	No	No	No		
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	33	42	43.5	36	37		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.092	0.091	0.093	0.093	0.092		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.125	0.120	0.123	0.128	0.123		
		Sand filter differential pressure, SF-201 (1)	---	Daily	36	37	41	35	35		
		Sand filter differential pressure, SF-201 (2)	---	Daily	34	33	33	33	33		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	14.8	14.9	15.1	14.9	14.9		
		GW flow (gpm)	0-500 gpm	Daily	245.0	245.5	245.5	245.7	244.9		
		Totalizer (Mgal)	---	Daily	382,592.4	382,879.8	383,194.0	383,415.8	383,432.6		
		Bag filters changed?	yes/no	Daily	No	No	No	No	No		
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	9.9	9.5	9.9	9.8	9.4		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.2	12.1	12.2	12.1	12.1		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
		Which Tank is Lag?	---	Daily	B	B	B	B	B		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.5	5.5	6.0	4.9	5.0		
		Between Tanks (psig)	0-20 psig	Daily	14.1	14.1	14.9	13.9	13.9		
		V-214B Pressure (psig)	0-20 psig	Daily	9.8	9.7	10.1	8.9	9.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
		Which Tank is Lag?	---	Daily	A	A	A	A	A		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	24.9	25.0	25.0	26.1	24.2		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.22	20.38	20.53	21.74	17.81		
		GW flow (gpm)	0-500 gpm	Daily	380.8	380.3	380.8	380.3	379.9		
	Effluent Pump Skid (Train 2)	Totalizer (Mgal)	---	Daily	456,169.8	456,614.3	457,102.3	457,450.3	457,473.3		
		Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	22	22.5	22.6	23.9	21.9		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.24	20.54	20.43	21.79	19.79		
	Backwash System	GW flow (gpm)	0-500 gpm	Daily	260.6	260.9	260.4	260.7	260.2		
		Totalizer (Mgal)	---	Daily	378,147.6	378,432.5	378,743.8	378,965.2	378,975.9		
	Sodium Hypochlorite Generator	Clarifier Level (ft)	---	Daily	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'		
		Clarifier Discharged to Sump?	yes/no	Daily	No	No	Yes	No	Yes		
		Upstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100	99		
		Downstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100	98		
		Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes		
Generator Inlet Pressure (psi)		>30 psig	Daily	45	43	43	43	44			
Generator Faulted?		yes/no	Daily	No	No	No	No	No			
Oxidant Tank Level (ft)		>2 ft	Daily	2.9'	2.6'	2.3'	2.05'	2.05'			
Train 1 Dosing Pump Faulted?		yes/no	Daily	No	No	No	No	No			
Train 2 Dosing Pump Faulted?		yes/no	Daily	No	No	No	No	No			
Train 1 Free Chlorine (ppm)		0.1 - 0.3 ppm	Daily	OFF	OFF	OFF	OFF	OFF			
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	0.10	0.08	0.09	0.09					

Notes:

T2
Back
wash

T1
Back
wash

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					10/15/20	10/16/20	10/17/20	10/18/20	10/19/20	10/20/20	10/21/20
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	141		141	141	141		
		Wellhead Pressure (psig)	< 150 psig	Daily	65.0		65.6	65.4	65.4	65.99	
		Water Level Above Transducer (ft)	---	Daily	9.67		10.52	9.98	9.92		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	161		162	161	161		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.7		22.8	22.8	22.8	22.94	
		Water Level Above Transducer (ft)	---	Daily	21.53		32.00	31.69	31.59		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174		174	174	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9		23.0	23.0	23.0	23.02	
		Water Level Above Transducer (ft)	---	Daily	23.10		23.81	23.36	23.20		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	75		76	75	76		
		Wellhead Pressure (psig)	< 150 psig	Daily	49.4		49.5	49.2	49.5	49.36	
		Water Level Above Transducer (ft)	---	Daily	14.6		15.71	15.11	14.94		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365		365	365	365		
		Totalizer (1000 gal)	---	Daily	429409796		43981424	440221936	440976760		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.39		0.41	0.46	0.45		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.40		0.42	0.35	0.45		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245		245	245	245		
		Totalizer (1000 gal)	---	Daily	309021347		309204245	309401385	309738625		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.12		0.16	0.23	0.57		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.09		0.13	0.20	0.51		
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380		380	380	381			
	Totalizer (1000 gal)	---	Daily	495922320		496281288	496679624	497351632			
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260		260	260	260			
	Totalizer (1000 gal)	---	Daily	404548412		404717494	404900586	405214952			
Injection Well 7	Pressure (psig)	0-120 psig	Daily	1.8		2.5	2.3	13.6			
	Water Level Above Transducer (ft)	10-30 ft	Daily	59.59		56.30	56.25	96.41			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	2.58		2.75	3.53	3.66			
	Frequency (Hz, P112A B)	>30 Hz	Daily	47.81 47.81		32.47 33.44	39.12 39.12	39.00 38.99			
HIMs	Influent Pump Skid (1)	Amperage (A, P112A B)	>10 A	Daily	11.2 11.5		7.10 7.10	9.2 9.4	9.2 9.3		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.5		By Pass	By Pass	By Pass		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	46.64 46.63		33.01 33.01	32.61 32.73	32.81 32.82		
		Amperage (A, P212A B)	>10 A	Daily	10.3 10.1		7.7 7.6	7.7 7.6	7.7 7.6		
Effluent Pump Skid (1)	Sand Filter Differential Pressure (psi)	>1 psi	Daily	9.5		By Pass	By Pass	By Pass			
	Frequency (Hz, P118)	>30 Hz	Daily	47.49		48.78	47.80	49.03			
Effluent Pump Skid (2)	Amperage (A, P118)	>10 A	Daily	16.0		16.5	16.1	16.6			
	Frequency (Hz, P218)	>30 Hz	Daily	41.57		43.80	43.04	43.55			
Well Vault	KAFB-106228	Amperage (A, P218)	>10 A	Daily	12.6		13.2	12.7	13.2		
		Totalizer (Mgal)	---	Weekly				154	154.3078		
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly				136.9	136.7		
		Totalizer (Mgal)	---	Weekly					88.1214		
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly					75.6		
		Wellhead Pressure (psig)	< 150 psig	Weekly					95 psi		
	KAFB-106234	GW flow, FT-7001 (gpm)	0-200 gpm	Weekly					161.8		
		Totalizer (Mgal)	---	Weekly					201.4998		
Well Control House	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly					77 psi		
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly					173.4		
Well Head	KAFB-7	Totalizer (Mgal)	---	Weekly					308.9724		
		Effluent Line Pressure, PI-7005	< 150 psig	Weekly					22		
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly							
		GW flow (gpm)	0-800 gpm	Weekly							

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

AC 76°F
 Amb. 58°F
 VFO 23.5°C
 Amp 33.82
 Hz 55.42

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					10/15/20 Time: 0738	10/16/20 0740	10/17/20 1607	10/18/20 0754	10/19/20 1040	1/1	1/1
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	56.5	✓	21	28.5	48.2016		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.392	✓	0.417	0.425	0.457		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.398	✓	0.411	0.430	0.448		
		Sand filter differential pressure, SF-101 (1)	---	Daily	34	✓	By Pass	By Pass	By Pass		
		Sand filter differential pressure, SF-101 (2)	---	Daily	31	✓	By Pass	By Pass	By Pass		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.4	✓	13.4	13.5	13.4		
		GW flow (gpm)	0-500 gpm	Daily	365.3	✓	365.4	365.5	365.1		
	Totalizer (Mgal)	---	Daily	443,5087	✓	443,7792	444,1173	444,6538			
	Bag filters changed?	yes/no	Daily	No	✓	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	41.5	✓	78.5	18.5	18		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.092	✓	0.131	0.194	0.507 → 0.068		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.128	✓	0.166	0.232	0.561 → 0.103		
		Sand filter differential pressure, SF-201 (1)	---	Daily	39	✓	By Pass	By Pass	By Pass		
		Sand filter differential pressure, SF-201 (2)	---	Daily	34	✓	By Pass	By Pass	By Pass		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	14.9	✓	15.8	15.5	15.0		
		GW flow (gpm)	0-500 gpm	Daily	246.2	✓	245.4	245.5	244.9		
	Totalizer (Mgal)	---	Daily	584,3613	✓	584,5489	584,7533	585,1006			
	Bag filters changed?	yes/no	Daily	No	✓	No	No	YES			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	9.59	✓	5.9	5.9	10.1		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.2	✓	15.0	15.0	12.3		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	✓	10.1	10.1	7.9		
		Which Tank is Lead?	---	Daily	A	✓	A	A	A		
		Which Tank is Lag?	---	Daily	B	✓	B	B	B		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	12.5	✓	7.9	7.9	5.0		
		Between Tanks (psig)	0-20 psig	Daily	13.9	✓	12.5	12.5	14.1		
		V-214B Pressure (psig)	0-20 psig	Daily	8.9	✓	10.0	10.0	9.1		
		Which Tank is Lead?	---	Daily	B	✓	B	B	B		
		Which Tank is Lag?	---	Daily	A	✓	A	A	A		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	23.6	✓	26.8	24	25.8		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	✓	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	✓	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.14	✓	22.31	19.58	21.27		
		GW flow (gpm)	0-500 gpm	Daily	380.4	✓	381.7	380.1	380.9		
		Totalizer (Mgal)	---	Daily	458,8203	✓	459,1152	459,4358	459,7738		
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	21.1	✓	24.2	21.9	23.1		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	✓	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	✓	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.05	✓	22.18	19.55	21.23		
		GW flow (gpm)	0-500 gpm	Daily	260.7	✓	262.3	260.1	260.0		
	Totalizer (Mgal)	---	Daily	379,3970	✓	380,0797	380,2812	380,6248			
Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6'	✓	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'			
	Clarifier Discharged to Sump?	yes/no	Daily	No	✓	No	No	No			
Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	✓	>100	>100	>100			
	Downstream Filter Pressure (psi)	>30 psig	Daily	>100	✓	>100	>100	>100			
	Brine Tank Filled with Salt?	yes/no	Daily	YES	✓	YES	YES	YES			
	Generator Inlet Pressure (psi)	>30 psig	Daily	43	✓	OFF	OFF	OFF			
	Generator Faulted?	yes/no	Daily	No	✓	OFF	OFF	OFF			
	Oxidant Tank Level (ft)	>2 ft	Daily	2.55'	✓	OFF	OFF	OFF			
	Train 1 Dosing Pump Faulted?	yes/no	Daily	No	✓	OFF	OFF	OFF			
	Train 2 Dosing Pump Faulted?	yes/no	Daily	No	✓	OFF	OFF	OFF			
	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	OFF	✓	OFF	OFF	OFF			
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	0.09	✓	OFF	OFF	OFF				

Notes:

Stadia 2.38 = 3.58 NA!

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
					10/13/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20		
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	141	141	141	141	141			
		Wellhead Pressure (psig)	< 150 psig	Daily	65.2	65.3	65.5	65.1	65.1			
		Water Level Above Transducer (ft)	---	Daily	9.50	9.45	9.89	9.57	9.39			
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	161	161	161	161	161			
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.8	22.8	22.7	22.8			
		Water Level Above Transducer (ft)	---	Daily	31.36	31.23	31.39	31.41	31.28			
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174			
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	22.9	23.0	22.9	22.9			
		Water Level Above Transducer (ft)	---	Daily	22.94	22.81	22.95	23.00	22.87			
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	76	75-76	75	75	75			
		Wellhead Pressure (psig)	< 150 psig	Daily	49.4	49.3	49.5/49.28	49.3	49.3			
		Water Level Above Transducer (ft)	---	Daily	14.45	14.30	14.60	14.33	14.32			
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	265	365			
		Totalizer (1000 gal)	---	Daily	442,200	443,270	443,887	444,529	445,206			
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.76	0.92	0.37	0.37	0.37			
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.74	0.87	0.39	0.39	0.39			
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	---	245			
		Totalizer (1000 gal)	---	Daily	310,653	310,881	311,189	311,512	311,844			
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.12	0.26	0.24	---	0.21			
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.08	0.22	0.21	---	0.17			
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	381	383	380	379	380				
	Totalizer (1000 gal)	---	Daily	499,144	499,628	500,202	500,666	501,159				
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	264	260	260	266				
	Totalizer (1000 gal)	---	Daily	406,066	406,279	406,565	406,868	407,168				
Injection Well 7	Pressure (psig)	0-120 psig	Daily	13.6	0.9	13.1	13.6	2.1				
	Water Level Above Transducer (ft)	10-30 ft	Daily	116.28	56.78	92.75	94.60	56.61				
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	2.57	3.48	4.38	3.37	3.53				
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	38.77	39.20	39.00	39.02	49.92	49.53	47.11	47.80
		Amperage (A, P112A B)	>10 A	Daily	9.1	9.3	9.2	9.3	11.7	11.9	11.1	11.3
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	By Pass	By Pass	7	8.5	8.5			
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	33.59	33.43	33.15	33.19	44.12	44.16	47.35	47.73
		Amperage (A, P212A B)	>10 A	Daily	7.8	7.7	7.7	7.6	9.7	9.5	10.5	10.2
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	By Pass	By Pass	5	10.5	5			
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	148.32	149.05	48.76	48.21	49.19			
		Amperage (A, P118)	>10 A	Daily	16.30	16.6	16.4	16.4	16.7			
Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	43.26	43.92	43.69	43.63	43.63				
	Amperage (A, P218)	>10 A	Daily	13.0	13.2	13.10	13.2	13.2				
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	---	155,4633	---				
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	---	---	88,7608	---				
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	75.3	---				
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	96 psig	96 psig				
	GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	OFF	---					
	Totalizer (Mgal)	---	Weekly	---	---	202,8601	---					
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	81	96 psig				
Well Control House	KAFB-106234	GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	---	OFF	---				
		Totalizer (Mgal)	---	Weekly	---	---	310,4287	---				
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	---	---				
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---				

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes: Time 228 233 234 239
 0759 0853 0926 0822
 Filter P 418.75 419.60 429.50 432.00
 DTW 466.85 449.91 457.80 432.468.76
 Running OFF OFF Running

GWTS Battery Status

Daily Good

Weekly Readings taken 10/15/20

Good - - Good Good

6360401
 6360401, 3081, 010000
 GWTS STAY

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					10/12/20 Time: 1313	10/13/20 1323	10/14/20 0822	10/15/20 10:12	10/16/20 0801	1/1	1/1
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	21.0	21.9	39	35.5	35.5		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.766	0.913	0.373	0.372	0.379		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.728	0.868	0.395	0.389	0.388		
		Sand filter differential pressure, SF-101 (1)	---	Daily	By Pass	By Pass	36	32	32		
		Sand filter differential pressure, SF-101 (2)	---	Daily	By Pass	By Pass	32	28	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.5	13.6	13.5	13.6	13.6		
		GW flow (gpm)	0-500 gpm	Daily	365.6	365.3	365.8	366.1	365.3		
	Totalizer (Mgal)	---	Daily	446,112.6	446,477.9	446,978.9	447,470	447,910.2			
	Bag filters changed?	yes/no	Daily	No	Yes	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	18.5	18.1	37	42	37		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.082	0.179	0.207	0.176	0.181		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.112	0.242	0.249	0.212	0.224		
		Sand filter differential pressure, SF-201 (1)	---	Daily	By Pass	By Pass	35	39	35		
		Sand filter differential pressure, SF-201 (2)	---	Daily	By Pass	By Pass	33	33	34		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.9	15.1	15.7	15.9	15.9		
		GW flow (gpm)	0-500 gpm	Daily	245.0	245.5	245.8	245.6	245.5		
	Totalizer (Mgal)	---	Daily	386,046.9	386,284.5	386,601.9	386,937.3	387,216.6			
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	9.9	10.1	9.9		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.6	12.5	12.3	12.8	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.9	5.0	5.9	5.9	5.9		
		Between Tanks (psig)	0-20 psig	Daily	15.1	14.9	14.9	14.5	15.1		
		V-214B Pressure (psig)	0-20 psig	Daily	10.1	8.9	9.4	10.1	10.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25.0	26.0	25.0	25.0	24.8		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.57	22.78	20.52	20.54	19.94		
GW flow (gpm)		0-500 gpm	Daily	379.8	381.1	380.2	380.6	380.2			
Totalizer (Mgal)		---	Daily	461,438.0	461,807.2	462,306.7	462,809.9	463,243.4			
Bag filters changed?		yes/no	Daily	No	No	No	No	No			
Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	22.9	25.3	22.8	22.9	22.1			
	Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0			
	Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0			
	Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.47	23.06	20.63	20.55	19.87			
	GW flow (gpm)	0-500 gpm	Daily	260.2	261.1	260.3	260.2	260.8			
Totalizer (Mgal)	---	Daily	381,558.8	381,794.7	382,107.1	382,438.5	382,713.8				
Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'			
	Clarifier Discharged to Sump?	yes/no	Daily	No	No	No	Yes	Yes			
Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100	>100			
	Downstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100	>100			
	Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
	Generator Inlet Pressure (psi)	>30 psig	Daily								
	Generator Faulted?	yes/no	Daily	Cl Generator	Cl Generator	Cl Generator	Cl Generator	Cl Generator			
	Oxidant Tank Level (ft)	>2 ft	Daily								
	Train 1 Dosing Pump Faulted?	yes/no	Daily								
	Train 2 Dosing Pump Faulted?	yes/no	Daily								
	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									

Notes:

Mobile DTE 26
 ISO V6 68

T2
 Back wash,
 sand filters
 back on-line

Amb 67°F
 AC 75°F
 VFD 88.2°F
 H2 55.45
 Amps 33.92

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					10/17/20 Time: 0936	10/20/20 0813	10/21/20 1141	10/22/20 0722	10/23/20 0822	1/1	1/1
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	140	140	140	140	140		
		Wellhead Pressure (psig)	< 150 psig	Daily	65.0	64.7	64.9	64.8 6516	64.8		
		Water Level Above Transducer (ft)	---	Daily	9.57	9.39	9.57	9.47	9.16		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	161	161	161	161	161		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.8	22.7 2257	22.8	22.8		
		Water Level Above Transducer (ft)	---	Daily	31.34	31.38	31.34	31.39	31.23		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	173	174	173	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0	22.9	22.9 2298	22.9	22.9		
		Water Level Above Transducer (ft)	---	Daily	22.89	22.92	22.89	22.94	22.77		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	75	75	75	75	75		
		Wellhead Pressure (psig)	< 150 psig	Daily	49.3	49.2	49.3	49.2 1944	49.2		
		Water Level Above Transducer (ft)	---	Daily	14.28	14.10	14.33	14.14	13.96		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	265	365		
		Totalizer (1000 gal)	---	Daily	4469 9740	4475 9740	4482 9740	4487 9740	4494 9740		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.37	0.37		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	245	245		
		Totalizer (1000 gal)	---	Daily	312 698 880	312 942 501	313 312 894	313 556 839	313 868 799		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.17	0.16	0.15	0.15	0.14		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.14	0.13	0.11	0.12	0.10		
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	380	380	380	380			
	Totalizer (1000 gal)	---	Daily	502 445 766	502 870 460	503 372 526	503 744 964	504 215 278			
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	261	260	260			
	Totalizer (1000 gal)	---	Daily	407 973 616	408 238 210	408 576 551	408 773 876	409 066 175			
Injection Well 7	Pressure (psig)	0-120 psig	Daily	2.0	2.3	13.0	13.4	13.5			
	Water Level Above Transducer (ft)	10-30 ft	Daily	58.55	56.91	112.28	116.45	113.72			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	2.47	3.62	3.90	3.90	2.93			
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	47.89 47.20	45.20 45.20	45.99 45.92	46.05 46.10	45.91 45.93		
		Amperage (A, P112A B)	>10 A	Daily	11.2 11.4	10.6 10.8	10.8 10.9	10.8 11.0	10.9 11.0		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	9.8	5.1	5.1	5.5	5.5		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	45.13 45.74	46.10 46.14	47.01 47.10	44.23 44.04	44.50 44.40		
		Amperage (A, P212A B)	>10 A	Daily	10.0 9.9	10.0 9.8	10.5 10.2	9.7 9.5	9.7 9.6		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	8.5	9.5	11	5	5		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	47.69	47.97	48.30	49.03	48.32		
		Amperage (A, P118)	>10 A	Daily	16.10	16.2	16.3	16.6	16.3		
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	42.72	43.15	43.24	43.47	42.96		
Amperage (A, P218)		>10 A	Daily	13.0	13.1	13.0	13.1	12.9			
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	---	---	136.2			
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	---	---	---	75.1			
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	---	89,5171			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	---	100			
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	161.5	---			
	KAFB-106234	Totalizer (Mgal)	---	Weekly	---	---	204,2604	---			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	---	79			
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	---	---				
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	---	---			
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---			

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

Pond
HMI 3.97
Rod 2.84

55.41 Hz
34.00 Amp
80°F AC
53°F Amp
75.1 GPM

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

10/23/20

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					10/19/20	10/20/20	10/21/20	10/22/20	10/23/20	10/24/20	10/25/20
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	37	32.4	33	32.5	33.9		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.376	0.377	0.378	0.372	0.380		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.389	0.392	0.387	0.397	0.390		
		Sand filter differential pressure, SF-101 (1)	---	Daily	34	29	29	29	30		
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	28	28	28	27		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.6	13.6	13.6	13.6	13.6		
		GW flow (gpm)	0-500 gpm	Daily	304.8	365.6	365.0	365.0	365.5		
		Totalizer (Mgal)	---	Daily	449.3064	449.8174	450.3519	450.7495	451.2467		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	40.5	40	41.5	37	37		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.132	0.125	0.119	0.117	0.103		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.170	0.160	0.147	0.155	0.143		
		Sand filter differential pressure, SF-201 (1)	---	Daily	38	38	39	35	35		
		Sand filter differential pressure, SF-201 (2)	---	Daily	34	32	32	34	34		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.1	15.9	15.9	15.1	15.9		
		GW flow (gpm)	0-500 gpm	Daily	245.1	245.1	244.6	245.9	245.3		
		Totalizer (Mgal)	---	Daily	388.1637	388.4569	388.7990	389.0519	389.3724		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	10.0	10.0	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.4	12.7	12.8	12.5	12.7		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	8.0	8.0		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.5	5.9	6.0	5.2	5.9		
		Between Tanks (psig)	0-20 psig	Daily	14.9	15.1	15.1	14.9	15.1		
		V-214B Pressure (psig)	0-20 psig	Daily	9.6	10.1	10.1	9.5	10.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	23.9	24.2	24.9	26.0	24.9		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.27	20.05	20.21	21.50	20.12		
		GW flow (gpm)	0-500 gpm	Daily	380.4	380.0	379.6	380.8	380.9		
		Totalizer (Mgal)	---	Daily	464.7049	465.1573	465.6945	466.0970	466.5935		
		Clarifier Level (ft)	---	Daily	21.8	22.5	22.5	23.9	22.8		
		Clarifier Discharged to Sump?	yes/no	Daily	---	Yes	Yes	No	No		
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	21.8	22.5	22.5	23.9	22.8		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.45	20.06	20.26	21.45	20.14		
		GW flow (gpm)	0-500 gpm	Daily	259.4	259.7	260.6	260.4	260.3		
		Totalizer (Mgal)	---	Daily	383.6515	383.9412	384.2776	384.5286	384.8469		
		Clarifier Level (ft)	---	Daily	---	Call 2.26	Call 2.26	Call 2.26	Call 2.26		
		Clarifier Discharged to Sump?	yes/no	Daily	---	Yes	Yes	No	No		
	Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	---	>100	>100	>100	>100		
		Downstream Filter Pressure (psi)	>30 psig	Daily	---	>100	>100	>100	>100		
		Brine Tank Filled with Salt?	yes/no	Daily	---	Yes	Yes	Yes	Yes		
Generator Inlet Pressure (psi)		>30 psig	Daily	---	---	---	---	---			
Generator Faulted?		yes/no	Daily	---	---	---	---	---			
Oxidant Tank Level (ft)		>2 ft	Daily	---	---	---	---	---			
Train 1 Dosing Pump Faulted?		yes/no	Daily	---	---	---	---	---			
Train 2 Dosing Pump Faulted?		yes/no	Daily	---	---	---	---	---			
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	---	---	---	---	---				
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	---	---	---	---	---				
Notes:	UPS	Battery Status light	Green?	Daily	Good	Good	Good	Good	Good		

BW T2
T2 BW

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

-2243
Handy
Lehman

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday			
					10/26/20 Time: 10:19	10/27/20 11:17	10/28/20 08:40	10/29/20 08:04	10/30/20 13:58	1/1	1/1			
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	140	140	140	140	140					
		Wellhead Pressure (psig)	< 150 psig	Daily	64.7	64.7	64.6	65.9	64.5	64.3				
		Water Level Above Transducer (ft)	---	Daily	9.31	9.21	9.00	8.69	8.69	8.73				
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	161	161	161	161	161	161				
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.8	22.8	22.20	22.9	22.8				
		Water Level Above Transducer (ft)	---	Daily	31.36	31.18	31.18	30.90	30.90	31.05				
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174	174				
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0	22.9	23.0	22.9	22.9	22.9				
		Water Level Above Transducer (ft)	---	Daily	22.87	22.69	22.69	22.97	22.43	22.66				
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	75	74	74	74	75	75				
		Wellhead Pressure (psig)	< 150 psig	Daily	49.1	49.0	49.0	49.0	49.9	49.1				
		Water Level Above Transducer (ft)	---	Daily	14.09	13.84	13.89	13.50	13.50	13.68				
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	365	365	365				
		Totalizer (1000 gal)	---	Daily	451271320	451919048	452472736	453029520	453586304	454143088				
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.37	0.37	0.37				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39	0.37				
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	---	245	244	245	245	245				
		Totalizer (1000 gal)	---	Daily	314786550	315095805	315262545	315657257	316022962	316388667				
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	---	0.13	0.12	0.12	0.12	0.12				
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	---	0.08	0.08	0.09	0.09	0.09				
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	379	380	380	381	381	380					
	Totalizer (1000 gal)	---	Daily	505359704	506029962	506432654	506812784	507435814	507935814					
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	261	260	260	260					
	Totalizer (1000 gal)	---	Daily	409924323	410211353	410460993	410733760	411078601	4114078601					
Injection Well 7	Pressure (psig)	0-120 psig	Daily	1.9	13.3	13.3	13.2	1.9	1.9					
	Water Level Above Transducer (ft)	10-30 ft	Daily	56.52	95.11	117.34	118.24	56.53	56.53					
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.59	3.67	3.41	3.21	4.05	4.05					
	Frequency (Hz, P112A B)	>30 Hz	Daily	4640	4633	4656	4651	4620	4627	4672	4676	4691	4685	
HIMs	Influent Pump Skid (1)	Amperage (A, P112A B)	>10 A	Daily	10.9	11.0	11.1	11.1	10.9	11.0	11.2	11.0	11.2	
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	6	7.5	8	7.5	9	9				
		Frequency (Hz, P212A B)	>30 Hz	Daily	4416	4424	4401	4403	4516	4520	4730	4774	4549	4543
	Influent Pump Skid (2)	Amperage (A, P212A B)	>10 A	Daily	9.7	9.6	9.8	9.6	9.9	9.7	10.2	10.1	9.7	9.8
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5	5.5	9	10.5	9	9				
		Frequency (Hz, P118)	>30 Hz	Daily	4747	4737	4802	4801	4801	4801	4804	4804		
	Effluent Pump Skid (1)	Amperage (A, P118)	>10 A	Daily	16.0	16.7	16.3	16.4	16.3	16.3				
		Frequency (Hz, P218)	>30 Hz	Daily	4333	4419	4314	4344	4334	4334				
	Effluent Pump Skid (2)	Amperage (A, P218)	>10 A	Daily	13.1	13.4	13.0	13.1	13.0					
		Totalizer (Mgal)	---	Weekly	---	---	158,0829	---	---					
Well Vault	KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	135.7	135.7	---					
		Totalizer (Mgal)	---	Weekly	---	---	90,1762	---	---					
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	74.7	---	---					
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	161.0	---	---					
Well Control House	KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	96.51	---	---					
		Totalizer (Mgal)	---	Weekly	---	---	205,8696	---	---					
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	76.51	---	---					
	KAFB-106234	GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	---	172.0	---	---					
		Totalizer (Mgal)	---	Weekly	---	---	313,6567	---	---					
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	22.1	---	---						
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	---	---	---					
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---	---					

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	0803						
					Monday 10/26/20 Time: 10:15	Tuesday 10/27/20	Wednesday 10/28/20	Thursday 10/29/20	Friday 10/30/20	Saturday 11/1	Sunday 11/1
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	34	34.5	34	34.9	35.1		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.372	0.370	0.368	0.373	0.372		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.399	0.398	0.394	0.376	0.385		
		Sand filter differential pressure, SF-101 (1)	---	Daily	30.5	31	31	32	32		
		Sand filter differential pressure, SF-101 (2)	---	Daily	29	28	28	28	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.6	13.6	13.6	13.6	13.6		
		GW flow (gpm)	0-500 gpm	Daily	365.3	365.4	365.8	365.3	365.2		
		Totalizer (Mgal)	---	Daily	452.6958	453.1805	453.6092	454.0775	454.6749		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	37.5	37.5	39	42	39.6		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.090	0.084	0.084	0.084	0.084		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.132	0.124	0.120	0.120	0.112		
		Sand filter differential pressure, SF-201 (1)	---	Daily	37	35	36	39	37		
		Sand filter differential pressure, SF-201 (2)	---	Daily	36	33	32	32	32		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.1	15.9	15.1	15.1	15.1		
		GW flow (gpm)	0-500 gpm	Daily	244.9	249.9	245.2	244.9	245.5		
		Totalizer (Mgal)	---	Daily	390.3264	390.6441	390.9194	391.2204	391.6017		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	10.0	10.0	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.5	12.5	12.7	12.5	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.1	6.0	5.1	5.1	5.0		
		Between Tanks (psig)	0-20 psig	Daily	14.9	15.1	14.4	14.8	14.5		
		V-214B Pressure (psig)	0-20 psig	Daily	9.5	10.1	9.1	9.8	9.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	27.2	26.8	27.5	25.0	24.8		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.91	22.31	20.24	20.84	20.24		
	Effluent Pump Skid (Train 2)	GW flow (gpm)	0-500 gpm	Daily	380.8	381.6	379.8	380.7	380.0		
		Totalizer (Mgal)	---	Daily	468.0238	468.5414	468.9734	469.4376	470.0281		
		Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	23.1	24.9	23.9	23.8	25.0		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
	Backwash System	Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.60	22.50	20.36	20.77	20.22		
		GW flow (gpm)	0-500 gpm	Daily	260.8	260.5	260.7	260.2	260.2		
		Totalizer (Mgal)	---	Daily	385.7888	386.1058	386.3208	386.6751	387.0516		
	Sodium Hypochlorite Generator	Clarifier Level (ft)	---	Daily	Call 2 26	Call 2 26	Call 2 26	Call 2 26	Call 2 26		
		Clarifier Discharged to Sump?	yes/no	Daily	Yes	No	No	No	No		
Upstream Filter Pressure (psi)		>30 psig	Daily	>100	>100	>100	>100	>100			
Downstream Filter Pressure (psi)		>30 psig	Daily	>100	>100	>100	>100	>100			
Brine Tank Filled with Salt?		yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
Generator Inlet Pressure (psi)		>30 psig	Daily	Yes	Yes	Yes	Yes	Yes			
Generator Faulted?		yes/no	Daily	No	No	No	No	No			
Oxidant Tank Level (ft)		>2 ft	Daily	OK	OK	OK	OK	OK			
Train 1 Dosing Pump Faulted?		yes/no	Daily	OK	OK	OK	OK	OK			
Train 2 Dosing Pump Faulted?		yes/no	Daily	OK	OK	OK	OK	OK			
Sodium Hypochlorite Generator	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	OK	OK	OK	OK	OK			
	Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	OK	OK	OK	OK	OK			

Notes:

UPS Back-up battery | Daily | Good | Good | Good | Good | Good

6.51F
Course 220,000 gal
350,000 gal

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday			
					11/12/20	11/13/20	11/14/20	11/15/20	11/16/20	11/17/20	11/18/20			
					Time: 9:34	07:35	08:01	09:02	13:33					
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	140	140	140	140	140					
		Wellhead Pressure (psig)	< 150 psig	Daily	64.3	64.4	64.4	64.3	64.1					
		Water Level Above Transducer (ft)	---	Daily	8.77	9.07	9.06	9.22	9.27					
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	161	160	160	161	160					
		Wellhead Pressure (psig)	< 150 psig	Daily	22.7	22.8	22.8	22.8	22.7					
		Water Level Above Transducer (ft)	---	Daily	30.80	31.03	31.0	30.90	31.26					
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174					
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	23.0	22.9	23.0	22.9					
		Water Level Above Transducer (ft)	---	Daily	22.33	22.54	22.53	22.41	22.79					
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	74	74	74	74	74					
		Wellhead Pressure (psig)	< 150 psig	Daily	48.9	48.8	48.8	48.7	48.8					
		Water Level Above Transducer (ft)	---	Daily	13.46	13.26	13.66	13.78	13.89					
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	365	365					
		Totalizer (1000 gal)	---	Daily	455625136	456199184	456805368	457447916	458187776					
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.37	0.37					
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39					
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	246	245	245	245	245					
		Totalizer (1000 gal)	---	Daily	316868680	317191792	317430422	317737852	318098310					
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.12	0.11	0.11	0.11	0.11					
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.08	0.08	0.08	0.08	0.08					
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	380	381	380	376						
	Totalizer (1000 gal)	---	Daily	508721650	509139199	509529284	510046273	510583594						
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	259	260	260						
	Totalizer (1000 gal)	---	Daily	411870512	412124459	412394321	412682309	413010981						
Injection Well 7	Pressure (psig)	0-120 psig	Daily	1.8	2.2	13.6	13.0	12.9						
	Water Level Above Transducer (ft)	10-30 ft	Daily	58.67	60.16	108.07	90.94	114.38						
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.71	3.87	4.05	3.97	3.37						
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	47.77	47.44	49.76	49.00	47.85	47.90	47.42	47.41	46.50	46.53
		Amperage (A, P112A B)	>10 A	Daily	11.2	11.4	11.8	12.0	11.3	11.5	11.7	11.4	10.9	11.1
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	7.9	10.0	10.5	5	5.1					
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	44.33	44.40	44.38	44.32	44.52	44.48	45.22	45.24	44.07	44.78
		Amperage (A, P212A B)	>10 A	Daily	9.7	9.5	9.8	9.16	9.2	9.5	9.9	9.6	9.8	9.6
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	8.8	5	5	5.1	4.9					
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.81	47.94	48.87	48.62	48.12					
		Amperage (A, P118)	>10 A	Daily	16.5	16.2	16.3	16.6	16.2					
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	44.21	42.95	43.06	44.47	43.82					
		Amperage (A, P218)	>10 A	Daily	13.4	13.0	13.1	13.3	13.2					
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	158.9824									
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	158.9824									
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly			95							
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	160.8									
	Totalizer (Mgal)	---	Weekly	206.9961										
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly			78							
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	173.0									
Well Control House	Totalizer (Mgal)	---	Weekly	314.9678										
Well Head	KAFB-7	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	22.1									
		*Totalizer (1000 gal)	---	Weekly										
		GW flow (gpm)	0-800 gpm	Weekly										

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

239
74.1
Total 90.6967

2,84
394

29.4 VFD
55.46 H2
34.07 Hmps
87 AC
68 Hmb

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/12/20	11/13/20	11/14/20	11/15/20	11/16/20	11/17/20	11/18/20
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	37	41	37	36.5	34		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.372	0.373	0.372	0.374	0.373		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.389	0.394	0.393	0.398	0.390		
		Sand filter differential pressure, SF-101 (1)	---	Daily	33	38	74	32	29		
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	31	27	31	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.6	13.6	13.6	13.6	13.6		
		GW flow (gpm)	0-500 gpm	Daily	364.9	365.2	365.4	365.3	365.5		
		Totalizer (Mgal)	---	Daily	456.0431	456.4876	456.9508	457.4527	458.0240		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	37.9	37.5	37.2	39.2	37		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.079	0.079	0.078	0.079	0.082		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.113	0.115	0.115	0.114	0.112		
		Sand filter differential pressure, SF-201 (1)	---	Daily	36	35	36	37	34		
		Sand filter differential pressure, SF-201 (2)	---	Daily	30.5	34	37	35	33		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.9	15.9	16.0	16.0	15.2		
		GW flow (gpm)	0-500 gpm	Daily	245.3	244.9	244.9	244.5	245.0		
		Totalizer (Mgal)	---	Daily	392.4780	392.7593	393.0586	393.3762	393.7406		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	9.4	10.0	9.6	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.7	12.4	12.7	12.6	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.0	5.9	5.9	5.9	5.0		
		Between Tanks (psig)	0-20 psig	Daily	15.3	15.1	15.1	15.1	14.5		
		V-214B Pressure (psig)	0-20 psig	Daily	10.2	9.6	10.1	9.7	9.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25	24.1	25.0	25.1	24.5		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.27	19.84	20.40	20.84	20.04		
	Effluent Pump Skid (Train 2)	GW flow (gpm)	0-500 gpm	Daily	379.9	380.4	380.2	380.4	380.5		
		Totalizer (Mgal)	---	Daily	471.4131	471.8591	472.3269	472.8282	473.3944		
		Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	23.0	22.9	23.2	22.9	23.1		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
	Backwash System	Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.22	19.80	20.46	20.83	20.86		
		GW flow (gpm)	0-500 gpm	Daily	259.8	260.6	260.3	260.3	260.2		
		Totalizer (Mgal)	---	Daily	387.1989	388.1967	388.7909	388.8078	389.1660		
	Sodium Hypochlorite Generator	Clarifier Level (ft)	---	Daily	Cell 2 2.6'						
		Clarifier Discharged to Sump?	yes/no	Daily	No	Yes	Yes	Yes	Yes		
		Upstream Filter Pressure (psi)	>30 psig	Daily	>100 Yes	>100	>100	>100	105.00		
		Downstream Filter Pressure (psi)	>30 psig	Daily	>100 Yes	>100	>100	>100	102.10		
		Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes		
		Generator Inlet Pressure (psi)	>30 psig	Daily							
		Generator Faulted?	yes/no	Daily							
Oxidant Tank Level (ft)		>2 ft	Daily	CL	CL	CL	CL	CL			
Train 1 Dosing Pump Faulted?		yes/no	Daily								
Train 2 Dosing Pump Faulted?		yes/no	Daily								
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									
Notes:	GWTS	UPS	Battery Status	Green	Daily	green	green	green	green	Green	

T2 Back Wash
T2
Train 2 Back Wash

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/19/20 Time: 1410	11/10/20 0758	11/11/20 1048	11/12/20 1439	11/13/20 0801	1/1	1/1
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	170	170	139	162 170	140		
		Wellhead Pressure (psig)	< 150 psig	Daily	64.0	64.1	63.8 64.5 ³	64	63.9		
		Water Level Above Transducer (ft)	---	Daily	9.19	9.03	9.07	8.88	8.83		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	160	160	160	160	160		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.8	22.8 22.8 ⁶	23	22.8		
		Water Level Above Transducer (ft)	---	Daily	31.31	31.08	31.10	31.05	30.98		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	22.9	22.9 22.9 ⁶	23	22.9		
		Water Level Above Transducer (ft)	---	Daily	22.87	22.63	22.66	22.41	22.56		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	73	73	73	73	73		
		Wellhead Pressure (psig)	< 150 psig	Daily	48.6	48.4	48.4 48.5	48	48.3		
		Water Level Above Transducer (ft)	---	Daily	13.91	13.74	13.74	13.71	13.56		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	366	365	365	365		
		Totalizer (1000 gal)	---	Daily	460064320	460522232	461221364	461934804	462381856		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.37	0.37		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.29	0.37	0.37		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	244	245	245	245	245		
		Totalizer (1000 gal)	---	Daily	318982708	319201510	319534746	319874842	320084878		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.12	0.12	0.12	0.12	0.12		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.08	0.08	0.09	0.08	0.08		
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	381	380	380	381	379			
	Totalizer (1000 gal)	---	Daily	511945852	512278905	512787170	513305165	513632426			
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	261	260	259	260	253			
	Totalizer (1000 gal)	---	Daily	413844065	414048788	414361387	414678305	414874876			
Injection Well 7	Pressure (psig)	0-120 psig	Daily	13.2	1.9	12.8	13.4	1.8			
	Water Level Above Transducer (ft)	10-30 ft	Daily	103.19	57.70	114.86	114.89	57.02			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.38	3.98	3.75	3.35	3.92			
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	45.77 45.93	46.34 46.34	46.77 46.77	46.20 46.21	47.60 47.65		
		Amperage (A, P112A B)	>10 A	Daily	10.6 11.0	10.9 11.0	11.0 11.2	10.9 11.0	11.2 11.4		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	6	6.5	8	7.5	8.5		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	42.90 42.86	43.81 43.89	47.30 47.30	47.47 47.50	47.61 47.64		
		Amperage (A, P212A B)	>10 A	Daily	9.4 9.2	9.6 9.4	10.4 10.3	10.5 10.2	9.3 9.1		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5	5.8	10.1	13	5		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.76	48.18	47.99	49.38	48.52		
		Amperage (A, P118)	>10 A	Daily	16.5	16.3	16.3	16.7	16.4		
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	44.05	43.61	45.90	45.82	43.55		
Amperage (A, P218)		>10 A	Daily	13.3	13.2	13.2	13.7	13.1			
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	---	160,7811	---			
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	---	---	91,6751	---			
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	73.5	---			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	96 ps	---			
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	160.5	---			
	KAFB-106234	Totalizer (Mgal)	---	Weekly	---	---	209,1248	---			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	77 ps	---			
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	317,1618	---				
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	22.1	---			
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---			

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

25°C VFD
83°F AC
5544 Hz
3412 Amp
52°F Temp

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/09/20	11/10/20	11/11/20	11/12/20	11/13/20	11/14/20	11/15/20
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	33.9	34	34.5	34.5	35		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.374	0.371	0.374	0.375	0.369		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.388	0.396	0.389	0.391	0.395		
		Sand filter differential pressure, SF-101 (1)	---	Daily	30	30	30.5	30.5	32		
		Sand filter differential pressure, SF-101 (2)	---	Daily	27	28	28	28	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.6	13.6	13.6	13.6	13.6		
		GW flow (gpm)	0-500 gpm	Daily	365.4	365.7	365.3	364.9	365.6		
		Totalizer (Mgal)	---	Daily	459,473.4	459,826.8	460,366.9	460,918.5	461,265.5		
		Bag filters changed?	yes/no	Daily	No	No	No	No	No		
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	35.2	36.5	42	43.5	34.5		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.080	0.080	0.083	0.084	0.086		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.115	0.116	0.124	0.120	0.123		
		Sand filter differential pressure, SF-201 (1)	---	Daily	32	34	39	41	33		
		Sand filter differential pressure, SF-201 (2)	---	Daily	32	32	32.5	32	32		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.1	15.1	15.2	16.1	15.2		
		GW flow (gpm)	0-500 gpm	Daily	245.0	245.5	245.4	245.3	244.4		
		Totalizer (Mgal)	---	Daily	394,664.3	394,890.2	395,235.8	395,586.9	395,804.1		
		Bag filters changed?	yes/no	Daily	No	No	No	No	No		
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	10.0	10.0	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.8	12.8	12.8	12.8	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
		Which Tank is Lag?	---	Daily	B	B	B	B	B		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	4.9	5.9	5.1	6.0	5.0		
		Between Tanks (psig)	0-20 psig	Daily	14.4	15.2	14.9	15.1	14.9		
		V-214B Pressure (psig)	0-20 psig	Daily	9.0	10.1	7.8	10.2	9.1		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
		Which Tank is Lag?	---	Daily	A	A	A	A	A		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25.2	24.9	24.3	27	24.1		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	21.18	20.27	19.92	22.54	19.89		
		GW flow (gpm)	0-500 gpm	Daily	380.6	380.4	380.5	381.3	380.9		
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	24.8	23.8	23.4	26	23.6		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	21.50	20.30	19.91	22.55	20.01		
		GW flow (gpm)	0-500 gpm	Daily	260.9	260.3	259.9	260.3	260.5		
	Backwash System	Clarifier Level (ft)	---	Daily	Call 2.26						
		Clarifier Discharged to Sump?	yes/no	Daily	No	No	No	Yes - At	No		
	Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	105	110	>100	>100	>100		
		Downstream Filter Pressure (psi)	>30 psig	Daily	102	105	>100	>100	>100		
		Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes		
		Generator Inlet Pressure (psi)	>30 psig	Daily							
		Generator Faulted?	yes/no	Daily							
Oxidant Tank Level (ft)		>2 ft	Daily								
Train 1 Dosing Pump Faulted?		yes/no	Daily								
Train 2 Dosing Pump Faulted?		yes/no	Daily								
Sodium Hypochlorite Generator	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								
	Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								

Notes:

GWTS UPS Battery indicator light Green/red PFG Daily Green Green Green Green Green
BW T2

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/16/20 Time: 0843	11/17/20 1404	11/18/20 1202	11/19/20 0810	11/20/20 1201	11/21/20	11/22/20
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	140	140	140	140		
		Wellhead Pressure (psig)	< 150 psig	Daily	63.5	63.8 6445	63.7	63.6	63.5		
		Water Level Above Transducer (ft)	---	Daily	8.86	10.14	10.33	9.92	10.18		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	160	160	160	160	160		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.8 2284	22.7	22.7	22.7		
		Water Level Above Transducer (ft)	---	Daily	30.79	31.08	31.25	31.10	31.57		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	173	173	173		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.9	22.9	22.9	22.9		
		Water Level Above Transducer (ft)	---	Daily	22.40	22.74 2288	22.95	22.77	23.53		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	73	73	73	73	73		
		Wellhead Pressure (psig)	< 150 psig	Daily	48.2	48.2 4810	48.1	48.0	47.9		
		Water Level Above Transducer (ft)	---	Daily	13.53	13.96	14.02	13.83	13.96		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	366	364		
		Totalizer (1000 gal)	---	Daily	464217066	464906992	465430388	465957596	466122308		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.38	0.38		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	246	244		
		Totalizer (1000 gal)	---	Daily	320932786	321259858	321510122	321755880	322070150		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.13	0.13	0.15	0.15	0.15		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.09	0.09	0.11	0.10	0.11		
	Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	379	381	386	379		
		Totalizer (1000 gal)	---	Daily	514965584	515471624	515854423	516237402	516357705		
	Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	259	260	260	266		
		Totalizer (1000 gal)	---	Daily	415667027	415972748	416206453	416454287	416747337		
Injection Well 7	Pressure (psig)	0-120 psig	Daily	0.7	13.3	0.9	1.1	1.1			
	Water Level Above Transducer (ft)	10-30 ft	Daily	6.15	10.25	5.92	6.93	5.71			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.56	3.84	3.85	3.24	3.13			
HMIs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	4789 4970	4754 4755	4831 4820	4852 4854	4872 4874		
		Amperage (A, P112A B)	>10 A	Daily	11.8 12.0	11.2 11.4	11.3 11.5	11.5 11.7	11.5 11.7		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	7.5	5.1	6	7.5	7.5		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	4819 4819	4724 4723	4674 4672	4640 4647	4715 4711		
		Amperage (A, P212A B)	>10 A	Daily	10.7 10.4	10.5 10.2	10.3 10.1	10.2 10.0	10.4 10.2		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	11.5	10.0	7.5	8	9.9		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	4795	4747	4934	4821	4755		
		Amperage (A, P118)	>10 A	Daily	16.2	16.1	16.7	16.3	16.10		
Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	43.59	43.84	44.56	45.00	44.00			
	Amperage (A, P218)	>10 A	Daily	13.2	13.2	13.5	13.6	13.2			
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	135.1	---	---			
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	---	92.2609	---	---			
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	72.8	---	---			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	---	94 psi	---		
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	160.0	---	---	---		
	KAFB-106234	Totalizer (Mgal)	---	Weekly	---	210.4802	---	---	---		
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	---	80 psi	---		
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	---	---	---			
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	---	---			
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---	---		

* The KAFB-7 Totalizer reading should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7 and the Golf Course Main Pond.

Notes:

IN2
 Upstream Pressure
 Down stream press.
 Water Above Trans.

1.0	13.0	1.0	2.6	2.6
0.6	0.6	0.6	0.6	0.6
107.45	26.53	27.05	27.45	27.45

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
					11/16/20 Time: 0834	4/17/20 1354	4/18/20 1150	4/19/20 0820	4/20/20 1150	1/1	1/1	
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	40.5	36.5	37.2	38	39			
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.368	0.375	0.377	0.371	0.366			
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.394	0.392	0.395	0.394	0.389			
		Sand filter differential pressure, SF-101 (1)	---	Daily	38	32.5	34	35	36			
		Sand filter differential pressure, SF-101 (2)	---	Daily	31	31	31	31	31			
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.6	13.6	13.6	13.6	13.7			
		GW flow (gpm)	0-500 gpm	Daily	365.4	364.2	365.9	365.5	365.6			
		Totalizer (Mgal)	---	Daily	6822	6810	6825	6838	6815			
	Bag filters changed?	yes/no	Daily	No	No	No	No	No				
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	50	43	42	41	43			
		Bag filter differential pressure, F212A	<15 psid	Daily	0.082	0.092	0.107	0.107	0.113			
		Bag filter differential pressure, F212B	<15 psid	Daily	0.125	0.132	0.147	0.148	0.152			
		Sand filter differential pressure, SF-201 (1)	---	Daily	41	41	39	39	40			
		Sand filter differential pressure, SF-201 (2)	---	Daily	35.5	35	36	34.5	35			
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.6	16.1	15.9	15.9	15.2			
		GW flow (gpm)	0-500 gpm	Daily	244.9	245.5	245.3	245.4	245.2			
		Totalizer (Mgal)	---	Daily	396.8310	397.0201	397.2797	397.5338	397.8586			
	Bag filters changed?	yes/no	Daily	No	No	No	No	No				
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	9.6	9.6	9.5	9.5	9.6			
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.6	12.5	12.7	12.6	12.7			
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9			
		Which Tank is Lead?	---	Daily	B	B	B	B	B			
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.0	5.9	6.0	5.9	5.1			
		Between Tanks (psig)	0-20 psig	Daily	14.9	15.2	14.9	15.0	14.9			
		V-214B Pressure (psig)	0-20 psig	Daily	9.2	9.9	9.5	9.7	9.7			
		Which Tank is Lead?	---	Daily	A	A	A	A	A			
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	24.1	23.9	25	24.9	25			
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0			
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0			
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.22	19.26	20.40	20.14	20.25			
		GW flow (gpm)	0-500 gpm	Daily	379.4	380.6	380.5	380.2	380.0			
		Totalizer (Mgal)	---	Daily	478.0827	478.6217	478.0310	477.4713	477.5662			
		Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	23.6	23.9	24.9	24.8	25.1		
			Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
	Bag filter differential pressure, F-218B		<15 psid	Daily	0	0	0	0	0			
	Upstream outlet press. pump tree (psig)		< 60 psig	Daily	19.67	19.24	20.33	20.13	20.30			
	Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6			
		Clarifier Discharged to Sump?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
	Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	105	91			
		Downstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	103	90			
Brine Tank Filled with Salt?		yes/no	Daily	Yes	Yes	Yes	Yes	Yes				
Generator Inlet Pressure (psi)		>30 psig	Daily									
Generator Faulted?		yes/no	Daily									
Oxidant Tank Level (ft)		>2 ft	Daily									
Train 1 Dosing Pump Faulted?		yes/no	Daily									
Train 2 Dosing Pump Faulted?		yes/no	Daily									
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily										
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily										

Notes:

GWTS UPS Back up battery Green Daily Green Green Green Green Green Green

T2 BW T1 BW T2 Multiple Back washes T2 BW T2 BW

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	140	146	140				
		Wellhead Pressure (psig)	< 150 psig	Daily	64	63.5	64.1	63.8			
		Water Level Above Transducer (ft)	---	Daily	10.87	10.45	10.00				
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	160	160	160				
		Wellhead Pressure (psig)	< 150 psig	Daily	23	22.7	22.85	22.7			
		Water Level Above Transducer (ft)	---	Daily	31.77	31.53	31.21				
	Well KAFB-106234	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	174	174	174				
		Wellhead Pressure (psig)	< 150 psig	Daily	23	22.9	22.98	22.9			
		Water Level Above Transducer (ft)	---	Daily	23.73	23.36	23.09				
	Well KAFB-106239	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	72	72	73				
		Wellhead Pressure (psig)	< 150 psig	Daily	48	47.8	47.7	48.2			
		Water Level Above Transducer (ft)	---	Daily	14.43	14.20	13.66				
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365				
		Totalizer (1000 gal)	---	Daily	467528680	468108360	468607816				
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39				
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245				
		Totalizer (1000 gal)	---	Daily	322951884	323224676	323460198				
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.17	0.17	0.20				
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.13	0.15	0.15				
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	379	379	380					
	Totalizer (1000 gal)	---	Daily	517390518	517800490	518162364					
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	266	259					
	Totalizer (1000 gal)	---	Daily	417573056	417826268	418045908					
Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	13.3	13.0	2.1					
	Water Level Above Transducer (ft)	10-100 ft	Daily	85.60	99.80	57.06					
	Upstream Pressure (psig)	0-120 psig	Daily	10.2	13.0	1.0					
Injection Well KAFB-IN2	Downstream Pressure (psig)	0-120 psig	Daily	0.6	0.6	0.6					
	Water Level Above Transducer (ft)	10-100 ft	Daily	26.97	27.58	27.39					
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.34	3.41	3.55					
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	48.37	48.33	47.81	47.82	47.43	47.43	
		Amperage (A, P112A B)	>10 A	Daily	16.4	11.6	11.2	11.4	11.1	11.3	
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	9.0	9.5	9.5	9.5	9.9	9.9	
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	43.57	43.51	44.34	44.33	44.2	44.2	
		Amperage (A, P212A B)	>10 A	Daily	9.5	9.4	9.8	9.5	9.7	9.6	
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	6	5	5.5	5.5	5.5	5.5	
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.76	48.08	47.24	47.67			
		Amperage (A, P118)	>10 A	Daily	16.5	16.2	14.3	16.2			
Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	46.97	45.54	45.40					
	Amperage (A, P218)	>10 A	Daily	14.0	13.6	13.7					
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	163,2191	---				
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	135.5	---				
		Totalizer (Mgal)	---	Weekly	---	92,9779	---				
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly	---	94 psi	---				
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	160.3	---				
	Totalizer (Mgal)	---	Weekly	---	211,6628	---					
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly	---	78 psi	---				
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	173.0	---				
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	319,9007	---					
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	221	---				
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly	---	---	---				
		*Totalizer (1000 gal)	---	Weekly	---	---	---				

Notes:

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

239 73.4 - 73.6 GPM
93%

77°F AC
16.6 VFD
54°F Amb
55.42 Hz
33.91 Amps

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	36.2	37	36.5				
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.371	0.374	0.367				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.392	0.392	0.398				
		Sand filter differential pressure, SF-101 (1)	---	Daily	32	32	33				
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	27	27				
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.7	13.7	13.7				
		GW flow (gpm)	0-500 gpm	Daily	364.5	365.7	365.2				
		Totalizer (Mgal)	---	Daily	465,2535	465,6959	466,0777				
	Bag filters changed?	yes/no	Daily	No	No	No					
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	36.5	36.5	37.5				
		Bag filter differential pressure, F212A	<15 psid	Daily	0.182	0.143	0.152				
		Bag filter differential pressure, F212B	<15 psid	Daily	0.172	0.186	0.202				
		Sand filter differential pressure, SF-201 (1)	---	Daily	35	35	35				
		Sand filter differential pressure, SF-201 (2)	---	Daily	32	33	35				
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	16.1	15.2	15.2				
		GW flow (gpm)	0-500 gpm	Daily	244.8	245.1	245.2				
		Totalizer (Mgal)	---	Daily	398,7748	399,0528	399,2942				
	Bag filters changed?	yes/no	Daily	No	No	No					
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	10.0				
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.8	12.8	12.8				
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9				
		Which Tank is Lead?	---	Daily	A	A	A				
		Which Tank is Lag?	---	Daily	B	B	B				
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.9	5.0	5.0				
		Between Tanks (psig)	0-20 psig	Daily	15.2	14.9	14.8				
		V-214B Pressure (psig)	0-20 psig	Daily	10.1	9.5	9.1				
		Which Tank is Lead?	---	Daily	B	B	B				
		Which Tank is Lag?	---	Daily	A	A	A				
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25	24.3	24.5				
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0				
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0				
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.74	20.04	19.91				
		GW flow (gpm)	0-500 gpm	Daily	380.0	380.2	380.6				
	Totalizer (Mgal)	---	Daily	480,661	481,1113	481,4951					
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	26	25.2	24.5				
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0				
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0				
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.77	20.06	20.05				
		GW flow (gpm)	0-500 gpm	Daily	260.2	260.1	260.8				
	Totalizer (Mgal)	---	Daily	394,7450	394,4218	394,6609					
	Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6				
		Clarifier Discharged to Sump?	yes/no	Daily	Y	Y	Y				
	Main Uninterruptable Power Supply (UPS)	Status Light	---	Daily	Green	Green	Green				
		Comments	---	Daily							
	Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	101	101	99				
Downstream Filter Pressure (psi)		>30 psig	Daily	98	98	95					
Brine Tank Filled with Salt?		yes/no	Daily	Yes	Yes	Yes					
Generator Inlet Pressure (psi)		>30 psig	Daily								
Generator Faulted?		yes/no	Daily								
Oxidant Tank Level (ft)		>2 ft	Daily								
Train 1 Dosing Pump Faulted?		yes/no	Daily	Down	Down	Down					
Train 2 Dosing Pump Faulted?		yes/no	Daily								
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									

Notes:

T2 BW T2 BW T2 BW

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					11/20/20	12/01/20	12/02/20	12/03/20	12/04/20	/ /	/ /
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	139	139	139	139		
		Wellhead Pressure (psig)	< 150 psig	Daily	63.1 64.28	63.2	63.4	63.2	63.1		
		Water Level Above Transducer (ft)	--	Daily	9.42	10.61	9.88	9.62	9.60		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	160	160	160	159	160		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.7 22.85	22.7	22.8	22.7	22.7		
		Water Level Above Transducer (ft)	--	Daily	30.93	31.09	31.18	31.13	31.15		
	Well KAFB-106234	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	174 221	174	174	174	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0	22.9	22.9	23.0	22.9		
		Water Level Above Transducer (ft)	--	Daily	22.79	23.21	23.07	23.04	23.04		
	Well KAFB-106239	GW flow, FI-7002 (gpm)	0-200 gpm	Daily	73	73	72	73	72		
		Wellhead Pressure (psig)	< 150 psig	Daily	48.0 47.90	47.8	47.8	47.8	47.6		
		Water Level Above Transducer (ft)	--	Daily	13.37	14.42	13.71	13.58	13.61		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	365	365		
		Totalizer (1000 gal)	--	Daily	471,735,488	472,064,944	472,719,864	473,437,176	473,915,140		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.38	0.37	0.37	0.37	0.37		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.40	0.39	0.39		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	244	245	245	246		
		Totalizer (1000 gal)	--	Daily	324,946,608	325,102,400	325,411,032	325,751,242	325,974,704		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.27	0.32	0.34	0.35	0.13		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.21	0.25	0.26	0.28	0.19		
	Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	376	380	380	380	380		
		Totalizer (1000 gal)	--	Daily	520,431,578	520,671,232	521,146,520	521,665,984	522,013,158		
	Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	260	260	260		
		Totalizer (1000 gal)	--	Daily	419,432,354	419,576,690	419,864,326	420,181,572	420,391,044		
	Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	0.6	0.8	2.4	2.2	13.8		
Water Level Above Transducer (ft)		10-100 ft	Daily	56.94	56.94	56.55	56.34	89.76			
Upstream Pressure (psig)		0-120 psig	Daily	0.4	7.2	4.1	3.2	9.6			
Injection Well KAFB-IN2	Downstream Pressure (psig)	0-120 psig	Daily	0.5	0.5	0.5	0.5	1.5.9			
	Water Level Above Transducer (ft)	10-100 ft	Daily	27.27	27.39	27.01	26.53	27.52			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	3.25	2.96	3.38	3.78	3.97			
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	46.01 46.05	48.30 48.51	47.43 47.47	47.18 47.11	48.13 48.17		
		Amperage (A, P112A B)	>10 A	Daily	10.8 11.0	11.5 11.7	11.2 11.3	11.1 11.3	11.30 11.50		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	6.5	7.5	5.7.5	8	9		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	44.40 44.41	44.75 44.97	33.30 33.36	42.76 43.77	44.09 44.07		
		Amperage (A, P212A B)	>10 A	Daily	9.7 9.6	9.7 9.6	9.4 9.3	9.6 9.4	9.60 9.50		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	9.0	5	5	5	6		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.55	48.14	49.28	47.99	47.06		
		Amperage (A, P118)	>10 A	Daily	16.4	16.4	16.4	16.2	15.90		
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	46.22	46.24	46.47	46.46	42.82		
		Amperage (A, P218)	>10 A	Daily	13.9	14.0	13.9	14.0	12.90		
Well Vault	KAFB-106228	Totalizer (Mgal)	--	Weekly	164,3403						
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	135.4						
		Totalizer (Mgal)	--	Weekly	93,5832						
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly	72.6			90 psi			
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	160.1						
	Totalizer (Mgal)	--	Weekly	212,9891							
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly				79 psi			
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	172.8						
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	321,3331		22.1					
Well Head	KAFB-7	*Totalizer (1000 gal)	--	Weekly							
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly							
		*Totalizer (1000 gal)	--	Weekly							
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly		0.0409					

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

11/30/20 Pond
0930 HMI 3.27
Rod 2.02

VFD Amb 11.9 C
AC 85.0 F
Amb 31.0 F
Hz 55.194
Amps 34.45

72.6 gpm

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					# 1/30/20	12/01/20	12/02/20	12/03/20	12/04/20	/ /	/ /
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	34	39	35	35.1	36.0		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.378	0.379	0.374	0.373	0.374		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.386	0.392	0.389	0.388	0.388		
		Sand filter differential pressure, SF-101 (1)	---	Daily	30	35	32	32	41		
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	32	28	27.5	37		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.7	13.9	13.8	13.8	13.8		
		GW flow (gpm)	0-500 gpm	Daily	365.3	365.5	365.1	365.2	366.1		
		Totalizer (Mgal)	---	Daily	468,5007	468,7501	469,2555	469,0004	470,1812		
	Bag filters changed?	yes/no	Daily	No	No	No		No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	38	37.5	37.5	35.5	37.0		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.210	0.254	0.335	0.278	0.123		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.271	0.319	0.267	0.345	0.184		
		Sand filter differential pressure, SF-201 (1)	---	Daily	35	35	32	33	35		
		Sand filter differential pressure, SF-201 (2)	---	Daily	31	35	32	32	32		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.5	15.9	16.1	16.1	15.0		
		GW flow (gpm)	0-500 gpm	Daily	245.2	245.6	245.2	245.4	245.5		
		Totalizer (Mgal)	---	Daily	400,8375	400,9963	401,3140	401,6660	401,9010		
	Bag filters changed?	yes/no	Daily	No	No			No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	9.8	10.0	9.9	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.8	12.8	12.8	12.9	13.0		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	8.0		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
		Which Tank is Lag?	---	Daily	B	B	B	B	B		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	5.0	5.1	6	5.9	6.0		
		Between Tanks (psig)	0-20 psig	Daily	14.9	15.1	15.9	15.9	14.5		
		V-214B Pressure (psig)	0-20 psig	Daily	9.0	9.5	10.1	10.1	10.5		
		Which Tank is Lead?	---	Daily	B	B	B	B	B		
		Which Tank is Lag?	---	Daily	A	A	A	A	A		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25	24.5	24.9	24.2	21.0		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.99	20.06	20.11	20.01	18.93		
		GW flow (gpm)	0-500 gpm	Daily	0	0	380.0	380.3	380.4		
		Totalizer (Mgal)	---	Daily	0	0	484,6867	485,2449	485,6184		
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	26.9	20.11 26.8	27	26.9	21.0		
		Bag filter differential pressure, F-218A	<15 psid	Daily	380.0	380.1	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	380.0	484,1786	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.55	20.11	20.17	19.89	18.93		
		GW flow (gpm)	0-500 gpm	Daily	260.5	260.3	260.2	260.1	261.0		
	Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6'						
		Clarifier Discharged to Sump?	yes/no	Daily	No	Yes	Yes	Yes	Yes		
	Main Uninterruptable Power Supply (UPS)	Status Light	---	Daily	Green	Green	Green	Green	Green		
		Comments	---	Daily	Good	Good	Good	Good	Good		
	Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	105	>100	>100		
		Downstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	102	>100	>100		
Brine Tank Filled with Salt?		yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
Generator Inlet Pressure (psi)		>30 psig	Daily								
Generator Faulted?		yes/no	Daily								
Oxidant Tank Level (ft)		>2 ft	Daily	Down	Down	Down	Down	Down			
Train 1 Dosing Pump Faulted?		yes/no	Daily								
Train 2 Dosing Pump Faulted?		yes/no	Daily								
Sodium Hypochlorite Generator	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								
	Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								

Notes:

72
Back
wash
72
BW

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/07/20	12/08/20	12/09/20	12/10/20	12/11/20	1/1	1/1
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	139	139	140	139		
		Wellhead Pressure (psig)	< 150 psig	Daily	62.9	62.6	62.8	63.1 64.8	62.7		
		Water Level Above Transducer (ft)	---	Daily	9.12	9.06	9.70	9.66	9.59		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	159	159	159	160	159		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.7	22.7	22.8 22.78	22.8		
		Water Level Above Transducer (ft)	---	Daily	31.85	31.08	31.79	31.48	31.53		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	22.9	22.9	22.9 22.93	22.9		
		Water Level Above Transducer (ft)	---	Daily	22.97	23.0	23.40	23.38	23.48		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	72	72	72	71	71		
		Wellhead Pressure (psig)	< 150 psig	Daily	47.6	47.6	47.6	47.4 47.41	47.4		
		Water Level Above Transducer (ft)	---	Daily	13.80	13.35	13.91	13.92	13.86		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	364	365		
		Totalizer (1000 gal)	---	Daily	475846200	476528992	477055336	477681776	478230056		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.38	0.37	0.37		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	246	245	245	245		
		Totalizer (1000 gal)	---	Daily	326892588	327209604	327460806	327757230	328014292		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.13	0.13	0.14	0.10	0.10		
	Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	380	379	382	380		
		Totalizer (1000 gal)	---	Daily	523416430	523911164	524293178	524747064	525145384		
	Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	261	257	388260	261	260		
		Totalizer (1000 gal)	---	Daily	421243130	421537508	421771152	422047616	422287714		
	Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	13.9	13.5	0.9	13.3	13.1		
		Water Level Above Transducer (ft)	10-100 ft	Daily	120.49	97.04	58.88	112.13	121.92		
Injection Well KAFB-IN2	Upstream Pressure (psig)	0-120 psig	Daily	12.9	8.2	3.7	13.3	13.0			
	Downstream Pressure (psig)	0-120 psig	Daily	0.5	0.5	0.5	0.5	0.5			
Golf Course Pond	Water Level Above Transducer (ft)	10-100 ft	Daily	26.88	26.72	26.75	27.16	28.07			
	Pond Level (ft)	0.7-3.5 ft	Daily	3.97	3.97	3.97	4.07	4.07			
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	4576 46525	4561 4561	4810 4809	4569 4508	4693 4693		
		Amperage (A, P112A B)	>10 A	Daily	10.7 10.8	10.6 10.9	16.3 11.6	10.8 10.9	11.0 11.2		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.1	5.5	5.5=6	6.5	6.5		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	4729 4724	45.0 44.92	44.82 44.76	4628 4620	46.60 46.70		
		Amperage (A, P212A B)	>10 A	Daily	10.3 10.2	9.9 9.7	9.9 9.6	10.10 9.9	10.2 10.1		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	11	5	5	9.5	11		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	484	4880	4822	4810	4875		
		Amperage (A, P118)	>10 A	Daily	16.3	16.5	16.4	16.2	16.4		
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	43.30	42.71	42.85	42.30	42.79		
		Amperage (A, P218)	>10 A	Daily	13.1	13.0	13.0	12.8	12.9		
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	---	166,2109	---			
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	135.1	---			
Well Control House	KAFB-106233	Totalizer (Mgal)	---	Weekly	---	---	94,5815	---			
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	71.4	---			
		Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	93 psig	---			
	KAFB-106234	Totalizer (Mgal)	---	Weekly	---	---	215,1982	---			
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	---	79 psi	---			
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	172.7	---				
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	323,7241	---			
Well Head	KAFB-7	GW flow (gpm)	0-800 gpm	Weekly	---	---	22.1	---			
Well Head	KAFB-IN2	*Totalizer (1000 gal)	---	Weekly	---	---	---	---			
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---			

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

↑ changed bag filters

VFD 11.5 C
AC 77 EFF
Amb 34 °F
H2 55.92
Amps 34.32

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/7/20	12/08/20	12/09/20	12/10/20	12/11/20	1/1/	1/1/
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	33	33	37	34	34		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.365	0.376	0.371	0.375	0.373		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.396	0.390	0.394	0.392	0.393		
		Sand filter differential pressure, SF-101 (1)	---	Daily	29	29	34	29	29.9		
		Sand filter differential pressure, SF-101 (2)	---	Daily	27	28	32	27	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.8	13.9	13.9	13.8	13.9		
		GW flow (gpm)	0-500 gpm	Daily	365.5	365.5	365.4	365.3	365.2		
		Totalizer (Mgal)	---	Daily	471,6703	472,1941	472,6027	473,0873	473,5114		
	Bag filters changed?	yes/no	Daily	No	No	No	No				
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	42	33	33.9	40.5	47		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.203	0.219	0.226	0.066	0.069		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.130	0.131	0.138	0.098	0.100		
		Sand filter differential pressure, SF-201 (1)	---	Daily	37.5	35	36	38	39		
		Sand filter differential pressure, SF-201 (2)	---	Daily	32	35	35	32.5	32		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.1	14.8	14.9	15.1	15.2		
		GW flow (gpm)	0-500 gpm	Daily	245.4	245.4	244.9	245.1	245.2		
		Totalizer (Mgal)	---	Daily	402,8463	403,1760	403,4339	403,7412	404,0071		
	Bag filters changed?	yes/no	Daily	No	No	Yes	No				
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	9.6	10.0	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.9	12.9	12.8	12.9	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A			
		Which Tank is Lag?	---	Daily	B	B	B	B			
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	6.0	5.0	5.1	6.0	5.9		
		Between Tanks (psig)	0-20 psig	Daily	14.9	13.9	13.9	14.9	14.9		
		V-214B Pressure (psig)	0-20 psig	Daily	10.1	9.1	9.7	10.1	10.1		
		Which Tank is Lead?	---	Daily	B	B	B	B			
		Which Tank is Lag?	---	Daily	A	A	A	A			
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	24.9	25.0	25.0	24.8	25.1		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.27	20.36	20.26	20.18	20.27		
		GW flow (gpm)	0-500 gpm	Daily	380.5	380.4	380.8	380.6	380.3		
	Effluent Pump Skid (Train 2)	Totalizer (Mgal)	---	Daily	487,1159	487,6426	488,0544	488,5510	488,9654		
		Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	22.9	22.9	22.9	21.9	22.1		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.22	20.34	20.44	20.14	20.04		
	Backwash System	GW flow (gpm)	0-500 gpm	Daily	260.7	261.2	260.5	260.7	260.6		
		Totalizer (Mgal)	---	Daily	398,1709	398,4935	398,7498	399,0608	399,3164		
Main Uninterruptable Power Supply (UPS)	Clarifier Level (ft)	---	Daily	2.6' Cell 2	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'			
	Clarifier Discharged to Sump?	yes/no	Daily	No	Yes	No	No	Yes			
Sodium Hypochlorite Generator	Status Light	---	Daily	Green	Green	Green	Green	Green			
	Comments	---	Daily	Good	Good	Good	Good	Good			
	Upstream Filter Pressure (psi)	>30 psig	Daily	102	>100	108	>100	>100			
	Downstream Filter Pressure (psi)	>30 psig	Daily	101	>100	105	>100	>100			
	Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
	Generator Inlet Pressure (psi)	>30 psig	Daily	43							
	Generator Faulted?	yes/no	Daily								
	Oxidant Tank Level (ft)	>2 ft	Daily								
	Train 1 Dosing Pump Faulted?	yes/no	Daily	Down	Down	Down	Down	Down			
	Train 2 Dosing Pump Faulted?	yes/no	Daily	Down	Down	Down	Down	Down			
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily	7								
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									

Notes:

T1
BW
T2
BW

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/14/20	12/15/20	12/16/20	12/17/20	12/18/20	1/1/21	1/1/21
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	139	139	139	139		
		Wellhead Pressure (psig)	< 150 psig	Daily	62.3	62.4 (393)	62.7	62.3	62.6		
		Water Level Above Transducer (ft)	---	Daily	9.74	9.80	9.56	9.48	9.24		
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	159	159	159	159	159		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.8	22.7 22.8	22.7	22.7	22.7		
		Water Level Above Transducer (ft)	---	Daily	31.34	31.44	31.23	31.30	31.46		
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174	174		
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	22.9	22.9	22.9	22.9		
		Water Level Above Transducer (ft)	---	Daily	23.28	23.38 23.0	23.18	23.25	23.41		
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	71	71	71	71	71		
		Wellhead Pressure (psig)	< 150 psig	Daily	47.2	47.1 47.13	47.0	47.0	47.0		
		Water Level Above Transducer (ft)	---	Daily	13.65	13.74	13.61	13.56	13.91		
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365	365	365		
		Totalizer (1000 gal)	---	Daily	480 086 128	480 681 320	481 327 999	481 997 784	482 505 088		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.37	0.37	0.37		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39	0.39	0.39		
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	---	245		
		Totalizer (1000 gal)	---	Daily	328 885 036	329 163 218	329 466 194	329 777 092	330 019 294		
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.11	0.10	0.10	---	0.10		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.06	0.07	0.07	---	0.06		
	Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	381	380	380	379	---		
		Totalizer (1000 gal)	---	Daily	526 491 438	526 923 210	527 393 480	527 875 416	528 248 046		
	Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	261	260	260	260	260		
		Totalizer (1000 gal)	---	Daily	423 101 116	423 362 103	423 645 240	423 937 330	424 161 750		
	Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	13.6	13.4	12.8	13.8	12.8		
Water Level Above Transducer (ft)		10-100 ft	Daily	122.77	126.42	115.94	104.71	98.54			
Injection Well KAFB-IN2	Upstream Pressure (psig)	0-120 psig	Daily	12.5	13.4	13.5	8.8	8.6			
	Downstream Pressure (psig)	0-120 psig	Daily	0.0	0.5	0.5	1.0	0.5			
	Water Level Above Transducer (ft)	10-100 ft	Daily	27.78	* --- 0	* 0	* 0	17.1			
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	4.07	4.07	4.25	4.25	4.25			
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	4729 4727	4630 4651	4727 4732	4692 4695	4799 4799		
		Amperage (A, P112A B)	>10 A	Daily	11.1 11.3	10.9 11.1	11.1 11.3	11.1 11.2	11.3 11.5		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	8	8.5	9	9.4	9.5		
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	4604 4591	4549 4548	4572 4574	---	4604 4500		
		Amperage (A, P212A B)	>10 A	Daily	10.1 9.9	9.9 9.8	10.0 9.9	---	9.9 9.7		
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	10	5.1	5.1	---	10		
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	4964	4831	4813	4856	4915		
		Amperage (A, P118)	>10 A	Daily	16.7	16.3	16.3	16.4	16.6		
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	4244	4230	4234	4357	4403		
		Amperage (A, P218)	>10 A	Daily	16.4 12.8	12.8	12.9	13.2	13.2		
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	167,1762	---	---			
		GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	135.2	---	---			
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	---	95,0919	---	---			
		GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	71.0	---	---			
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly	---	25 psig	---	---			
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	159.7	---	---			
		Totalizer (Mgal)	---	Weekly	---	216,3401	---	---			
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly	---	78	---	---			
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	173.0	---	---			
		Totalizer (Mgal)	---	Weekly	---	324,9627	---	---			
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	22.1	---	---				
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	4700 e4	---	---			
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---			
Well Head	KAFB-IN2	*Totalizer (1000 gal)	---	Weekly	---	---	---	---			
		GW flow (gpm)	0-800 gpm	Weekly	---	---	---	---			

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

Notes:

* Transd. is pulled out

Stallda Pond 3.0
HMI Pond 4.12

32°F Amb
75°F AC
19.8 vfd
342 A mps
55.93 Hz

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/14/20	12/15/20	12/16/20	12/17/20	12/18/20	12/19/20	
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	35	35	35.5	36	36		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.380	0.372	0.377	0.379	0.374		
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.389	0.394	0.397	0.391	0.385		
		Sand filter differential pressure, SF-101 (1)	---	Daily	31	31	32	32	32		
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	28	28	28	28		
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.9	13.9	13.9	13.9	13.9		
		GW flow (gpm)	0-500 gpm	Daily	365.6	365.6	365.1	365.3	365.3		
		Totalizer (Mgal)	---	Daily	474,943.0	475,405.2	475,901.7	476,415.3	476,809.7		
	Bag filters changed?	yes/no	Daily	No	No	No	No	No			
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	41.5	38.8	39.1		39		
		Bag filter differential pressure, F212A	<15 psid	Daily	0.067	0.066	0.064		0.065		
		Bag filter differential pressure, F212B	<15 psid	Daily	0.097	0.102	0.098		0.096		
		Sand filter differential pressure, SF-201 (1)	---	Daily	38	37	37		37		
		Sand filter differential pressure, SF-201 (2)	---	Daily	32	34	35		31		
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.5	15.9	15.0		15.9		
		GW flow (gpm)	0-500 gpm	Daily	244.8	244.7	245.2		244.8		
		Totalizer (Mgal)	---	Daily	404,907.9	405,200.0	405,510.2		406,082.9		
	Bag filters changed?	yes/no	Daily	No	No	No		No			
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.0	10.0	10.0	10.0	10.0		
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.8	12.9	12.8	12.9	12.8		
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9	7.9		
		Which Tank is Lead?	---	Daily	A	A	A	A	A		
		Which Tank is Lag?	---	Daily	B	B	B	B	B		
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	6	6	5		5.9		
		Between Tanks (psig)	0-20 psig	Daily	15	15	14		15.1		
		V-214B Pressure (psig)	0-20 psig	Daily	10.1	10.2	9		10.2		
		Which Tank is Lead?	---	Daily	B	B	B		B		
		Which Tank is Lag?	---	Daily	A	A	A		A		
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25.8	24.5	24.9	25.1	26		
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	21.22	20.04	20.20	20.92	21.76		
		GW flow (gpm)	0-500 gpm	Daily	380.1	380.7	380.8	379.6	380.9		
	Totalizer (Mgal)	---	Daily	490,709.4	490,867.3	491,370.1	491,884.6	492,285.0			
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	22.9	21.8	21.9	22.2	23.2		
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0	0		
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0	0		
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	21.16	20.02	20.21	20.80	21.77		
		GW flow (gpm)	0-500 gpm	Daily	260.5	259.6	260.3	260.1	260.1		
	Totalizer (Mgal)	---	Daily	400,211.4	400,495.4	400,806.2	401,126.6	401,375.8			
Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6			
	Clarifier Discharged to Sump?	yes/no	Daily	No	No	No	No	No			
Main Uninterruptable Power Supply (UPS)	Status Light	---	Daily	Green	Green	Green	Green	Green			
	Comments	---	Daily	Good	Good	Good	Good	Good			
Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	108	>100	98	>100			
	Downstream Filter Pressure (psi)	>30 psig	Daily	>100	105	>100	98	>100			
	Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes	Yes			
	Generator Inlet Pressure (psi)	>30 psig	Daily								
	Generator Faulted?	yes/no	Daily								
	Oxidant Tank Level (ft)	>2 ft	Daily								
	Train 1 Dosing Pump Faulted?	yes/no	Daily	Down	Down	Down	Down	Down			
	Train 2 Dosing Pump Faulted?	yes/no	Daily								
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									

Notes:

BW ~ 1700

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
					12/21/20	12/22/20	12/23/20	12/24/20	1/1	1/1	1/1	
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	139	138	138	↑			
		Wellhead Pressure (psig)	< 150 psig	Daily	62.2	62.7	62.5	63.9		62.7		
		Water Level Above Transducer (ft)	---	Daily	9.42	10.17	9.74	9.86				
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	159	159	159	158				
		Wellhead Pressure (psig)	< 150 psig	Daily	22.7	22.7	22.7	22.8		22.7		
		Water Level Above Transducer (ft)	---	Daily	31.25	31.49	31.39	31.34				
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174				
		Wellhead Pressure (psig)	< 150 psig	Daily	22.9	22.9	22.9	22.9		23.0		
		Water Level Above Transducer (ft)	---	Daily	23.22	23.45	23.35	23.45				
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	70	73	72	73				
		Wellhead Pressure (psig)	< 150 psig	Daily	46.8	47.9	48.0	47.9		48.0		
		Water Level Above Transducer (ft)	---	Daily	13.58	16.39	15.63	15.34				
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	---	365				
		Totalizer (1000 gal)	---	Daily	484374816	485043544	485679208	486219872				
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	---	0.37				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	---	0.39				
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	244	245	245	245				
		Totalizer (1000 gal)	---	Daily	330852538	331410	331369742	331626332				
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.10	0.10	0.07	0.11		0.10		
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.07	0.07	0.07	0.06				
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	380	380	380	380					
	Totalizer (1000 gal)	---	Daily	529596182	530090872	530592958	530937084					
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	260	260					
	Totalizer (1000 gal)	---	Daily	424939544	425145810	425424284	425660624					
Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	13.3	13.4	13.3	14.0					
	Water Level Above Transducer (ft)	10-100 ft	Daily	123.36	118.19	122.95	92.01					
	Upstream Pressure (psig)	0-120 psig	Daily	12.8	13.4	13.0	12.5					
Injection Well KAFB-IN2	Downstream Pressure (psig)	0-120 psig	Daily	1.7 psig	3.0	2.0	1.7					
	Water Level Above Transducer (ft)	10-100 ft	Daily	17'	16'	16'	16'					
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	4.25	4.25	4.25	4.25					
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	46.6 46.1	45.8 45.8	46.5 46.3	49.0 49.0				
		Amperage (A, P112A B)	>10 A	Daily	10.8 11.0	10.9 11.0	11.0 11.1	11.7 11.8				
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.5	6	6.5	8.5				
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	42.2 42.2	41.9 44.9	45.0 45.0	46.8 46.9				
		Amperage (A, P212A B)	>10 A	Daily	9.3 9.1	9.8 9.6	9.8 9.7	10.3 10.1				
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.0	5.3	5	9.25				
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	48.40	48.08	49.03	49.53				
		Amperage (A, P118)	>10 A	Daily	16.5	16.2	16.6	16.9				
	Effluent Pump Skid (2)	Frequency (Hz, P218)	>30 Hz	Daily	42.20	42.39	42.92	42.44				
		Amperage (A, P218)	>10 A	Daily	12.8	12.8	12.9	12.9				
Well Vault	KAFB-106228	Totalizer (Mgal)	---	Weekly	---	---	168,6813					
Well Vault	KAFB-106239	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	---	---	134.3					
		Totalizer (Mgal)	---	Weekly	---	---	95,7969					
Well Control House	KAFB-106233	Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	93 psig					
		GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	---	---	158.8					
		Totalizer (Mgal)	---	Weekly	---	---	218,1413					
	KAFB-106234	Wellhead Pressure (psig)	< 150 psig	Weekly	---	---	78 psig					
		GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	---	---	172.7					
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	---	---	326,9273						
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	---	---	---					
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly	---	---	---					
		*Totalizer (1000 gal)	---	Weekly	---	---	---					

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

Disinfect 239
 TI INF 331072480

35°F Amb
 18.2 VFD
 80°F AC
 3413 Amps
 5652 H₂

Notes:

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/21/20 Time: 0845	12/22/20 1108	12/23/20 1125	12/27/20 1146	1	1	1
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	33.2	33.9	33.5	39.5	↑		
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.379	0.372	0.372	0.374			
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.350	0.386	0.384	0.394			
		Sand filter differential pressure, SF-101 (1)	---	Daily	29	29	29	31			
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	28	28	28			
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.9	13.9	13.9	13.9			
		GW flow (gpm)	0-500 gpm	Daily	365.5	365.6	365.6	365.5			
		Totalizer (Mgal)	---	Daily	478,2396	478,7549	479,2408	479,6647			
	Bag filters changed?	yes/no	Daily	No	No	No	No				
	Influent Pump Skid (Train 2)	Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	34	38	38.5	42.5			
		Bag filter differential pressure, F212A	<15 psid	Daily	0.065	0.064	0.064	0.063			
		Bag filter differential pressure, F212B	<15 psid	Daily	0.097	0.100	0.100	0.102			
		Sand filter differential pressure, SF-201 (1)	---	Daily	32	35	36	40			
		Sand filter differential pressure, SF-201 (2)	---	Daily	31	34	36	36			
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.9	15.9	15.9	16.1			
		GW flow (gpm)	0-500 gpm	Daily	245.4	245.5	245.7	244.8			
		Totalizer (Mgal)	---	Daily	406,9441	407,1714	407,4771	407,7457			
	Bag filters changed?	yes/no	Daily	No	No	No	No				
	GAC (Train 1)	V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	12.8	10.1	10.1	9.6			
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	7.9	12.8	12.9	12.8			
		V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	10.1	7.9	7.9	7.9			
		Which Tank is Lead?	---	Daily	A	A	A	A			
		Which Tank is Lag?	---	Daily	B	B	B	B			
	GAC (Train 2)	V-214A Pressure (psig)	0-20 psig	Daily	6.0	6.0	6.0	5.8			
		Between Tanks (psig)	0-20 psig	Daily	15.1	15.1	15.1	13.1			
		V-214B Pressure (psig)	0-20 psig	Daily	10.1	10.7	10.5	9.9			
		Which Tank is Lead?	---	Daily	B	B	B	B			
		Which Tank is Lag?	---	Daily	A	A	A	A			
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	25.0	24.5	25.9	25			
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0			
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0			
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.58	20.10	21.15	20.80			
		GW flow (gpm)	0-500 gpm	Daily	381.3	379.9	380.3	380.2			
	Effluent Pump Skid (Train 2)	Totalizer (Mgal)	---	Daily	493,7274	494,2428	494,7252	495,1556			
		Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	22.1	21.8	22.9	22.5			
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0			
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0			
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	20.56	20.06	21.14	20.90			
	Backwash System	Clarifier Level (ft)	---	Daily	402,2272	402,4541	402,7512	403,0160			
		Clarifier Discharged to Sump?	yes/no	Daily	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6	Cell 2 2.6			
Main Uninterruptable Power Supply (UPS)	Status Light	---	Daily	Yes	No	Yes	Yes				
	Comments	---	Daily	Good	Good	Good	Good				
Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	2100	99	>100	>100				
	Downstream Filter Pressure (psi)	>30 psig	Daily	>100	98	>100	>100				
	Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes				
	Generator Inlet Pressure (psi)	>30 psig	Daily								
	Generator Faulted?	yes/no	Daily								
	Oxidant Tank Level (ft)	>2 ft	Daily								
	Train 1 Dosing Pump Faulted?	yes/no	Daily								
	Train 2 Dosing Pump Faulted?	yes/no	Daily								
Sodium Hypochlorite Generator	Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								
	Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily								

Notes:

T1 Manual BN

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

82608 BTEX

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/26/20	12/29/20	12/30/20	12/31/20	1/1	1/1	
HMI	Well KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Daily	139	139	138	138	↑		
		Wellhead Pressure (psig)	< 150 psig	Daily	62.7	62.5 63.8	62.4	62.5			
		Water Level Above Transducer (ft)	---	Daily	9.67	9.79	9.42	9.63			
	Well KAFB-106233	GW flow, FT-7001 (gpm)	0-200 gpm	Daily	159	159	159	159			
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0 22.8	22.7 22.8	22.7	22.7			
		Water Level Above Transducer (ft)	---	Daily	33.51 31.53	31.66	31.38	31.52			
	Well KAFB-106234	GW flow, FI-7002(gpm)	0-200 gpm	Daily	174	174	174	174			
		Wellhead Pressure (psig)	< 150 psig	Daily	23.0 23.0	22.9 22.9	22.9	22.9			
		Water Level Above Transducer (ft)	---	Daily	23.51	23.64	23.38	23.55			
	Well KAFB-106239	GW flow, FI-7002(gpm)	0-200 gpm	Daily	74	74	74	74			
		Wellhead Pressure (psig)	< 150 psig	Daily	48.1	48.1 48.1	48.1	48.1			
		Water Level Above Transducer (ft)	---	Daily	14.81	14.83 15.65	14.38	14.58			
	Influent Pump Skid (1)	GW flow (gpm)	0-400 gpm	Daily	365	365	365				
		Totalizer (1000 gal)	---	Daily	488654840	489340812	489829888	490470784			
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.37	0.37	0.38				
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.39	0.39	0.39				
	Influent Pump Skid (2)	GW flow (gpm)	0-400 gpm	Daily	245	245	245	245			
		Totalizer (1000 gal)	---	Daily	332780002	333105834	333339522	333643224			
		Bag filter differential pressure, F-212A, PDI-3202A	<15 psid	Daily	0.10	0.10	0.10	0.09			
		Bag filter differential pressure, F-212B, PDI-3202B	<15 psid	Daily	0.06	0.06	0.06	0.06			
Effluent Skid Pump (1)	GW flow (gpm)	0-400 gpm	Daily	329	381	380	380				
	Totalizer (1000 gal)	---	Daily	532702616	533200192	533554348	534174200				
Effluent Skid Pump (2)	GW flow (gpm)	0-400 gpm	Daily	260	260	260	260				
	Totalizer (1000 gal)	---	Daily	426740818	427048006	427261698	427545672				
Injection Well KAFB-7	Pressure (psig)	0-120 psig	Daily	-0.0	13.3	13.3	-0.2				
	Water Level Above Transducer (ft)	10-100 ft	Daily	60.54	126.16	124.26	60.29				
	Upstream Pressure (psig)	0-120 psig	Daily	0.0	13.1	13.0	1.1				
Injection Well KAFB-IN2	Downstream Pressure (psig)	0-120 psig	Daily	1.7	1.7	1.7	1.7				
	Water Level Above Transducer (ft)	10-100 ft	Daily	17	16	17	17				
Golf Course Pond	Pond Level (ft)	0.7-3.5 ft	Daily	4.26	4.16	3.61	3.72				
HIMs	Influent Pump Skid (1)	Frequency (Hz, P112A B)	>30 Hz	Daily	46.73 46.68	45.59 45.57	46.31 46.32	49.20 49.21			
		Amperage (A, P112A B)	>10 A	Daily	10.9 11.1	10.6 10.8	10.9 11.1	11.6 11.8			
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	6	6	7	7			
	Influent Pump Skid (2)	Frequency (Hz, P212A B)	>30 Hz	Daily	47.01 44.02	44.88 44.91	45.23 45.20	47.71 47.73			
		Amperage (A, P212A B)	>10 A	Daily	9.8 9.7	9.8 9.7	9.8 9.8	10.5 10.3			
		Sand Filter Differential Pressure (psi)	>1 psi	Daily	5.5	5	7	9.8			
	Effluent Pump Skid (1)	Frequency (Hz, P118)	>30 Hz	Daily	—	48.33	48.20	48.54			
		Amperage (A, P118)	>10 A	Daily	—	16.3	16.3	16.4			
		Frequency (Hz, P218)	>30 Hz	Daily	—	42.10	42.90	42.40			
	Effluent Pump Skid (2)	Amperage (A, P218)	>10 A	Daily	—	12.8	12.9	12.8			
Totalizer (Mgal)		---	Weekly	—	169,805.0	—	—				
Well Vault	KAFB-106228	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	—	134.3	—				
Well Vault	KAFB-106239	Totalizer (Mgal)	---	Weekly	—	96,413.4	—				
Well Control House	KAFB-106233	GW flow, FT-3001 (gpm)	0-200 gpm	Weekly	—	73.7	—				
		Wellhead Pressure (psig)	< 150 psig	Weekly	—	95.51	—				
	KAFB-106234	GW flow, FT-7001 (gpm)	0-200 gpm	Weekly	—	159.1	—				
		Totalizer (Mgal)	---	Weekly	—	219,476.0	—				
		Wellhead Pressure (psig)	< 150 psig	Weekly	—	81.04	—				
Well Control House	KAFB-106234	GW flow, FT-7002 (gpm)	0-200 gpm	Weekly	—	173.0	—				
Well Control House	Effluent Line Pressure, PI-7005	< 150 psig	Weekly	—	328,378.4	—					
Well Head	KAFB-7	*Totalizer (1000 gal)	---	Weekly	57130000	—	—				
Well Head	KAFB-7	GW flow (gpm)	0-800 gpm	Weekly	—	—	—				
Well Head	KAFB-IN2	*Totalizer (1000 gal)	---	Weekly	0,179.9	—	—				
Well Head	KAFB-IN2	GW flow (gpm)	0-800 gpm	Weekly	—	—	—				

Down

Up

* The KAFB-7 and KAFB-IN2 Totalizer readings should be recorded weekly as well as on days when the effluent flow is changed between KAFB-7, KAFB-IN2, and the Golf Course Main Pond.

Anb 39°F
VFD 10.4
AC 75°F
AMPS 34.00
HE 55.63

Daily and Weekly Inspection Log for the Kirtland AFB GWTS

Location	Component	Item	Normal Range	Recordation Frequency	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					12/28/20	12/29/20	12/30/20	12/31/20			
GWTS	Influent Pump Skid (Train 1)	Inlet pressure pump skid, PI-3102 (psig)	< 60 psig	Daily	33.1	34	34	37.5			
		Bag filter differential pressure, F112A, PDI-3102A	<15 psid	Daily	0.375	0.375	0.372	0.375			
		Bag filter differential pressure, F112B, PDI-3102B	<15 psid	Daily	0.392	0.396	0.392	0.396			
		Sand filter differential pressure, SF-101 (1)	---	Daily	29	29	30	25			
		Sand filter differential pressure, SF-101 (2)	---	Daily	28	28	28	31			
		Outlet pressure pump skid, PI-3103 (psig)	< 60 psig	Daily	13.9	13.9	13.9	13.9			
		GW flow (gpm)	0-500 gpm	Daily	365.5	365.2	365.5	365.3			
		Totalizer (Mgal)	---	Daily	481,5476	482,0737	482,4550	482,9444			
		Bag filters changed?	yes/no	Daily	No	No	No	No			
		Inlet pressure pump skid, PI-3202 (psig)	< 60 psig	Daily	32.1-33.0	37.5	37.8	43			
	Influent Pump Skid (Train 2)	Bag filter differential pressure, F212A	<15 psid	Daily	0.069	0.065	0.064	0.062			
		Bag filter differential pressure, F212B	<15 psid	Daily	0.097	0.100	0.099	0.100			
		Sand filter differential pressure, SF-201 (1)	---	Daily	36	35	35	39 35			
		Sand filter differential pressure, SF-201 (2)	---	Daily	35	34	32	34 31			
		Outlet pressure pump skid, PI-3203, (psig)	< 60 psig	Daily	15.9	16.1	15.9	15.9			
		GW flow (gpm)	0-500 gpm	Daily	246.1	247.9	245.3	245.2			
		Totalizer (Mgal)	---	Daily	408,9418	409,2768	409,5185	409,8315			
		Bag filters changed?	yes/no	Daily	No	No	No	No			
		V-114A Pressure, PI-3104A (psig)	0-20 psig	Daily	10.1	10.0	10.1	9.8			
		Between Tanks, PI-3105 (psig)	0-20 psig	Daily	12.9	12.9	12.9	12.8			
	GAC (Train 1)	V-114B Pressure, PI-3104B (psig)	0-20 psig	Daily	7.9	7.9	7.9	7.9			
		Which Tank is Lead?	---	Daily	A	A	A	A			
		Which Tank is Lag?	---	Daily	B	B	B	B			
		V-214A Pressure (psig)	0-20 psig	Daily	6.2	6.1	5.0	5.0			
	GAC (Train 2)	Between Tanks (psig)	0-20 psig	Daily	15.1	15.8	14.9	14.9			
		V-214B Pressure (psig)	0-20 psig	Daily	10.0	10.5	9.3	9.2			
		Which Tank is Lead?	---	Daily	B	B	B	B			
		Which Tank is Lag?	---	Daily	A	A	A	A			
	Effluent Pump Skid (Train 1)	Inlet press. pump skid, PI-3108 (psig)	< 60 psig	Daily	23.9	24.5	25.0	24.5			
		Bag filter differential pressure, F-118A	<15 psid	Daily	0	0	0	0			
		Bag filter differential pressure, F-118B	<15 psid	Daily	0	0	0	0			
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.62	20.01	20.40	19.97			
		GW flow (gpm)	0-500 gpm	Daily	380.2	377.8	379.9	379.6			
		Totalizer (Mgal)	---	Daily	497,0540	497,5786	497,9561	498,4529			
	Effluent Pump Skid (Train 2)	Inlet press. pump skid, PI-3208 (psig)	< 60 psig	Daily	21.1	21.4	22.0	21.5			
		Bag filter differential pressure, F-218A	<15 psid	Daily	0	0	0	0			
		Bag filter differential pressure, F-218B	<15 psid	Daily	0	0	0	0			
		Upstream outlet press. pump tree (psig)	< 60 psig	Daily	19.65	19.97	20.40	19.92			
		GW flow (gpm)	0-500 gpm	Daily	260.8	260.2	260.6	260.6			
		Totalizer (Mgal)	---	Daily	404,2049	404,5340	404,7785	405,0835			
Backwash System	Clarifier Level (ft)	---	Daily	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'	Cell 2 2.6'				
	Clarifier Discharged to Sump?	yes/no	Daily	Yes	Yes	No	AF				
Main Uninterruptable Power Supply (UPS)	Status Light	---	Daily	Green	Green	Green	Green				
	Comments	---	Daily	Good	Good	Good	Good				
Sodium Hypochlorite Generator	Upstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100				
	Downstream Filter Pressure (psi)	>30 psig	Daily	>100	>100	>100	>100				
	Brine Tank Filled with Salt?	yes/no	Daily	Yes	Yes	Yes	Yes				
	Generator Inlet Pressure (psi)	>30 psig	Daily	Yes	Yes	Yes	Yes				
	Generator Faulted?	yes/no	Daily								
	Oxidant Tank Level (ft)	>2 ft	Daily								
	Train 1 Dosing Pump Faulted?	yes/no	Daily	Down	Down	Down	Down				
	Train 2 Dosing Pump Faulted?	yes/no	Daily								
Train 1 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									
Train 2 Free Chlorine (ppm)	0.1 - 0.3 ppm	Daily									

Notes:

T2
Back
wash

WEEKLY INSPECTIONS AND RECORD FORMS

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

1115

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-2-2020
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Pete Ferrari

Pete Zimm

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-2-2020 1100
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 app (green bars)</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>Flashing Green</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

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KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-9-20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

1105

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes: <i>V114B GAC slurry fill line has small leak at weld on top.</i>			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Caltrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-9-20
Notes:			

Pete J...

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-9-20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green Bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

1115

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>Flashing Green</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Pete Ferrand *Pete Ferrand*

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-16-20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashy Green</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

1340

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

Pete Ferrard Peter Luman

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PR	10-16-20 1350
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green Bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>Flashing Green</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Pete Ferran *Peter Juman*

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-21-2020 7:50
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes: <i>Oil and Grease 10-20-2020</i>			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes: <i>Oil and Grease 10-20-2020</i>			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Pete Ferran Peter Juward

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

1500

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-21-2020
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) 2			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes: Oil & Grease - 10-20-2020			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes: Oil & Grease 10-20-2020			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Pete Ferraro Tyler Duran

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time			
Pipes, fittings and instruments free of leaks	Good	PF	10-29-2020 1130			
Feed pump seals free of leaks	↓	↓	↓			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>						
Oil reservoir for feed pumps full						
Pump oil has been changed within last 90 days						
Filter housing gaskets free of leaks						
Filter differential pressure less than 15 psi						
Vent air from top of filter housings <i>Yes</i>						
Notes: <i>changed oil last week, some seepage from rear seal on pumps, keep by clean</i>						

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good		
Pressure drop less than 15 psig for each bed	↓	↓	↓
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	↓	↓	↓
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	↓	↓	↓
Notes:			

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	10-29-2020 1140
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green LEDs</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>1 Flushing Green</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	
Notes:			

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-5-2020
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes: P112B Rear seal of bearing frame leaks as oil level stabilizes from oil change			

1040

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	Yes	PF	✓

Name: Pete Ferrai Signature: Pete Ferrai

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-5-2020 1050
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>1 Green bars</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes: <u>oil level stabilizing</u>			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓		
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?			

Name: <u>Pete Ferran</u>	Signature: <u>Pete Ferran</u>
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KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-13-20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes	✓	✓	
Notes: some P112B bearing frame seal leak as oil level stabilizes from oil change two weeks ago (slowing)			

0920

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes: change bag filter inside clarifier			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	Yes ✓	✓	✓

Name: Pete Ferrari Signature: Pete Ferrari

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-13-20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

0930

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <u>1 F</u>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	<u>Yes</u> ✓	✓	✓

Name: Pete Ferranti Signature: Pete Ferranti

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11/20/20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes: oil levels still stabilizing, clean base daily			

1130

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	Yes		

Name: <u>Pete Ferraro</u>	Signature: <u>Pete Ferraro</u>
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KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>Good</i>	<i>PF</i>	<i>11/20/22</i>
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>2 Green bars</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

1140

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	<i>Yes</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Name: *Pete Ferron* Signature: *Pete Ferron*

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-25-2020
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

1100

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

ZNF Strainers cleaned

Pete Ferrari

Peter Ferrari

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	11-25-2020 1100
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12-03-20 1030
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓		
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	Yes	✓	✓

Name: Pete Ferraro Signature: Pete Ferraro

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12/03/20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Green bars i alert 2</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

1045

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

Influent Basket Strainers (answer on one page only)	Yes/No	Inspector	Date/Time
Have the influent basket strainers been cleaned this week?	<i>Yes</i>	<i>J</i>	<i>✓</i>

Name: *Pete Ferrari* Signature: *Peter Ferrari*

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PTF	12-10-20 1220
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes:			

Cleaned strainers 12-10-2020 → back at strainers
 Pete Ferrari Pete Durand

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

1230

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>Good</i>	<i>PF</i>	<i>12-10-2020</i>
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>2 Green bars</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>1 Flashing Green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Notes:			

Pete Ferrand

Pete Ferrand

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

0930

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12/18/20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) Flashing Green			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	✓	✓	✓
Notes: 12-14 changed clarifi bag filters			

INF Basket Strainers cleaned 12/18/20
 Pete Ferrard Site Purser

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

0940

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12/18/20
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 green bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes: <u>small oil (cover seal) drip at bearing frame drive end, clean up - oil level perfect</u>			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes: <u>changed Clarifier bag filter</u>			

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>Good</i>	<i>PF</i>	<i>12-23-2020</i>
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing green</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

2140

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing Green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Calrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>✓</i>	<i>✓</i>	<i>✓</i>
Notes:			

Cleaned INF Basket Strainer

Pete Ferran

Peta Juma

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12-23-20 1130
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) 2 Green bars			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes: P212A bearing noise at electric motor OOE a little louder			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds Yes			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) Flashy Green			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings Yes			
Notes: Bearing frame rear seal, slow drip			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Notes:			

Cleaned INF basket strainer
Pete Ferrari Pete Gunn

KAFB BFF: Weekly Inspection Form for GWTS

Train: 1

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>Good</i>	<i>PF</i>	<i>12-31-2020 0930</i>
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing green</i>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <i>Yes</i>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®) <i>Flashing green</i>			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <i>Yes</i>			
Notes:			

Clarifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	<i>✓</i>	<i>✓</i>	<i>✓</i>
Notes: <i>Δ bag filters</i>			

*Cleaned INF basket strainer
Pete Ferraro Pete Ferraro*

KAFB BFF: Weekly Inspection Form for GWTS

Train: 2

Groundwater Feed (tank, feed pumps and pre-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks	Good	PF	12-31-2020
Feed pump seals free of leaks			
Pump vibration normal (i-ALERT®) <u>2 Green bars</u>			
Oil reservoir for feed pumps full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>	✓		
Notes:			

0945

Carbon Adsorbers	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Pressure drop less than 15 psig for each bed			
Vent air from top of carbon beds <u>Yes</u>			
Notes:			

Treated Water Discharge (tank, feed pumps and post-filter)	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks			
Treated water discharge pump seal free of leaks			
Pump vibration normal (i-ALERT®)			
Oil reservoir for feed pump full			
Pump oil has been changed within last 90 days			
Filter housing gaskets free of leaks			
Filter differential pressure less than 15 psi			
Vent air from top of filter housings <u>Yes</u>			
Notes:			

Caltrifier and Backwashing Lines	Condition	Inspector	Date/Time
Pipes, fittings and instruments free of leaks		✓	✓
Notes: <u>New bag filters</u>			

cleaned INF basket strainers
Pete Ferran Pete Juron

MONTHLY INSPECTIONS AND RECORD FORMS

Monthly Operation and Maintenance Inspections
Vaults

Wellhead Vault KAFB-106228	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris <i>DRY</i>	<i>Good</i>	<i>PF/SRL</i>	<i>10-15-2020 0800</i>
Air relief valve (ARV-3005) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-3002) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Locks on electrical shed and panels intact	↓	↓	↓
Valve Vault KAFB-106228 (Louisiana inside base fence)	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF</i>	<i>10-21-2020 1145</i>
Air relief valve (ARV-3008) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-3003) is near zero after vent valve is opened for 2 minutes and then closed <i>Yes</i>	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106233	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/SRL</i>	<i>10-25-2020 0910</i>
Air relief valve (ARV-4001) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-4001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106234	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/SRL</i>	<i>10-25-2020 0940</i>
Air relief valve (ARV-5001) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-5001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Air Release Valve Vault - Eastern Avenue	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris <i>Mostly Dry - Retrieved 5 gallon bucket (233)</i>	<i>Good</i>	<i>PF/SRL</i>	<i>10-15-2020 0935</i>
Air relief valve (ARV-6001 and ARV-6002) outlets clear	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables intact	↓	↓	↓
Vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106239	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/SRL</i>	<i>10-15-2020 0830</i>
Pressure in double wall pipe interstitial space (PI-7001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Junction Vault KAFB-106239 (Ridgecrest inside base fence)	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF</i>	<i>10-21-2020 1415</i>
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Well Control House (WCH) - Gibson Avenue (inside base fence)	Condition	Inspected by	Date/Time
WCH dry and free of debris	<i>Good</i>	<i>PF/SAL</i>	<i>10-15-2020 0745</i>
Air relief valve (ARV-3008) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial spaces (PI-7001 and PI-7002) is near zero after space is vented at wellhead.	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables intact	↓	↓	↓

Monthly Operation and Maintenance Inspections
Vaults

	Condition	Inspected by	Date/Time
Valve Vault WCH to GWTS (Louisiana inside base fence)			
Vault dry and free of debris <i>some moisture / Improving</i>	Good	PF/SRL	10-15-2020 1145
Air relief valve (ARV-8001) outlet clear	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables intact			
Air Relief Valve Vaults on Discharge line (on base)			
Vault dry and free of debris <i>ARV #3 off / ARV outlet leaks, pitted</i>	Good	PF	10-21-2020 1300-1400
Air relief valve outlets clear <i>seal to metal interface</i>	"	"	"
KAFB Well 7 Wellhead			
Well 7 flowmeter vault dry and free of debris	Good	PF	10-21-2020
Air relief valve (ARV-9012) outlet clear	Good		
V-Smart valve hydraulic oil reservoir full	NA		
Piping, valves and electrical boxes are free of leaks and external corrosion	Good		
Electrical cables intact	Good		
Filter pressure reading within green on dial	NA		
Oil temperature between 90-110 degrees Fahrenheit	NA		
Oil clear and without solids	NA		
Golf Course Main Pond			
GCMP water level consistent with HMI <i>~1.2' HMI to pond difference</i>	Good	PF	10-21-2020
Discharge line clear of obstruction(s)	"	"	"

**Monthly Operation and Maintenance Inspections
Vaults**

Date/Inspected by: 10-15-2020 AF/SRL	Flowmeters										
	FIT-3001	FIT-7001	FIT-7002	FIT-239	FIT-3102	FIT-3108	FIT-3202	FIT-3208	FIT-3120	FIT-3120	KAFB-7
Flow reading operational	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
PLC totalizer functional	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
No moisture in readout	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Free of mechanical damage	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Readings consistent with past operations	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

FE/FIT- 3001, located in KAFB-106228 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS. — Pressure Flow, — HMI shows 4 gpm more than vault reading within 10%

FE/FIT- 7001, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- 7002, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- , located in KAFB-106239 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- 3102, located on the Train 1 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.

FE/FIT- 3108, located on the Train 1 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.

FE/FIT- 3202, located on the Train 2 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.

FE/FIT- 3208, located on the Train 2 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.

FI/FQI- 3120, located on the effluent bypass in the treatment building. Turbine meter (local) with analog flow rate and mechanical totalizer readout in increments of 100 gallons. Measures water volume discharged to the truck bay.

FI/FQI-KAFB-7, located in existing vault near KAFB-7. Turbine meter with analog flow rate and mechanical totalizer readout in increments of 1,000 gallons. Measures injection volume into KAFB-7.

Name: <i>Pete Ferrand</i>	Signature: <i>Pete Ferrand</i>
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Monthly Operation and Maintenance Inspections
Vaults

Wellhead Vault KAFB-106228 <i>DRY</i>	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 0930</i>
Air relief valve (ARV-3005) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-3002) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Locks on electrical shed and panels intact	↓	↓	↓
Valve Vault KAFB-106228 (Louisiana inside base fence) <i>DRY → emptied bucket</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 1010</i>
Air relief valve (ARV-3008) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-3003) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106233 <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 0923</i>
Air relief valve (ARV-4001) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-4001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106234 <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-20 0945</i>
Air relief valve (ARV-5001) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial space (PI-5001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Air Release Valve Vault - Eastern Avenue <i>DRY - emptied 5 gal buckets</i>	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 0930</i>
Air relief valve (ARV-6001 and ARV-6002) outlets clear	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables intact	↓	↓	↓
Vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106239 <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 0850</i>
Pressure in double wall pipe interstitial space (PI-7001) is near zero after vent valve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Junction Vault KAFB-106239 (Ridgecrest inside base fence) <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 1030</i>
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables, vault cover and seals intact	↓	↓	↓
Well Control House (WCH) - Gibson Avenue (inside base fence) <i>DRY Restored 5 gal bucket</i>	Condition	Inspected by	Date/Time
WCH dry and free of debris	<i>Good</i>	<i>PF/GB</i>	<i>11-17-2020 1007 0800</i>
Air relief valve (ARV-3008) outlet clear	↓	↓	↓
Pressure in double wall pipe interstitial spaces (PI-7001 and PI-7002) is near zero after space is vented at wellhead.	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion	↓	↓	↓
Electrical cables intact	↓	↓	↓

**Monthly Operation and Maintenance Inspections
Vaults**

Valve Vault WCH to GWTS (Louisiana inside base fence)	Condition	Inspected by	Date/Time
Vault dry and free of debris	Good	PF/GB	11-17-2020 1007
Air relief valve (ARV-8001) outlet clear	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables intact			

Air Relief Valve Vaults on Discharge line (on base)	Condition	Inspected by	Date/Time
Vault dry and free of debris	Good	JRL	11/30/2020 1100
Air relief valve outlets clear	↓	↓	↓

KAFB Well 7 Wellhead	Condition	Inspected by	Date/Time
Well 7 flowmeter vault dry and free of debris	Good	JRL	11/30/2020 1100
Air relief valve (ARV-9012) outlet clear	↓	↓	↓
V-Smart valve hydraulic oil reservoir full			
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables intact			
Filter pressure reading within green on dial			
Oil temperature between 90-110 degrees Fahrenheit			
Oil clear and without solids	↓	↓	↓

Golf Course Main Pond	Condition	Inspected by	Date/Time
GCMP water level consistent with HMI	Good	JRL	11/30/2020 1100
Discharge line clear of obstruction(s)	↓	↓	↓

**Monthly Operation and Maintenance Inspections
Vaults**

Date/Inspected by: <i>11-17-2020 PF/GB/SAL</i>	Flowmeters										
	FIT-3001	FIT-7001	FIT-7002	FIT-255	FIT-3102	FIT-3108	FIT-3202	FIT-3208	FIT-3120	FIT-3120	KAFB-7
Flow reading operational	<i>Good</i>										
PLC totalizer functional	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
No moisture in readout	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Free of mechanical damage	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Readings consistent with past operations	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

V-Cone of Well 7

- FE/FIT- 3001, located in KAFB-106228 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS.
- FE/FIT- 7001, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.
- FE/FIT- 7002, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.
- FE/FIT- , located in KAFB-106239 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS.
- FE/FIT- 3102, located on the Train 1 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.
- FE/FIT- 3108, located on the Train 1 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.
- FE/FIT- 3202, located on the Train 2 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.
- FE/FIT- 3208, located on the Train 2 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.
- FI/FQI- 3120, located on the effluent bypass in the treatment building. Turbine meter (local) with analog flow rate and mechanical totalizer readout in increments of 100 gallons. Measures water volume discharged to the truck bay.
- FI/FQI-KAFB-7, located in existing vault near KAFB-7. Turbine meter with analog flow rate and mechanical totalizer readout in increments of 1,000 gallons. Measures injection volume into KAFB-7.

Name: <i>Pete Ferrar!</i>	Signature: <i>Pete Ferrar!</i>
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Monthly Operation and Maintenance Inspections
Vaults

Wellhead Vault KAFB-106228	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris <i>DRY</i>	<i>Good</i>	<i>PF/GB</i>	<i>12-29-2020 0848</i>
Air relief valve (ARV-3005) outlet clear	↓		↓
Pressure in double wall pipe interstitial space (PI-3002) is near zero after ventvalve is opened for 2 minutes and then closed			
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables, vault cover and seals intact			
Locks on electrical shed and panels intact	↓		↓
Valve Vault KAFB-106228 (Louisiana inside base fence) <i>DRY - Retrieve 5 gallon bucket</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>		<i>0845</i>
Air relief valve (ARV-3008) outlet clear			↓
Pressure in double wall pipe interstitial space (PI-3003) is near zero after ventvalve is opened for 2 minutes and then closed			
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables, vault cover and seals intact			↓
Wellhead Vault KAFB-106233 <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris			<i>0929</i>
Air relief valve (ARV-4001) outlet clear			↓
Pressure in double wall pipe interstitial space (PI-4001) is near zero after ventvalve is opened for 2 minutes and then closed			
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables, vault cover and seals intact			↓
Wellhead Vault KAFB-106234 <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris			<i>0957</i>
Air relief valve (ARV-5001) outlet clear			↓
Pressure in double wall pipe interstitial space (PI-5001) is near zero after ventvalve is opened for 2 minutes and then closed			
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables, vault cover and seals intact			↓
Air Release Valve Vault - Eastern Avenue <i>DRY</i>	Condition	Inspected by	Date/Time
wellhead vault dry and free of debris			<i>0945</i>
Air relief valve (ARV-6001 and ARV-6002) outlets clear			↓
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables intact			↓
Vault cover and seals intact	↓	↓	↓
Wellhead Vault KAFB-106239 <i>DRY</i>	Condition	Inspected by	²⁹ Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF</i>	<i>12-30-2020 0903</i>
Pressure in double wall pipe interstitial space (PI-7001) is near zero after ventvalve is opened for 2 minutes and then closed	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables, vault cover and seals intact			
Junction Vault KAFB-106239 (Ridgecrest inside base fence) <i>DRY</i>	Condition	Inspected by	Date/Time
Vault dry and free of debris	<i>Good</i>	<i>PF</i>	<i>12-30-2020 0912</i>
Piping, valves and electrical boxes are free of leaks and external corrosion			↓
Electrical cables, vault cover and seals intact			↓
Well Control House (WCH) - Gibson Avenue (inside base fence) <i>DRY Retrieve 5 gal. bucket</i>	Condition	Inspected by	Date/Time
WCH dry and free of debris		<i>PF/GB</i>	<i>12-30-2020 0935</i>
Air relief valve (ARV-3008) outlet clear			<i>0950</i>
Pressure in double wall pipe interstitial spaces (PI-7001 and PI-7002) is near zero after space is vented at wellhead.	↓	↓	↓
Piping, valves and electrical boxes are free of leaks and external corrosion			
Electrical cables intact			

Monthly Operation and Maintenance Inspections
Vaults

Condition	Inspected by	Date/Time
Valve Vault WCH to GWTS (Louisiana inside base fence) 0845 DRY Vault dry and free of debris Air relief valve (ARV-8001) outlet clear Piping, valves and electrical boxes are free of leaks and external corrosion Electrical cables intact	PF	12-30-2020 0845
Air Relief Valve Vaults on Discharge line (on base) Vault dry and free of debris Air relief valve outlets clear		12-30-2020 0910-1010
KAFB Well 7 Wellhead Well 7 flowmeter vault dry and free of debris Air relief valve (ARV-9012) outlet clear Smart valve hydraulic oil reservoir full - Heater for building ON Piping, valves and electrical boxes are free of leaks and external corrosion Electrical cables intact Filter pressure reading within green on dial Oil temperature between 90-110 degrees Fahrenheit Oil clear and without solids	Good NA	0920
Golf Course Main Pond GCMP water level consistent with HMI 2.47 3.47 rod (AMI 3.64) Discharge line clear of obstruction(s)	Good "	0950

IN2 - Etec Heat tape (light on) not tripped Good PF 12-30-2020 0935

Pete Ferraro Pete Durand 12-30-2020

**Monthly Operation and Maintenance Inspections
Vaults**

Date/Inspected by: 12-29, 12-30-2020	Pete Ferraro										
Flowmeter Inspection Items	FIT-3001	FIT-7001	FIT-7002	FIT-239	FIT-3102	FIT-3108	FIT-3202	FIT-3208	FIT-3120	FIT-3120	KAFB-7
Flow reading operational	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
PLC totalizer functional	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
No moisture in readout	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Free of mechanical damage	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Readings consistent with past operations	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

FE/FIT- 3001, located in KAFB-106228 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS. *- HMI overstates gpm by ~4.5, made I+L aware of problem*

FE/FIT- 7001, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- 7002, located in well control house. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- , located in KAFB-106239 well vault. Magmeter (flow and totalizer) that measures well flow to the GWTS.

FE/FIT- 3102, located on the Train 1 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.

FE/FIT- 3108, located on the Train 1 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.

FE/FIT- 3202, located on the Train 2 feed pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the feed tank to carbon beds.

FE/FIT- 3208, located on the Train 2 discharge pump skid in the treatment building. Magmeter (flow and totalizer) that measures flow from the treated water tank to discharge line.

FI/FQI- 3120, located on the effluent bypass in the treatment building. Turbine meter (local) with analog flow rate and mechanical totalizer readout in increments of 100 gallons. Measures water volume discharged to the truck bay.

FI/FQI-KAFB-7, located in existing vault near KAFB-7. ~~Turbine~~ *v-cone* meter with analog flow rate and ~~mechanical~~ *digital* totalizer readout in increments of 1,000 gallons. Measures injection volume into KAFB-7. *E rotation*

Pete Ferraro Peter J. J. 12-30-2020

WEEKLY YARD INSPECTIONS

Weekly Yard Inspection - (AIB BFF Project)					
Inspected by		Pete Ferraro			
Date		10-2-2020			
Safety Information			Yes	No	NA
Is emergency contact information in place and up to date?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are flammable storage signs in place and legible?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is caution tape in tact around the IDW storage area?			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Confidentiality			Yes	No	NA
Are all flammables stored in the appropriate cabinet?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the portable restroom exterior free of leaks or spillage?			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are the EA vehicles and compressors free of leaks or spillage?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness			Yes	No	NA
Is the yard free of trash?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the yard free of weeds?			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is all equipment clear of the yard and put away?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all 55 gallon drums stacked properly on pallets in the IDW yard?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all IDW yard signs in place and upright?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fencing/Utility			Yes	No	NA
Is the yard free of obstructions or safety hazards? (trip, trip, fall, etc.)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the gravel driveway/intact for vehicle access?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the enclosed fence upright and intact?			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all locks smooth and functional? (roller, refrigerator, etc.)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Weekly Yard Inspection - (HAB BFF) Project				
Inspected by:	Pete Ferrand			
Date:	10-9-2020			
Safety Information	Yes	No	NA	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eyewash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the HW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Containment	Yes	No	NA	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearances	Yes	No	NA	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is all equipment clear of the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the HWV yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all HWV yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of obstructions or safety hazards? (trip, trip, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all locks smooth and functional? (trucks, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

weeds are dying, soil approaching

Weekly Yard Inspection - (KAB BFF) Project			
Inspected by:	Pete Ferrari		
Date:	10-16-2020		
Safety Information	Yes	No	NA
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is caution tape in tact around the IDW storage area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corrective Action	Yes	No	NA
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the refrigerators, freezers, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the portable restroom cabinets free of leaks or spillage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness	Yes	No	NA
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the yard free of weeds?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is all equipment stored in the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all 55 gallon drums stacked properly on pallets in the IDW yard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all IDW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functionality	Yes	No	NA
Is the yard free of obstructions or safety hazards? (slip, trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all locks maintain and functional? (valves, refrigerator, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Weekly Yard Inspection - (WYD) BFF Project

Inspected by: Pete Ferraro

Date: 10-23-2020

Safety Information	Yes	No	NA	Correction Action Taken	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are signs present for emergency safety equipment? (eyewash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are flammables storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is caution tape in tact around the HW storage area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Confidentiality					
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Comments
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the portable restroom containers free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Cleanliness					
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Comments
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		weeds are dying
Is all equipment clear of the yard and put away?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Are all 55 gallon drums stacked properly on pallets in the HW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are all HW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Functionality					
Is the yard free of obstructions or safety hazards? (oil, trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Comments
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are all locks smooth and functional? (unlatch, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Weekly Yard Inspection - ICAIA BFF Project				
Inspected by	Pete Ferrad			
Date	10-30-2020			
Safety Information			Corrective Action Taken	Comments
Yes	No	NA		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Containment				Comments
Yes	No	NA		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Cleanliness				Comments
Yes	No	NA		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Woods have weeds still standing
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Fire Safety				Comments
Yes	No	NA		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Weekly Yard Inspection - IAW BFF Project				
Inspected by:	Pete Ferran			
Date:	11-8-2020			
Safety Information			Corrective Action Taken	Comments
	Yes	No		
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eyewash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are Damnable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the EDW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Containment			Corrective Action Taken	Comments
	Yes	No		
Are all Damnable stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the cartridges, tractor, and Damnable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the BA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cleanliness			Corrective Action Taken	Comments
	Yes	No		
Is the yard free of trash?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is all equipment clear of the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the EDW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all EDW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Foresightability			Corrective Action Taken	Comments
	Yes	No		
Is the yard free of obstructions or safety hazards? (slip, trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all locks smooth and functional? (trailer, regulator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Visual Inspection - IIRIA OFF Project				
Inspected by:	Pete Ferran			
Date:	11-13-2020			
Safety Information	Yes	No	NA	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the IIRIA storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Compliance	Yes	No	NA	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the cold/dryer, freezer, and flammable liquid storage areas free of leaks or spillage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are the portable exhaust systems free of leaks or spillage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Cleanliness	Yes	No	NA	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dead for winter
Is all equipment clear of the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the IIRIA yard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are all IIRIA yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Structural	Yes	No	NA	Comments
Is the yard free of obstructions or safety hazards? (trip, slip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the gravel driveway/interlock for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all lock systems and functional? (railer, refrigerator, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Yard Inspection - IAWA BFF Project				
Inspected by	Pete Ferrari			
Date				
Safety Information				
Is emergency contact information in place and up to date?	Yes	No	NA	Corrective Action Taken
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Comments
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the IDW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
General				
Are all flammables stored in the appropriate cabinet?	Yes	No	NA	Comments
Are the cold storage, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cleanliness				
Is the yard free of trash?	Yes	No	NA	Comments
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dead non tumbled weeds have blown in
Is all equipment clear of the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the IDW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all IDW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Accessibility				
Is the yard free of obstructions or cally hazards? (trip, trip, fall, etc.)	Yes	No	NA	Comments
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all locks smooth and functional? (railer, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Yard Inspection - IIRB BFF Project				
Inspected by:	Pete Ferraro			
Date:	11-25-2020			
Safety Information	Yes	No	NA	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the DW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Housekeeping	Yes	No	NA	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cleanliness	Yes	No	NA	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dead tumbleweeds have blown in
Is all equipment clear of the yard and put away?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the DW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all DW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Safety	Yes	No	NA	Comments
Is the yard free of obstructions or safety hazards? (trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the ground driveway/paths for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all locks operable and functional? (radiator, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Yard Inspection - DATA OFF Project			
Inspected by	JOSH LIVINGSTON		
Date	12/09/2020		
Safety Information			
	Yes	No	NA
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are flameless storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is caution tape in use around the IDW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Housekeeping			
	Yes	No	NA
Are all flammable stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the refrigerators, freezer, and flammable liquid storage units free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the portable restrooms exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the EA vehicles and compressors free of leaks or spillage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness			
	Yes	No	NA
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the yard free of weeds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is all equipment clear of the yard and put away?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all 55 gallon drums stacked properly on pallets in the IDW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all IDW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire Safety			
	Yes	No	NA
Is the yard free of obstructions or safety hazards? (oil, trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the gravel driveway/area for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all locks smooth and functional? (railer, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Weekly Yard Inspection - (OIA OFF) Project				
Inspected by	Pete Ferraro			
Date	12-10-2020			
Safety Information	Yes	No	NA	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Is caution tape in tact around the HW storage area?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Containment	Yes	No	NA	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are the portable restroom containers free of leaks or spillage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Cleanliness	Yes	No	NA	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the yard free of weeds?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Dead, tumble weeds blown in
Is all equipment clean of the yard and put away?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are all SS gallon drums stacked properly on pallets in the HW yard?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are all HW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Security	Yes	No	NA	Comments
Is the yard free of obstructions or safety hazards? (trip, slip, fall, etc.)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the gravel driveway intact for vehicle access?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are all lock systems and functions? (mills, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Weekly Yard Inspection - (IATA OFF) Project				
Inspected by	Pete Ferran			
Date	12-18-2020			
Category	Yes	No	NA	Comments
Safety Information				
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the IDW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Environment				
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the refrigerator, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cleanliness				
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dead limbs, weeds
Is all equipment clear of the yard and put away?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are all 55 gallon drums stacked properly on pallets in the IDW yard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are all IDW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Functionality				
Is the yard free of obstructions or safety hazards? (trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the gravel driveway/interact for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all locks smooth and functional? (valves, refrigerator, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Yard Inspection - (HAWK) Project				
Inspected by	Pete Ferrand			
Date	12-23-2020			
Safety Information	Yes	No	NA	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is caution tape in tact around the HW storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containment	Yes	No	NA	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the refrigerators, freezer, and flammable liquid storage areas free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the portable refrigerators free of leaks or spillage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearance	Yes	No	NA	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Frozen weeds
Is all equipment clear of the yard and put away?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all SS gallon drums stacked properly on pallets in the HW yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all HW yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Protection	Yes	No	NA	Comments
Is the yard free of obstructions or safety hazards? (trip, slip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the ground driveway/lot for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the enclosed fence upright and intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are all locks smooth and functional? (roller, regulator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Weekly Visual Inspection - (HWY) off Project					
Inspected by	Peter Ferrari				
Date	12-31-2020				
Safety Information	Yes	No	NA	Corrective Action Taken	Comments
Is emergency contact information in place and up to date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are signs present for emergency safety equipment? (eye wash, fire extinguisher, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are flammable storage signs in place and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is caution tape in tact around the HWY storage area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Confidentiality	Yes	No	NA	Corrective Action Taken	Comments
Are all flammables stored in the appropriate cabinet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the refrigerator, freezer, and flammable liquid storage areas free of leaks or spillage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Are the portable restroom exterior free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the EA vehicles and compressors free of leaks or spillage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Cleanliness	Yes	No	NA	Corrective Action Taken	Comments
Is the yard free of trash?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the yard free of weeds?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Dead tumbleweeds
Is all equipment close to the yard and put away?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are all 55 gallon drums stacked properly on pallets in the HWY yard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are all HWY yard signs in place and upright?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Structural Integrity	Yes	No	NA	Corrective Action Taken	Comments
Is the yard free of obstructions or safety hazards? (trip, trip, fall, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the gravel driveway/paths for vehicle access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the enclosed fence upright and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are all locks smooth and functional? (railer, refrigerator, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Extraction Well Filter Pack Tagging Table

Filter Pack Tagging						
Well	KAFB-106228	KAFB-106233 ^a	KAFB-106234	KAFB-106239	Notes	
January	Date/Time	01/29/2020 0815	01/29/2020 0926	01/29/2020 0954	01/29/2020 0844	
	WL Depth (ft)	463.24	437.02	453.61	465.74	
	Filter Pack Depth (ft)	418.88	419.88	429.52	432.09	
February	Date/Time	02/07/2020 1120	02/07/2020 1210	02/07/2020 1238	02/07/2020 1147	
	WL Depth (ft)	462.3	436.85	453.4	465.60	
	Filter Pack Depth (ft)	418.87	419.87	429.52	432.07	
March	Date/Time	3/25/2020 0821	3/25/2020 0913	3/25/2020 0941	3/25/2020 0846	
	WL Depth (ft)	462.50	436.3	452.82	464.51	
	Filter Pack Depth (ft)	418.92	419.77	429.52	432.00	
April	Date/Time	04/03/2020 0804	04/03/2020 0914	04/3/2020 0956	04/03/2020 0838	Used interface probe as tape measure
	WL Depth (ft)	462.6	436.38	453.05	464.84	
	Filter Pack Depth (ft)	418.72	419.68	429.52	431.84	
May	Date/Time	5/21/2020 0802	5/21/2020 0848	5/21/2020 0916	5/21/2020 0822	
	WL Depth (ft)	463.90	441.97	453.23	465.97	
	Filter Pack Depth (ft)	418.94	419.89	429.52	432.02	
June	Date/Time	6/11/2020 0820	6/11/2020 0912	6/11/2020 0940	6/11/2020 0855	
	WL Depth (ft)	464.92	442.40	453.75	466.08	
	Filter Pack Depth (ft)	418.82	419.8	429.52	431.96	
July	Date/Time	7/29/2020 0835	7/29/2020 0937	7/29/2020 0921	7/29/2020 0910	
	WL Depth (ft)	465.01	443.17	455.00	466.25	
	Filter Pack Depth (ft)	418.92	419.72	429.52	431.97	
August	Date/Time	8/18/2020 0801	8/18/2020 0923	8/18/2020 0950	8/18/2020 0833	
	WL Depth (ft)	465.71	443.91	456.25	467.68	
	Filter Pack Depth (ft)	419.07	419.72	429.52	432.15	
September	Date/Time	9/17/2020 0804	9/17/2020 0854	9/17/2020 0918	9/17/2020 0831	
	WL Depth (ft)	466.8	444.67	457.29	467.85	
	Filter Pack Depth (ft)	418.73	419.70	429.40	432.00	Filter pack depth measurements are now made with Solinst Tag Line 351978
October	Date/Time	10/15/2020 0759	10/15/2020 0853	10/15/2020 0926	10/15/2020 0822	
	WL Depth (ft)	466.85	444.91	457.8	468.76	
	Filter Pack Depth (ft)	418.75	419.60	429.50	432.00	
November	Date/Time	11/10/2020 0743	11/10/2020 0830	11/10/2020 0848	11/10/2020 0808	
	WL Depth (ft)	467.44	445.32	458.22	469.42	
	Filter Pack Depth (ft)	418.86	418.75	429.50	432.01	
December	Date/Time	12/29/2020 0848	12/29/2020 0929	12/29/2020 0957	12/29/2020 0903	
	WL Depth (ft)	466.66	444.81	457.16	468.33	
	Filter Pack Depth (ft)	418.69	419.68	429.34	432.00	

bgs = below ground surface
 ft = feet
 NM = not measured
^a On October 22, 2019, KAFB-106233 was turned offline to facilitate injection into KAFB-7 until KAFB-7 could be rehabilitated. Rehabilitation pending.

Bottom of Silver mark (ft) = 429
 Red mark (ft) = 429.62
 Yellow mark (ft) = 429.28

Filter pack tagging tool reference points

SHUTDOWN LOGS

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name
12-24-20	0812	12-24-20	1119	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Plant Maintenance	Slime build-up in well 239	PF
12-28-20	8:42	12-28-20	0844	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Train 1 497,0103 Well 7 57,130,000 Train 2 404,1808 IN2 0.1798	change to GCMP	PF
12-28-20	1410	12-28-20	1411	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 497,1184 Well 7 57,130,000 T2 404,2460 IN2 0.799	change to Well 7	PF
12-31-20	0710	12-31-20	0711	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 498,4179 Well 7 59,360,000 T2 405,0624 IN2 0.799	change to GCMP	PT
12/31/20	1629	12/31/20	1631	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 498,6055 Well 7 59,360,000 T2 405,1787 IN2 0.799	change to Well 7	PF
1/4/21	0802	1/4/21	0804	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 500,3544 Well 7 62,370,000 T2 406,2705 IN2 0.799	change to GCMP	PF
1/4/21	1456	1/4/21	1158	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 500,4297 Well 7 62,370,000 T2 406,3204 IN2 0.799	change to Well 7	PF
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			

Panel 3.12
NM 4.20

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down?	If No, which equipment was shut down?	Reason for shutdown	Name
12-17-20	1546	12-17-20	1610	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228 off ONLY T1 491.9710 T2 401.1805	change to well 7	
12-17-20	1622	12-17-20	1630	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	High level TK-118		
12-18-20		12-18-20		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 Well 7 T2 IN2 0.0409	Test IN2, change to IN2	PF
12-18-20	1052	12-18-20	1056	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Forward Train 1 only 233, 234 at 1056	Testing IN2	
				YES <input type="checkbox"/> NO <input type="checkbox"/>	T1 492.3438 Well 7 T2 401.4085 IN2		
12-18-20	1112	12-18-20	1146	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	233, 234 off 1146 233, 234 on		
12-18-20	1240	12-18-20	1255	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233 off	Manage T1 influent level	PF
12-18-20 ²⁰	1408	12-18-20 ²⁰	—	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233 off		
12-18-20 ²²	1439	12-18-20 ²²	1444	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 492.4012 Well 7 49330.000 T2 401.4085 ZN2 0.1782	change to well 7 All 4 pumps on	PF
12/21/20	1017	12/22/20		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	239 ONLY	To shock 239	JRL
12/21/20	1416	12/21/20	1440	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228, 233, 234 (239 already off)	Take KAFF IN2 valve bolts	JRL
				YES <input type="checkbox"/> NO <input type="checkbox"/>	IN2 0.1790		PF
12-22-20		12-22-20	0737	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	239 ON	Purge 239 of chlorine	
12/22/20	0752	12/22/20	0847	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	228 ONLY	" "	JRL

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name
12/1/20	0937	12/1/20	0939	YES <input type="checkbox"/> NO <input type="checkbox"/>	T1 484,2210 T2 396,3662	change to Well 7	PF
12/1/20	0945	12/1/20	0947	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	PASS	Test comm to Well 7	PF
12/1/20	0951	12/1/20	0951	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	PASS	Test Well 7 Hi level	PF
12/1/20	1036	12/1/20	1052	YES <input type="checkbox"/> NO <input type="checkbox"/>	T1 484,2433 Well 7 37650,000 T2 396,3819 IN2 0.0409	change to GCMP Alarm 239 Suction Valve	PF
12/3/20	1602	12/3/20	1604	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 485,3035 Well 7 37650,000 T2 397,0431 IN2 0.0409	change to Well 7	PF
12/9/20	0851	12/9/20	1051	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 488,0457 Well 7 42330,000 T2 398,7458 ZN2 0.0409	change to GCMP EFF strainers, UPS	PF
12/9/20	1515	12/9/20	1517	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 488,1333 Well 7 42330,000 T2 398,8005 ZN2 0.0409	change to Well 7	PF
12/13/20	18:27	12/13/20	1837	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Well 7 Conn Alarm	JRL
12/14/20	1436	12/14/20	1443	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	233, 234 stayed running had to reset trans to stop	Well 2 draindown Well 2 Power loss	PF
				YES <input type="checkbox"/> NO <input type="checkbox"/>	1st alarm to come in was Well 12 power loss, also well 7 fail		
12/15/20		12/15/20		YES <input type="checkbox"/> NO <input type="checkbox"/>	233, 234 com fail		
12/15/20	0823	12/15/20	0825	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 490,8707 Well 7 47,000,000 T2 400,4999 IN2 0.0409	change to GCMP	PF
12/15/20	1307	12/15/20	1309	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 490,9651 Well 7 47,000,000 T2 400,5556 IN2 0.0409	change to Well 7	PF
12/17/20	1525	12/17/20	1529	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 491,9708 Well 7 228 ONLY T2 401,1805 IN2 to IN2	change to IN2 Running 228 only	PF

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down?	If No, which equipment was shut down?	Reason for shutdown	Name
11-23-20	0907	11-23-20	1036 0909	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480,5681 Well 7 35810,000 T2 394,0843 IN2 0.0409 MG	change to well 7 Trouble shoot	PF
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>	All 4 pumps on to well 7	↓	↓
11/24/20		11/24/20		YES <input type="checkbox"/> NO <input type="checkbox"/>		change	
11/23/20	2050	11/23/20	2054	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480,7547 Well 7 36,130,000 T2 394,2031 IN2 0.0409 MG	change to GLMP	PF
11/24/20	0752	11/24/20	0754	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480,9932 Well 7 T2 394,3503 IN2 0.0409 MG	change to Well 7	PF
11/24/20	1724	11/24/20	1726	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 481,1872 Well 7 36,130,000 T2 394,4685 IN2 0.0409	change to GLMP	PF
11/25/20	1756	11/25/20	1758	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 481,6783 T2 394,7738	change to Well 7	PF
11/26/20	0720	11/26/20	0723	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 481,9453 T2 394,9421	change to Pond	PF
11/28/20	0956	11/28/20	0959	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 483,2008 T2 395,7304	change to Well 7	PF
11/29/20	1840	11/29/20	1843	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 483,6112 Well 7 37,610,000 T2 395,9891 IN2 0.0409	change to GLMP Needled program mode to test alarm	PF
11/30/20	1351	11/30/20	1448	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Card Flash - well	PF
11/30/20	1433	11/30/20	1450	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Put 15 sec delay at 233, corr 234	Clarifier tank HI level	PF 11-30
11/30/20	2252	11/30/20	0636	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Drain valve left closed after changing back filters	Test UPS and shut down of	PF
12/01/20	0912	12/01/20	0915	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		pumps with power loss.	

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name:
11-19-20	1553	—	—	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	233, 234	SO levoil d valve at well 7, manager	PF pond level
11-20-20	1057	11-20-20	1100	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228 239	T1 477.5578 T2 393.2290 Well 7 35810000	Change test Well 7 PF
11-20-20	1115	11-20-20	1118	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All 4 wells back ON	Change to Golf Course	Pg
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>	T1 477.5578 T2 393.2290	↓	↓
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>	Well 7 0.049 IN2	↓	↓
11-22-20	1314	11-22-20	1318	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480.5568 T2 393.8570 Well 7 35810000	Attempt to change to well 7	PF
↓	↓	↓	↓	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		↓	
11-22-20	1326	11-22-20	1348	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Discharge won't turn on to well 7 in auto	PF
11-22-20	1355	11-22-20	1402	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Back to Golf Course	T2 Back wash High levels TK 110	PF — Back to GCMF
11-22-20	2045	11-22-20	2048	YES <input type="checkbox"/> NO <input type="checkbox"/>	228, 239	T2 Back wash High level TK 110	PF
11-23-20	0727	11-23-20	0729	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480.5652 T2 394.0752 Well 7 35810000	Change to Well 7	PF
11-23-20	0743	11-23-20	0830	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Test Disch. pumps for auto to well 7	↓
11-23-20	0743	11-23-20	0830	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 480.5681 T2 394.0767 Well 7 35810000	Change to GCMF	PF
				YES <input type="checkbox"/> NO <input type="checkbox"/>	Well 7 35810000 IN2 0.0409	228, 239 ONLY	

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name:
0735	11-18-20	11-18	0846	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	239	Flow testing	PF
0758	11-18-20	11-16	0842	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	228		PF
0848	11-18-20	11-18-20	0930	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	234		PF
11-18-20	0908	11-18-20	0948	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233		PF
11-18-20	0923	11/18/20	0959	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228 239 OFF		JSL
11-18-20	1112	11/18/20	1118	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228 239 253 4910187 392,255 392,669	change from well 7 to Golf pond	
↓	↓	↓	↓	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Well 7 35,250,000 SAT well 7	↓	↓
11-18-20	1514	11-18-20	1515	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 479,1009 T2 392,7099 Well 7 35,250,000 IN2 0.0409	change to Well 7	PF
↓	↓	↓	↓	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		↓	↓
11/19/20	0726	11/19/20	0727	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 479,4259 T2 392,9083 well 7 35,810,000 IN2 0.0409	change to GCMP	PF
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>		↓	↓
0956	0859	11-19-20	1125	YES <input type="checkbox"/> NO <input type="checkbox"/>		Test UPS	
1511	11-19-20	11-19-20	1513	YES <input type="checkbox"/> NO <input type="checkbox"/>	T1 479,5445 T2 392,9834	No change over	PF
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>			

T1 4790187
T2 3926609
Well 7 35,384
112
11/11

PF

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down?	If No, which equipment was shut down?	Reason for shutdown	Name:
11/16/20	0801	11/16/20	0803	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 478.0709 T2 392.0702 Well 7 33860.000	change to GCMP	PF
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>	IN2 0.0393	↓	↓
11/16/20	1017	11/16/20	1035	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 478.1152 T2 392.0962 Well 7 33860.000	change to IN2	PF
↓	↓	↓	↓	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	0.0409 IN2 0.0393	233, 234 ↓ Train 1	↓
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
				YES <input type="checkbox"/> NO <input type="checkbox"/>			
11/16/20	1207	11/16/20 1221	1207 1213	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 478.1405 T2 392.1084 Well 7 33860.000	change to IN2	
	1221			YES <input type="checkbox"/> NO <input type="checkbox"/>	IN2 0.0409	233 ONLY	PF
11/16/20	1221	11/16/20	1226	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 478.1415 T2 392.1084 Well 7 33860.000	change to GCMP	PF
11/16/20	1531	11/16/20	1535	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 478.2036 T2 392.1477 Well 7 33860.000	change to Well 7	PF
↓	↓	↓	↓	YES <input type="checkbox"/> NO <input type="checkbox"/>	IN2 0.0409	↓	
11/17/20	1150	11/17/20	1230	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Alarm Testing	JRL
				YES <input type="checkbox"/> NO <input type="checkbox"/>			

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name:
11/5/20	0826	11/5/20	0829	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 472.8183 T2 388.7997 Well 7	change to Well 7	PF
11/6/20	1415	11/6/20	1417	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 473.4163 T2 389.1761 Well 7 27,920,000	change to GCMP	PF
11/7/20	1224	11/7/20	1228	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 473.8602 T2 389.4544 Well 7 27,920,000	change to Well 7	PF
11/9/20	1540	11/9/20	1542	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 474.8884 T2 390.0997 Well 7 29,2680,000	change to GCMP	PF
11/10/20	0817	11/10/20	0818	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 475.2222 T2 390.3104 Well 7 29,680,000	change to Well 7	PF
11/12/20	1549	11/12/20	1551	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 476.3573 T2 391.0067 Well 7 31,590,000	change to GCMP	PF
11/13/20	0958			YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 476.6998 T2 391.2367	Test IN2	PF
		11/13/20	1057	YES <input type="checkbox"/> NO <input type="checkbox"/>	233, 234	Test IN2	PF
11/13/20	1104			YES <input type="checkbox"/> NO <input type="checkbox"/>	233, 234	Programmy issue	PF
11/13/20	1140 OFF	11/13/20	1105	YES <input type="checkbox"/> NO <input type="checkbox"/>	233	IN2	PF
11/13/20	1108			YES <input type="checkbox"/> NO <input type="checkbox"/>	234	↓	PF
11/13/20	1140 OFF	11/13/20	1118	YES <input type="checkbox"/> NO <input type="checkbox"/>	233 234	↓	PF
		11/13/20	1144	YES <input type="checkbox"/> NO <input type="checkbox"/>	228 233, all 4 234 239	change to Well 7	PF
11/13/20	1309	11/13/20	1345	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 476.7444 T2 391.2367	↓	

Well 7 31,590,000
IN2 0.0393 MG

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down? YES <input type="checkbox"/> NO <input type="checkbox"/>	If No, which equipment was shut down?	Reason for shutdown	Name:
10-20-20	0957	10-20-20	1052	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228, 239	Truck 2 oil changes	PF
10-22-20	1548	10-20-20	1551	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 465,2997 T2 384,0261 Well 7 18390,000	change to Well 7	PF
10-23-20	0912	10-23-20	0914	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 466,6127 T2 384,8577 Well 7 20610,000	change to GCMF	PF
10/25/20	0920	10/25/20	0924	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	228, 239	trouble shoot Plant AC Fuel	PF
10/25/20	0920 0716	10/25/20	0944	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	233, 234	Plant AC fail	PF
				YES <input type="checkbox"/> NO <input type="checkbox"/>	233, 234	Plant AC fail	PF
10/26/20	1529	10/26/20	1531	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 468,1422 T2 385,8539 Well 7 20810,000	change to well 7	PF → 468,1422
10/29/20	1458	10/29/20	1501	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 469,5762 T2 386,7628 Well 7 23010,000	change to GCMF	PF
10/30/20	1440	10/30/20	1444	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 470,0557 T2 387,0627 Well 7 23,070,000	change to well 7	PF
11/2/20	0750	11/2/20	0752	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 471,3818 T2 387,8983 Well 7 25,350,000	change to GCMF	PF 387,8983 ← T2 Well 7
11/2/20	1515	11/2/20	1517	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 471,5294 T2 387,9933 Well 7 25350,000	change to Well 7	PF
11/3/20	0708	11/3/20	0809	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 471,9501 T2 388,1917 Well 7 25890,000	change to GCMF	PF
11/3/20	1359	11/3/20	1454	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 471,9866 T2 388,2775 Well 7 25890,000	change to Well 7 USACE Tour	PF
11/4/20	0812	11/4/20	0818	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 472,5772 T2 388,6492 Well 7	change to GCMF	PF
11/4/20				YES <input type="checkbox"/> NO <input type="checkbox"/>			

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down?	If No, which equipment was shut down?	Reason for shutdown	Name:
10/5/20	0655	10/5/20	0658	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 458,8068 T2 379,8875 Well 7 13490,000	change to GCMP	PF
10/5/20	0643	10/6/20	1243	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	228, 239	Power outage, UPS fail	PF
10/5/20	11:40	10/7/20	1243	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	233, 234	Emergency stop at WCH, building flooded	PF
10/9/20	0826	10/9/20	0828	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 469,9281 T2 380,5973 Well 7 13490,000	Change to well 7	PF
10/9/20	1530	10/9/20	1648	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 460,0674 T2 380,6866 Well 7 13720,000	change to GCMP	PF
—	—	10/9/20	1731	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		continue to Well 7	PF <i>Golf course valve faulted</i>
10/12/20	1535	10/12/20	1537	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 461,4835 T2 381,5858 Well 7 16120,000	change to GCMP	PF
10/14/20	0741	10/14/20	0743	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 462,2917 T2 382,0450 Well 7 16120,000	change to Well 7	PF
10-15-20	0705	10-15-20	0815	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	T1 402,7622 233, 234	Repair carbon fill line	
10-15-20	1340	10-15-20	1342	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 462,8104 T2 382,4799 Well 7 17120,000	change to GCMP	PF 1712 e4
10-16-20	0810	10-16-20	0848	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	T1 233, 234	Install repaired carbon fill pipe	PF
10-17-20	1834	10-17-20	1836	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	change to Well 7	T1 463,9271 T2 383,1554 Well 7 17120,000	SRL
10-19-20	0734	10-19-20	0737	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 464,6647 T2 383,6281 Well 7 18390,000	change to GCMP	PF
10-20-20	0911	10-20-20	0955	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233, 234	Oil changes T1	PF

Kirtland AFB GWTS System Shutdown Log

Date of shutdown	Time of shutdown	Date of restart	Time of restart	Was system completely shut down?	If No, which equipment was shut down?	Reason for shutdown	Name:
9/14/20	1048	9/14/20	1109	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233	change effluent strainers	PF
9/14/20	1343	9/14/20	1344	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 449,4629 T2 373,8935 Well 7 7397,000	change to Well 7	PF
9/15/20	1315	9/15/20	1317	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 449,9380 T2 374,1928 Well 7 8206,000	change to pond GCMP	PF
9/17/20	0747	9/17/20	0749	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 450,7950 T2 374,7371 Well 7 8206,000	change to Well 7	PF
9/18/20	1025	9/18/20	1026	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 451,451,334 T2 375,0766 Well 7 9123,000	change to GCMP	PT H-11 2.87 Rod 1.57
9/24/20	1027	9/24/20	1030	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 454,2458 T2 376,9260 Well 7 9123,000	change to Well 7	PF
9/25/20	0907	9/25/20	0909	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	T1 454,7011 T2 377,2151 Well 7	Change to GCMP	JRL
9/27/20	0807	9/27/20	0809	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 455,6469 T2 377,8180 Well 7 9899,000	Change to Well 7	JRL
9/28/20	1452	9/28/20	1454	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 456,2652 T2 378,2094 Well 7 10940,000	change to GCMP	PF (1094 e4) 1041,000
9/29/20	0732	9/29/20	0733	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 456,6030 T2 378,4235 Well 7 10940,000	change to Well 7	PF
7/30/20	1155	7/30/20	1854 0654	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 457,1719 T2 378,7876 Well 7 11910,000	IN2 Pump stepped change to GCMP	PF 1191 e4
10/1/20	0850	10/2/20	0659	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		IN2 PUMP TEST	PF
10/2/20	23:04	10/2/20	0902	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	233	Manage pond level	PF
10/3/20	0858	10/3/20	0902	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	T1 457,8836 T2 379,2969 Well 7 11,910,000	change to well 7	PF

Sampling Results from Well Disinfection

**Table I-1-5
Kirtland BFF Well Disinfection Analyses, Q4 2020**

Analytical Method	Analyte	Project Screening Level ^a	Well Location ID: KAFB-106239			KAFB-106239		
			Result	Val Qual	LOD	Result	Val Qual	LOD
			Field Sample ID: GW239-204-PreDis			GW239-204-PostDis		
			Sample Date: 12/21/2020			12/28/2020		
			Sample Type: REG			REG		
Method E300.1 (µg/L)	Bromate	10	ND	U	25	ND	U	5
	Chlorite	1,000	ND	U	20	ND	U	20
Method E331.0 (µg/L)	Perchlorate	14	0.17	--	0.1	0.19	--	0.1

^a Screening Value based on EPA Safe Drinking Water Act Maximum Contaminant Level for chlorite and bromate (May 2018); and NMED tapwater non-cancer screening value for perchlorate (2018).

µg/L = microgram per liter

AFB = Air Force Base

BFF = Bulk Fuels Facility

EPA = U.S. Environmental Protection Agency

ID = identification

KAFB = Kirtland Air Force Base

MCL = maximum contaminant level

ND = not detected

NMED= New Mexico Environment Department

REG = normal field sample

RL = Reporting limit

Val Qual = validation qualifier

Shading = detected concentrations above the detection limit

Bold/Shading = reported concentrations exceed the project screening level

Val Quals based on independent data validation

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the reporting limit.

-- = Validation qualifier not assigned.

**Table I-2-1
 NM 811 Ticket Summary for Groundwater Conveyance Line October - December 2020**

Year	Month	Date	Ticket #	Status
2020	October	10/9/2020	20OC090515	UFO Cleared
	November	11/17/2020	20NV170324	Site Marked
		11/24/2020	20NV240793	UFO Cleared
	December	12/1/2020	20DE010541	UFO Cleared - Emergency Locate
		12/4/2020	20DE040460	UFO Cleared - Emergency Locate
		12/8/2020	20DE080425	No Response - Design Locate

Notes:

UFO CLEARED - The Underground Facility Owner/Operator (UFO) has determined they do not have any underground lines in the area of excavation.

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Locate Ticket: 20OC090515
Date: Friday, October 9, 2020 4:31:19 PM

NM811 LOCATE REQUEST

TICKET NUMBER:	20OC090515	Update of:	
Ticket Type:	Standard Locate	For Code:	KAFB
Creation Date:	10/09/20 16:31	Seq Num:	1

Excavator Information

Company:	QUALITY PLUMBING & HEATING	Main Contact Phone:	(505) 459-6490
Address:	2600 PHOENIX AVE NE	Secondary Phone:	
City, St, Zip:	ALBUQUERQUE, NM 87107	Main Contact Email:	qualityplumbing@mecom
Company Phone:	(505) 881-0708	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	AMOS GALLEGOS	Alternate Contact Email:	

Work Information

State:	NM	Work To Begin:	10/15/20 AT 07:00
County:	BERNALILLO	Expire Date:	11/05/20 AT 07:00
Place:	ALBUQUERQUE		
Address:	1008 GEORGIA ST SE		
Intersection:	GIBSON BLVD SE		
Latitude:	35.061151	Longitude:	-106.572151
Secondary Lat:	35.061525	Secondary Long:	-106.571502
Work Type:	Replace - Sewer Line	Working For:	HOMEOWNER
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

Spotting Instructions

SPOTTHE ENTIRE FRONT YARD; Area Marked in White

Remarks

No Hazards - Open Access

 TRSQ: [W8T10NR03ES25SE]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Locate Ticket: 20NV170324
Date: Tuesday, November 17, 2020 10:08:41 AM

NM811 LOCATE REQUEST

TICKET NUMBER:	20NV170324	Update of:	
Ticket Type:	Design Locate	For Code:	KAFB
Creation Date:	11/17/20 10:08	Seq Num:	1

Excavator Information

Company:	EA Engineering, Science and Technology, Inc.	Main Contact Phone:	(505) 238-4410
Address:	320 Gold SW Suite 1300	Secondary Phone:	
City, St, Zip:	Albuquerque, NM 87102	Main Contact Email:	emorse@eaest.com
Company Phone:	(505) 238-4410	Alternate Contact:	Bernie Bockisch
Company Fax:		Alternate Contact Phone:	505-280-0572
Main Contact:	Earl Morse	Alternate Contact Email:	bbockisch@eaest.com

Work Information

State:	NM	Work To Begin:	11/19/20 AT 10:15
County:	BERNALILLO	Expire Date:	12/14/20 AT 10:15
Place:	ALBUQUERQUE		
Address:	900 GEORGIA ST SE		
Intersection:	ANDERSON AVE SE		
Latitude:	35.063221	Longitude:	-106.572393
Secondary Lat:	35.06389	Secondary Long:	-106.571724
Work Type:	Bore-Auger - Water Well	Working For:	US Core of Engineers
Pre-marked:	Yes	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	Yes

Driving Directions

Spotting Instructions

Mark all utilities within 100' radius the white spot for the well location. Focus utility marks along all of Georgia Street south of Anderson Ave. Only need spots from gutter to gutter and not on private property.

Remarks

Spot is located on the southeast corner of Anderson and Georgia St approximately 40' south of the intersection on the east side of Georgia St. The spot is a white circle with a cross and "252" written under it.

 TRSQ: [W8T10NR03ES25SE]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Locate Ticket: 20NV240793
Date: Tuesday, November 24, 2020 4:08:16 PM

NM811 LOCATE REQUEST

TICKET NUMBER:	20NV240793	Update of:	
Ticket Type:	Standard Locate	For Code:	KAFB
Creation Date:	11/24/20 16:08	Seq Num:	1

Excavator Information

Company:	Hansen & Prezzano Builders LLC	Main Contact Phone:	(505) 865-3900
Address:	311 Stover Rd	Secondary Phone:	
City, St, Zip:	Los Lunas, NM 87031	Main Contact Email:	bpadilla@qwestoffice.net
Company Phone:	(505) 865-3900	Alternate Contact:	Adam Hendrickson
Company Fax:		Alternate Contact Phone:	505-848-8823 Ext 67322
Main Contact:	Bernadette Padilla	Alternate Contact Email:	

Work Information

State:	NM	Work To Begin:	12/01/20 AT 07:00
County:	BERNALILLO	Expire Date:	12/22/20 AT 07:00
Place:	KIRTLAND AFB		
Address:	Bldg 25000 Kirtland Air Force Base East		
Intersection:	Gibson Blvd		
Latitude:	35.054697	Longitude:	-106.565756
Secondary Lat:	35.05828	Secondary Long:	-106.559619
Work Type:	New Construction - Rough In	Working For:	APS Wherry Elem
Pre-marked:	Yes	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	Yes

Driving Directions

From Albuquerque on I-25 take NM-423 East, I-25 and I-40 to Louisiana Blvd NE, take exit 162 from I-40 E, use the left 2 lanes to turn onto Paseo del Norte NW, continue onto NM-423 E/Paseo del Norte NW, keep right to stay on NM-423 E, use the right lanes to merge onto I-25 S toward Las Cruces, use the right 3 lanes to take exit 226A-226B to merge onto I-40 toward Santa Rosa, use the right lane to exit 162 for Louisiana Blvd, keep right at the fork and merge onto Louisiana Blvd NE, merge onto Louisiana Blvd NE. Turn left onto Gibson Blvd SE, Turn right onto San Pablo St SE

Spotting Instructions

Spot entire South West play Pod on East most playgrounds. Area is marked in white,

Remarks

no hazard issues. Access through West entrance around South drive. // APS Facilities Design & Construction Project aps#3162 41006054000 545002 0614.6705.31621 CC505. question please call Adam Hendrickson @ 505-848-8823 Ext 67322

 TRSQ: [W8T10NR04ES30SW] [W8T10NR04ES31NW]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
APS	ALBUQUERQUE PUBLIC SCHOOLS	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False
UPN	UNITE PRIVATE NETWORKS, LLC	False

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Locate Ticket: 20DE080425
Date: Tuesday, December 8, 2020 1:02:30 PM

NM811 LOCATE REQUEST

TICKET NUMBER:	20DE080425	Update of:	
Ticket Type:	Design Locate	For Code:	KAFB
Creation Date:	12/08/20 13:02	Seq Num:	1

Excavator Information

Company:	Sundance Consulting, Inc.	Main Contact Phone:	(346) 221-1522
Address:	8210 Louisiana Blvd Suite C	Secondary Phone:	(505) 585-7747
City, St, Zip:	Albuquerque, NM 87113	Main Contact Email:	jfitch@sundance-inc.net
Company Phone:	(346) 221-1522	Alternate Contact:	Rachel Hobbs
Company Fax:		Alternate Contact Phone:	(603) 667-6114
Main Contact:	Justin Fitch	Alternate Contact Email:	rhobbs@sundance-inc.net

Work Information

State:	NM	Work To Begin:	12/10/20 AT 12:45
County:	BERNALILLO	Expire Date:	01/05/21 AT 12:45
Place:	ALBUQUERQUE		
Address:	1501 San Pedro Drive SE		
Intersection:	Ridgecrest Dr		
Latitude:	35.051309	Longitude:	-106.582854
Secondary Lat:	35.057211	Secondary Long:	-106.568842
Work Type:	Proposed Design	Working For:	US Army Corps & US Air Force
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	Yes	Contact After Locating:	Yes

Driving Directions

Spotting Instructions

FROM THE INTER OF SAN PEDRO & RIDGECREST, SPOT N ON SAN PEDRO DR FOR 700FT. FROM THE INTER SPOT NW ON RIDGECREST FOR 1600FT, AND E ON RIDGECREST FROM SAN PEDRO TO LOUISIANA BLVD, THEN SPOT S ON SAN PEDRO FROM THE INTER TO THE ROUND ABOUT, THEN CON'T ON US VETERANS HOSPITAL LP FOR 1500FT TO THE W END OF THE PARKING LOT ON THE S SIDE. ALSO SPOT FROM THE ROUND ABOUT GOING E ALONG UNNAMED RD AT BULLHEAD PARK FOR 1400FT TO THE SHARP CURVE TO THE N

Remarks

We are not planning any actual excavation at this time, so a map of utility locations would be more useful than actual ground markings. We would also like depths/approximate depths to utilities, as available. Ideally, we would like this information in map format, as there is no real need to have it marked on the ground, unless this is the only option. We will be using the data to locate any potential migration pathways for soil vapor contamination in order to design a monitoring program, if deemed necessary. This data will be used to find any utility corridors that intersect with potential soil contamination on or adjacent to Kirtland Air Force Base and to determine any potential need for additional monitoring locations. Please contact me so that we can discuss what data you might be able to provide that will be most useful. Thank you.

 TRSQ: [W8T10NR03ES36NE] [W8T10NR03ES36NW]

Utilities Notified:

Code	Name	Manually Added
ABQSL	CITY OF ALBUQUERQUE - STREET LIGHTING DEPT	False
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
MCI	MCI CABLE SEC	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
PNMAB	PNM ELECTRIC - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False
UPN	UNITE PRIVATE NETWORKS, LLC	False

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Emergency Locate Ticket: 20DE010541
Date: Tuesday, December 1, 2020 2:00:31 PM
Importance: High

NM811 EMERGENCY LOCATE REQUEST

TICKET NUMBER:	20DE010541	Update of:	
Ticket Type:	Emergency Locate	For Code:	KAFB
Creation Date:	12/01/20 14:00	Seq Num:	1

Excavator Information

Company:	TLC PLUMBING & UTILITY	Main Contact Phone:	(505) 362-2630
Address:	5000 EDITH BLVD NE	Secondary Phone:	
City, St, Zip:	ALBUQUERQUE, NM 87107	Main Contact Email:	nstout@tlcplumbing.com
Company Phone:	(505) 761-9696	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	ISAAC TAKACS	Alternate Contact Email:	

Work Information

State:	NM	Work To Begin:	12/01/20 AT 16:00
County:	BERNALILLO		
Place:	ALBUQUERQUE		
Address:	909 INDIANA ST SE		
Intersection:	ANDERSON AVE SE		
Latitude:	35.063166	Longitude:	-106.571348
Secondary Lat:	35.063179	Secondary Long:	-106.570961
Work Type:	Emergency - Water	Working For:	HOMEOWNER
Pre-marked:	Yes	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

Spotting Instructions

FRONT OF THE HOME TO THE STREET

Remarks

CREW IS ONSITE :: No Hazards - Open Access

 TRSQ: [W8T10NR03ES25SE]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False

From: eticket@nm811.org
To: [NM811BFF](#)
Subject: NM811 Emergency Locate Ticket: 20DE040460
Date: Friday, December 4, 2020 2:27:04 PM
Importance: High

NM811 EMERGENCY LOCATE REQUEST

TICKET NUMBER:	20DE040460	Update of:	
Ticket Type:	Emergency Locate	For Code:	KAFB
Creation Date:	12/04/20 14:26	Seq Num:	1

Excavator Information

Company:	PNM ELECTRIC-ALBQ DISPATCH	Main Contact Phone:	(505) 269-9559
Address:	4201 EDITH BLVD NE	Secondary Phone:	(505) 246-5689
City, St, Zip:	ALBUQUERQUE, NM 87107	Main Contact Email:	ZZELECTRICDISPATCH@PNM.COM
Company Phone:	(505) 246-5689	Alternate Contact:	DISPATCH
Company Fax:	(505) 241-3636	Alternate Contact Phone:	(505) 246-5689
Main Contact:	Gerald Moraga	Alternate Contact Email:	

Work Information

State:	NM	Work To Begin:	12/04/20 AT 16:30
County:	BERNALILLO		
Place:	ALBUQUERQUE		
Address:	GIBSON BLVD SE		
Intersection:	LOUISIANA BLVD SE		
Latitude:	35.053576	Longitude:	-106.570202
Secondary Lat:	35.058336	Secondary Long:	-106.567327
Work Type:	Emergency - Pole Replacement	Working For:	PNM
Pre-marked:	No	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

Spotting Instructions

SPOT A 15 FT RAD OF POLE H18B042 LOCATED 1 BLOCK S OF GIBSON ON LOUISIANA CREW IS IN ROUTE

Remarks

No Hazards - Open Access

 TRSQ: [W8T10NR03ES25SE] [W8T10NR03ES36NE] [W8T10NR04ES30SW] [W8T10NR04ES31NW]

Utilities Notified:

Code	Name	Manually Added
ABQSD	CITY OF ALBUQUERQUE - STORM DRAINS	False
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
ADBC	ADB COMPANIES	False
COA	CITY OF ALBUQUERQUE	False
JONE	COMCAST - ALBUQUERQUE	False
KAFB	KIRTLAND AIR FORCE BASE	False
MCI	MCI CABLE SEC	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
PNMAB	PNM ELECTRIC - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False
UPN	UNITE PRIVATE NETWORKS, LLC	False



226 Schilling Circle Suite
400 Hunt Valley MD
Tel No: (410) 594-7000
Fax No: (410) 771-1625

CHAIN-OF-CUSTODY RECORD

COC NUMBER

COC-GWTS2-100120

PROJECT NAME: Kirtland
AFB Bulk Fuels Facility

PROJECT NUMBER:
6360401

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

YEAR: 2020

QUARTER: Q4

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
14800

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	ANALYSIS REQUIRED (Specify number of bottles)											COMMENTS
					VOCs (8280C)	BTEX (8280C)	BTEXN (8280C)	EDB (8011)	Total As, Pb, Ca, K, Na, Mg (8020, 8010C)	Dissolved Fe, Mn (8010C)	Chloride, bromide, sulfate (3001)	Nitrate-Nitrite (3532)	Ammonia (SM4500NH3)	Sulfide (SM4500S2C7)	Alkalinity (SM2220B)	
1	GWTS-EFF2-100120†	10/01/2020	0800	6	--	3	--	2†	--	1*	--	--	--	--	--	
2	GWTS-EFF2DUP-100120†	10/01/2020	0800	6	--	3	--	2†	--	1*	--	--	--	--	--	
3	GWTS-GAC2-100120	10/01/2020	0814	6	--	3	--	2	--	1*	--	--	--	--	--	
4	GWTS-INF2-100120	10/01/2020	0825	6	--	3	--	2	--	1*	--	--	--	--	--	
5																
6																

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.

† Give GWTS-EFF2-100120 and GWTS-EFF2DUP-100120 EDB samples a 5 day rush turn around.

SAMPLER(S): J Livingston

COURIER AND SHIPPING NUMBER: Fedex: 8155 2830 0087

RELINQUISHED BY: DATE: 10/01/2020 TIME: 1000

RECEIVED BY: DATE: TIME:

Printed Name and Signature: J Livingston [Signature]

Printed Name and Signature: DATE: TIME:

Printed Name and Signature:

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No. (410) 771-1626		<h2 style="margin: 0;">CHAIN-OF-CUSTODY RECORD</h2>						COC NUMBER								
								COC-GWTS1-100120								
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601			FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA			YEAR: 2020							
						FAX AND MAIL REPORTS/EDD TO: Pam Mcoss: pmoss@eaest.com EA			QUARTER: Q4							
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 14800				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258										
				ANALYSIS REQUIRED (Specify number of bottles)												
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCS (8260C)	BTEX (8260C)	BTEXN (8260C)	EDB (8011)	(8020A/8010C) Total As, Pb, Ca, K, Na, Mg	Dissolved Fe, Mn (8010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500SCF)	Alkalinity (SM2320B)	COMMENTS
1	GWTS-EFF1-100120	10/01/2020	0720	18	--	9	--	6	--	3*	--	--	--	--	--	Additional Volume Provided for MS/MSD
2	GWTS-GAC1-100120	10/01/2020	0740	6	--	3	--	2	--	1*	--	--	--	--	--	
3	GWTS-INF1-100120	10/01/2020	0750	0	--	3	--	2	--	1*	--	--	--	--	--	
4	GWTS-FB01-100120	10/01/2020	0720	5	--	3	--	2	--	--	--	--	--	--	--	Collected simultaneously with GWTS-EFF1-100120
5	GWTS-TB01-100120	10/01/2020	0830	4	--	2	--	2	--	--	--	--	--	--	--	
6																
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																
SAMPLER(S): J Livingston						COURIER AND SHIPPING NUMBER: Fedex: 8155 2830 0057										
RELINQUISHED BY:				DATE	TIME	RECEIVED BY:				DATE	TIME					
Printed Name and Signature:						Printed Name and Signature:										
J Livingston <i>[Signature]</i>				10/01/2020	1400											
Printed Name and Signature:						Printed Name and Signature:										
Printed Name and Signature:						Printed Name and Signature:										
Printed Name and Signature:						Printed Name and Signature:										
Printed Name and Signature:						Printed Name and Signature:										



Groundwater Purge and Sampling Log

Year: **2020**
 Quarter: **Q4 October**

Project: Kirtland AFB BFF ST-106/SS-111

Well ID: _____

Purge Information and Field Parameter

Date: 10/01/2020

Purge Start Time: --- Purge Rate: --- L/min X 0.265 = --- gal/min

Description of first water purged: Clear, colorless

Drawdown Limit: --- ft (based on previous water level)

Time	Sample Location	Facility	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Historical Data:									
0718	EFF1	GWTS	0.34	20.3	63.19	6.73	479.2	7.38	339.2
0737	GAC1	GWTS	0.22	20.2	45.9	4.15	479.2	7.59	258.1
0748	INF1	GWTS	0.41	20.2	70.6	6.36	479.8	7.87	284.0
0757	EFF2	GWTS	0.38	20.5	52.6	4.73	367.1	7.36	172.4
0810	GAC2	GWTS	0.19	20.5	13.6	1.22	370.5	7.45	182.3
0819	INF2	GWTS	0.26	20.4	62.6	5.65	371.3	7.48	528.3

Sample Time: 0718 - 0819 Sample Date: 10/01/2020

Purge End Time: ---

Bubbles in the vials? Yes No Where? NA Amount NA Size NA

Sampled by: J Livystrin Sampler Signature: _____

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	--
2	--
Total	--

IDW will be taken to:

IDW Label:

Sample Information

Sample ID: GWTS-XXXX-100120
 Duplicate ID: (if applicable) GWTS-EFFXDUP-100120
 COC#: COC-GWTSX-100120
 Sampling Method: Tap
 Sampling Medium: Water

Comments: _____
 Reviewed by: _____ Initials: _____ Review Date: _____ Page 1 of 1

 225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD										COC NUMBER			
												COC-GWTS2-111120			
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA				YEAR: 2020			
								FAX AND MAIL REPORTS/EDD TO: Amanda Smith: asmith@eaest.com EA						QUARTER: Q4	
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258											
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
				Total Number of Bottles	VOCs (22800)	BTEX (22800)	BTEXN (22800)	EDB (2011)	Total As, Pb, Cd, K, Na, Mg (9220A, 9010C)	Dissolved Fe, Mn (9010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4300NH3)		Sulfide (SM4300SCF7)
1	GWTS-EFF2-111120	11/11/2020	0805	18	--	9	--	6	--	3*	--	--	--	--	Additional Volume Provided for MSMSD
2	GWTS-GAC2-111120	11/11/2020	0825	6	--	3	--	2	--	1*	--	--	--	--	
3	GWTS-INF2-111120	11/11/2020	0832	6	--	3	--	2	--	1*	--	--	--	--	
4	GWTS-FB02-111120	11/11/2020	0805	5	--	3	--	2	--	--	--	--	--	--	Collected simultaneously with GWTS-EFF2-111120
5															
6															
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.															
SAMPLER(S): J Livingston				COURIER AND SHIPPING NUMBER: Fedex: 8161 4705 2731											
RELINQUISHED BY:				DATE	TIME	RECEIVED BY:				DATE	TIME				
Printed Name and Signature: J Livingston John Z				11/11/2020	1030	Printed Name and Signature:									
Printed Name and Signature:						Printed Name and Signature:									
Printed Name and Signature:						Printed Name and Signature:									
Printed Name and Signature:						Printed Name and Signature:									

EA										225 Schilling Crane Suite 400 Hunt Valley MD Tel No. (410) 584-7000 Fax No. (410) 771-1625										CHAIN-OF-CUSTODY RECORD										COC NUMBER COC-GWTS1-111120	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility					PROJECT NUMBER: 6380401					LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601					FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA					FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA					YEAR: 2020						
PROJECT SITE AND PHASE: ST106/SS111					LAB PO NUMBER: 21295					LAB CONTACT: Kay Hower KayHower@eurofinsUS.com					Eurofins 1 (717) 556-7258					QUARTER: Q4											
				ANALYSIS REQUIRED (Specify number of bottles)																											
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs (8260C)	BTEX (8260C)	BTEXN (8260C)	ED9 (8011)	Total As, Pb, Cd, K, Na, Mg (8220A, 85010C)	Dissolved Fe, Mn (8010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3) Sulfide	Alkalinity (SM2320B)	COMMENTS																
1	GWTS-EFF1-111120	11/11/2020	0803	6	--	3	--	2	--	1*	--	--	--	--																	
2	GWTS-EFF1DUP-111120	11/11/2020	0805	6	--	3	--	2	--	1*	--	--	--	--																	
3	GWTS-GAC1-111120	11/11/2020	0858	6	--	3	--	2	--	1*	--	--	--	--																	
4	GWTS-INF1-111120	11/11/2020	0907	6	--	3	--	2	--	1*	--	--	--	--																	
5	GWTS-TB01-111120	11/11/2020	0915	4	--	2	--	2	--	--	--	--	--	--																	
6																															
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																															
SAMPLER(S): J Livingston								COURIER AND SHIPPING NUMBER: Fedex: 8161 4705 2731																							
RELINQUISHED BY:				DATE	TIME	RECEIVED BY:				DATE	TIME																				
Printed Name and Signature:						Printed Name and Signature:																									
J Livingston				11/11/2020	1030																										
Printed Name and Signature:						Printed Name and Signature:																									
Printed Name and Signature:						Printed Name and Signature:																									
Printed Name and Signature:						Printed Name and Signature:																									



Groundwater Purge and Sampling Log

Year: 2020
 Quarter: Q4 November

Project: Kirtland AFB BFF ST-106/SS-111

Well ID: _____

Purge Information and Field Parameter

Date: 11/11/2020

Purge Start Time: --- Purge Rate: --- L/min X 0.265 = --- gal/min

Description of first water purged: Clear, odorless

Drawdown Limit: --- ft (based on previous water level)

Time	Sample Location	Facility	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Historical Data:									
0840	EFF1	GWTS	0.30	18.2	68.2	6.21	452.1	7.44	243.1
0850	GAC1	GWTS	0.13	19.5	46.7	4.29	456.2	7.51	144.5
0905	INF1	GWTS	0.21	19.9	70.0	6.36	457.0	7.78	105.1
0804	EFF2	GWTS	0.13	20.2	50.9	4.61	350.4	7.19	133.1
0823	GAC2	GWTS	0.11	20.0	17.9	1.61	349.7	7.37	206.9
0830	INF2	GWTS	0.15	19.9	62.9	5.73	351.0	7.75	198.4

Sample Time: 0804 - 0905 Sample Date: 11/11/2020

Purge End Time: ---

Bubbles in the vials? Yes No Where? NA Amount NA Size NA

Sampled by: JOSH LIVINGSTON Sampler Signature: [Signature]

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	---
2	---
Total	---

IDW will be taken to: ---
 IDW Label: ---

Sample Information

Sample ID: GWTS-XXXX-111120
 Duplicate ID: (if applicable) GWTS-EFFXDUP-111120
 COC#: COC-GWTSX-111120
 Sampling Method: Tap
 Sampling Medium: Water

Comments: _____
 Reviewed by: _____ Initials: _____ Review Date: _____ Page 1 of 1

TestAmerica Irvine

17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record



Client Information		Sampler: <u>JOSH LIVINGSTON</u>		Lab PM: <u>Fama, Sheri M</u>		Carrier Tracking No(s):		COC No: <u>440-152097-28023.33</u>						
Client Contact: <u>Pamela Moss</u>		Phone: <u>(576) 430-8078</u>		E-Mail: <u>sheri.fama@testamericainc.com</u>				Page: <u>Page 1 of 1</u>						
Company: <u>EA Engineering, Science, and Technology</u>		Due Date Requested:		Analysis Requested						Job #:				
Address: <u>7995 E. Prentice Ave, Suite 206E</u>		TAT Requested (days): <u>15 Business Days</u>								Preservation Codes:				
City: <u>Greenwood Village</u>		PO #: <u>18599</u>		Field Filtered Sample (Yes or No) _____ Perform MS/MSD (Yes or No) _____ 300.1B - 140 - Chlorite _____ 300.1B - 280 - Bromate _____ 331.0 - Perchlorate _____		Total Number of Containers: _____		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - H2SO4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - NCA K - EDTA W - pH 4-5 L - EDA Z - other (specify)						
State, Zip: <u>CO, 80111</u>		WO #: <u>6380401</u>								Special Instructions/Note:				
Phone: <u>303-810-8903(Tel)</u>		Project #: <u>21295</u>												
Email: <u>pmoss@eaest.com</u>		SSOW#:												
Project Name: <u>Kirtland AFB - Well Disinfection Water Sampling</u>														
Site: <u>Kirtland AFB New Mexico</u>														
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)			Perform MS/MSD (Yes or No)			Total Number of Containers	Special Instructions/Note:	
<u>GW239-204-PreDis</u>		<u>12/21/2020</u>	<u>1015</u>	<u>G</u>	<u>Water</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>1</u>		
<u>JRL</u>														
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Deliverable Requested: I, II, III, IV, Other (specify) _____					Level 4 data deliverable (NondOD); EQUIS EDD									
Empty Kit Relinquished by:					Special Instructions/QC Requirements:									
Date:			Time:			Method of Shipment:								
Relinquished by: <u>JOSH LIVINGSTON</u>		Date/Time: <u>12/21/2020 1330</u>		Company: <u>EA</u>		Received by:		Date/Time:						
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:						
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:						
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:										

TestAmerica Irvine
 17461 Derian Ave Suite 100
 Irvine, CA 92614-5817
 Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record



Client Information		Sample: <u>Pete Ferrari</u>		Lab PM: <u>Fama, Sheri M</u>		Carrier Tracking No(s):		COC No: <u>JL 440-152097-28023.88 34</u>	
Client Contact: <u>Pamela Moss</u>		Phone: <u>505 410 3376</u>		E-Mail: <u>sheri.fama@testamericainc.com</u>				Page: <u>Page 1 of 1</u>	
Company: <u>EA Engineering, Science, and Technology</u>		Due Date Requested:		Analysis Requested				Job #:	
Address: <u>7995 E. Prentice Ave, Suite 206E</u>		TAT Requested (days): <u>15 Business Days</u>						Preservation Codes:	
City: <u>Greenwood Village</u>								A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
State, Zip: <u>CO, 80111</u>		PO #: <u>18599</u>						Other:	
Phone: <u>303-810-6903(Tel)</u>		WO #: <u>6360401</u>							
Email: <u>pmoss@eaest.com</u>		Project #: <u>21295</u>							
Project Name: <u>Kirtland AFB - Well Disinfection Water Sampling</u>		SSOW#:							
Site: <u>Kirtland AFB New Mexico</u>									

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300.1B - 140 - Chlorite	300.1B - 280 - Bromate	331.0 - Perchlorate	Total Number of Containers	Special Instructions/Note:
<u>GW 239-204-Post Dis</u>	<u>12/28/2020</u>	<u>0820</u>	<u>G</u>	<u>Water</u>	<u>N</u>	<u>N</u>	<u>XXX</u>			<u>3</u>	
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							
				<u>Water</u>							

PF

Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)				Level 4 data deliverable (NonDOD); EQulS EDD		Special Instructions/QC Requirements:		
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:				
Relinquished by: <u>Pete Ferrari, Pete Ferrari</u>		Date/Time: <u>12-28-2020 1530</u>	Company:	Received by:		Date/Time:	Company:	
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:	
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:						



225 Schilling Circle, Suite
400 Hunt Valley MD
Tel No: (410) 584-7000
Fax No: (410) 771-1825

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kirtland
AFB Bulk Fuels Facility

PROJECT NUMBER:
6360401

LABORATORY NAME AND CONTACT:
Eurofins Lancaster Laboratories
2425 New Holland Pike Lancaster PA 17601

FAX AND MAIL REPORTS/EDD TO: Tara Lanond: tlanond@eaest.com EA
Amanda Smith: asmith@eaest.com EA
FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA

COC NUMBER
COC-GWTS1-120320

YEAR: 2020

QUARTER: Q4

PROJECT SITE AND
PHASE: ST106/SS111

LAB PO NUMBER:
21295

LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 568-7258

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
				Total Number of Bottles	(8260C) VOCs	BTEX (8260C)	(8260C) BTEXN	EDB (8011)	Total As, Pb, Cd, Ni, Mn, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (6000)	Nitrate-Nitrite (553.2)	(SM4900NH3) Ammonia		(SM4500SCOF) Sulfide
1	GWTS-EFF1-120320	12/03/2020	0820	18	--	9	--	6	--	3*	--	--	--	--	Additional Volume Provided for MS/MSD
2	GWTS-GAC1-120320	12/03/2020	0858	6	--	3	--	2	--	1*	--	--	--		
3	GWTS-INF1-120320	12/03/2020	0908	6	--	3	--	2	--	1*	--	--	--		
4	GWTS-FB01-120320	12/03/2020	0820	5	--	3	--	2	--	--	--	--	--	Collected simultaneously with GWTS-EFF1-120320	
5	GWTS-TB01-120320	12/03/2020	0945	4	--	2	--	2	--	--	--	--	--		
6															

COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.

Handwritten initials and date: 12-03-2020

SAMPLER(S): *G. Beyage P. Ferrari*

RELINQUISHED BY: *G. Beyage*
DATE: 12-03-2020 TIME: 1130

CARRIER AND SHIPPING NUMBER: Fedex: 8161 4706 8053

RECEIVED BY: _____ DATE: _____ TIME: _____
Printed Name and Signature: _____

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No. (410) 771-1625		CHAIN-OF-CUSTODY RECORD				COC NUMBER COC-GWTS2-120320										
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA		YEAR: 2020								
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		QUARTER: Q4								
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS		
				Total Number of Bottles	VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB	(9011) Total As, Pb, Cd, Ni, Mn, Mg	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	(SM4500NH3) Ammonia		(SM4500S2CF) Sulfide	(SM2320E) Alkalinity
1	GWTS-EFF2-120320	12/03/2020	0915	6	--	3	--	2	--	1*	--	--	--	--	--	
2	GWTS-EFF2DUP-120320	12/03/2020	0915	6	--	3	--	2	--	1*	--	--	--	--	--	
3	GWTS-GAC2-120320	12/03/2020	0940	6	--	3	--	2	--	1*	--	--	--	--	--	
4	GWTS-INF2-120320	12/03/2020	0940	6	--	3	--	2	--	1*	--	--	--	--	--	
5																
6																
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																

SAMPLER(S): G. Begaye P. Ferrand				COURIER AND SHIPPING NUMBER: Fedex: 8161 4706 8053			
RELINQUISHED BY:		DATE		TIME		RECEIVED BY:	
Printed Name and Signature: <i>Gabriel Begaye</i>		12-03-2020		1130		Printed Name and Signature:	
Printed Name and Signature:						Printed Name and Signature:	
Printed Name and Signature:						Printed Name and Signature:	
Printed Name and Signature:						Printed Name and Signature:	



Groundwater Purge and Sampling Log

Year: **2020**
 Quarter: **Q4 December**

Project: Kirtland AFB BFF ST-106/SS-111

Well ID: _____

Purge Information and Field Parameter

Date: 12/03/2020

Purge Start Time: -- Purge Rate: -- L/min X 0.265 = -- gal/min

Description of first water purged: _____

Drawdown Limit: -- ft (based on previous water level)

Time	Sample Location	Facility	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Historical Data:							647		
0815	EFF1	GWTS	0.57	19.5	70.0	6.46	7.29	7.29	314.0
0855	GAC1	GWTS	0.37	19.3	52.2	4.82	487.6	7.43	229.5
0905	INF1	GWTS	0.28	19.4	75.7	6.94	547.8	7.71	181.1
0915	EFF2	GWTS	0.81	19.5	57.3	5.25	419.7	7.29	68.9
0925	GAC2	GWTS	0.63	19.8	19.2	1.76	420.3	7.28	100.2
0935	INF2	GWTS	0.41	19.7	67.8	6.20	420.7	7.67	130.9
OB 12-03-2020									

Sample Time: _____ Sample Date: 12/03/2020

Purge End Time: --

Bubbles in the vials? Yes No Where? _____ Amount _____ Size _____

Sampled by: Calvin Bejane Sampler Signature: _____

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	--
2	--
Total	--

IDW will be taken to:

IDW Label:

Sample Information

Sample ID: GWTS-XXXX-120320
 Duplicate ID: GWTS-EFFXDUP-120320
 COC#: COC-GWTSX-120320
 Sampling Method: Tap
 Sampling Medium: Water

Comments: _____

Reviewed by: _____ Initials: _____ Review Date: _____ Page 1 of 1



Groundwater Purge and Sampling Log

Year: 2020
Quarter: 3 (Jul-Sep)

Project: Kirtland AFB BFF ST-106/SS-111
Project No: 62599DM01
Date: 7-27-2020

Well ID: KAFB-0505
Samplers: D. Schmeckel, A Rosebrough
Crew
Signature: [Signature]

Well Information

Well Depth: 520.00 ft MRP
Top of Screen: 495.00 ft MRP
Bottom of Screen: 515.00 ft MRP
Reference Elevation Interval: _____
Barricade/Notification:
Measurement Reference Point (MRP): _____
IDW will be taken to: _____ IDW Label: _____

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No LNAPL Thickness: _____ ft

Previous Depth to water: _____ ft MRP Depth to Water (DTW): 488.74 ft MRP

Pump Information

Bennett Pump Serial No.: 1807B-752

Non-Dedicated Pump Depth: 497.00 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature: YSI Professional Plus Serial No: 18L100378 (WH0003)
PID: MiniRAE 3000 Serial No: ~~WH0009~~ WH0006
Water Level Meter: Solinst 500 ft Serial No: WH0012
Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW0505-203 Sampling Method: Low-flow

Duplicate ID: (if applicable) GW0505-603 Sampling Medium: Water

COC#: COC-0505-203

Reviewed by: [Signature] Initials: [Signature] Review Date: 7-29-2020 Page 1 of 2



Groundwater Purge and Sampling Log

Year: 2020
 Quarter: 3 (Jul-Sep)

Project: Kirtland AFB BFF ST-106/SS-111 Well ID: KAFB-0505

Purge Information and Field Parameter

Date: 7-27-2020

Purge Start Time: 1109 Purge Rate: 0.680 L/min X 0.265 = 0.1802 gal/min

Description of first water purged: Clear & odorless

Drawdown Limit: — ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:				-----				
<u>1115</u>	<u>488.75</u>	<u>2.83</u>	<u>22.3</u>	<u>136.5</u>	<u>11.60</u>	<u>4.5</u>	<u>4.34</u>	<u>389.0</u>
<u>1120</u>	<u>488.75</u>	<u>1.40</u>	<u>22.1</u>	<u>69.4</u>	<u>5.77</u>	<u>7.668</u>	<u>7.19</u>	<u>432.7</u>
<u>1125</u>	<u>488.74</u>	<u>1.59</u>	<u>22.0</u>	<u>58.8</u>	<u>6.5.13</u>	<u>670</u>	<u>7.27</u>	<u>428.0</u>
<u>1130</u>	<u>488.73</u>	<u>4.94</u>	<u>22.0</u>	<u>57.4</u>	<u>5.01</u>	<u>670</u>	<u>7.29</u>	<u>426.0</u>
<u>1135</u>	<u>488.73</u>	<u>1.67</u>	<u>21.8</u>	<u>56.8</u>	<u>4.98</u>	<u>671</u>	<u>7.31</u>	<u>424.0</u>
<u>Sampled</u>								

Sample Time: 1145 Sample Date: 7-27-2020

Purge End Time: 1150 6mm

Bubbles in the vials?: Yes No Where? — Amount — Size —

Sampled by: D. Schmeelk Sampler Signature: [Signature]

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
<u>1</u>	<u>15</u>
<u>2</u>	
Total	

IDW will be taken to:

Pending Disposal

IDW Label:

Green → Non-Haz

Comments: _____
 Reviewed by: J. Messenger Initials: JM Review Date: 7-29-2020 Page 2 of 2



Groundwater Purge and Sampling Log

Project: Kirtland AFB BFF ST-106/SS-111
 Project No: 62599DM01
 Date: 7-27-2020

Year: 2020
 Quarter: 3 (Jul-Sep)
 Well ID: ST105MW507R
 Samplers: Amy Rosebrough, Dylan Schmeck
 Crew Signature: [Signatures]

Well Information

Barricade/Notification:
 Measurement Reference Point (MRP): _____
 IDW will be taken to: _____ IDW Label: _____

Well Depth: 520.00 ft MRP
 Top of Screen: 495.00 ft MRP
 Bottom of Screen: 515.00 ft MRP
 Reference Elevation Interval: _____

Protective Casing/Vault: Intact Damaged
 Well Locked/Security Bolt Present: Yes No
 Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No LNAPL Thickness: _____ ft

Previous Depth to water: _____ ft MRP
 Depth to Water (DTW): 484.16 ft MRP

Pump Information

Bennett Pump Serial No.: 1807B-752

Non-Dedicated Pump Depth: 497.00 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature: YSI Professional Plus Serial No: WH0003
 PID: MiniRAE 3000 Serial No: WH0006
 Water Level Meter: Solinst 500 ft Serial No: WH0012
 Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW0507R-203 Sampling Method: Low-flow
 Duplicate ID: (if applicable) GW0507R-603 Sampling Medium: Water
 COC#: COC-0507R-203

Reviewed by: J. Messenger Initials: JM Review Date: 7-29-2020

Page 1 of 2



Groundwater Purge and Sampling Log

Year: 2020
 Quarter: 3 (Jul-Sep)

Project: Kirtland AFB BFF ST-106/SS-111 Well ID: ST105MW507R

Purge Information and Field Parameter

Date: 7-27-2020

Purge Start Time: 1309 Purge Rate: 0.620 L/min X 0.265 = 0.1643 gal/min

Description of first water purged: Clear & odorless

Drawdown Limit: ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:				-----				
<u>1320</u>	<u>484.19</u>	<u>3.00</u>	<u>23.6</u>	<u>90.1</u>	<u>7.55</u>	<u>521</u>	<u>6.95</u>	<u>443.1</u>
<u>1325</u>	<u>484.16</u>	<u>3.02</u>	<u>23.2</u>	<u>82.0</u>	<u>7.05</u>	<u>659</u>	<u>7.41</u>	<u>433.4</u>
<u>1330</u>	<u>484.16</u>	<u>3.78</u>	<u>23.0</u>	<u>81.6</u>	<u>7.01</u>	<u>660</u>	<u>7.44</u>	<u>430.9</u>
<u>1335</u>	<u>484.16</u>	<u>2.23</u>	<u>22.7</u>	<u>83.6</u>	<u>7.22</u>	<u>661</u>	<u>7.45</u>	<u>429.1</u>
<u>1340</u>	<u>484.16</u>	<u>2.43</u>	<u>22.6</u>	<u>82.6</u>	<u>7.18</u>	<u>662</u>	<u>7.45</u>	<u>426.9</u>
<u>Sampled</u>								
<u> </u>								
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<u> </u>								
<u> </u>								
<u> </u>								
<u> </u>								
<u> </u>								

Sample Time: 1345 Sample Date: 7-27-2020

Purge End Time: 1351 6mm

Bubbles in the vials?: Yes No Where? Amount Size

Sampled by: D. Schmeelk Sampler Signature: [Signature]

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
<u>1</u>	<u>6.90</u>
<u>2</u>	<u>14.5</u>
Total	

IDW will be taken to: Pending Disposal IDW Label: Green Non-Haz

Comments:
 Reviewed by: J. Messenger Initials: JM Review Date: 7-29-2020 Page 2 of 2



Groundwater Purge and Sampling Log

Year: 2020
 Quarter: 3 (Jul-Sep)

Project: Kirtland AFB BFF ST-106/SS-111
 Project No: 62599DM01
 Date: 7-27-2020

Well ID: KAFB0508-MW
 Samplers: D. Schmeelk, A. Rosebrough
 Crew Signature: [Signature]

Well Information

Well Depth: 520.00 ft MRP
 Top of Screen: 495.00 ft MRP
 Bottom of Screen: 515.00 ft MRP
 Reference Elevation Interval: _____
 Measurement Reference Point (MRP): _____
 IDW will be taken to: _____ IDW Label: _____

Protective Casing/Vault: Intact Damaged Well Locked/Security Bolt Present: Yes No
 Well ID Marked: Yes No

Photoionization Measurements at Wellhead: 0.0 ppm

LNAPL Present (circle one)? Yes No LNAPL Thickness: _____ ft

Previous Depth to water: _____ ft MRP Depth to Water (DTW): 478.54 ft MRP

Pump Information

Bennett Pump Serial No.: 1807B-752
 Non-Dedicated Pump Depth: 497.00 ft MRP

* - if screen is submerged, place pump 2 ft below top of screen; if not submerged, place pump 2 ft above bottom of screen.

Field Instrumentation

pH, Conductivity, ORP, DO, Temperature: YSI Professional Plus Serial No: 18L 100378 WH0003
 PID: MiniRAE 3000 Serial No: WH0006
 Water Level Meter: Solinst 500 ft Serial No: WH012
 Turbidity Meter: Hach 2100Q Serial No: WH0009

Sample Information

Sample ID: GW0508-203 Sampling Method: Low-flow
 Duplicate ID: GW0508-603 Sampling Medium: Water
 COC#: COC-0508-203

Reviewed by: J. Messenger Initials: Jm Review Date: 7-29-2020 Page 1 of 2



Groundwater Purge and Sampling Log

Year: 2020
 Quarter: 3 (Jul-Sep)

Project: Kirtland AFB BFF ST-106/SS-111 Well ID: KAFB0508-MW

Purge Information and Field Parameter

Date: 7-27-2020
 Purge Start Time: 0850 Purge Rate: 0.640 L/min X 0.265 = 0.1696 gal/min

Description of first water purged: Clear & odorless

Drawdown Limit: _____ ft (based on previous water level)

Time	DTW (ft)	Turbidity (NTU)	Temp. (°C)	Saturated DO (%)	DO (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Stabilization Requirements	-----	If >10, ±10%	±10%	-----	±10%	±10%	±0.5	-----
Historical Data:				-----				
<u>0900</u>	<u>478.55</u>	<u>0.68</u>	<u>20.2</u>	<u>92.5</u>	<u>8.38</u>	<u>470.6</u>	<u>7.56</u>	<u>427.4</u>
<u>0905</u>	<u>478.55</u>	<u>0.79</u>	<u>20.1</u>	<u>90.1</u>	<u>8.18</u>	<u>469.1</u>	<u>7.70</u>	<u>425.2</u>
<u>0910</u>	<u>478.55</u>	<u>0.74</u>	<u>20.0</u>	<u>89.8</u>	<u>8.16</u>	<u>466.2</u>	<u>7.74</u>	<u>425.9</u>
<u>0915</u>	<u>478.55</u>	<u>0.88</u>	<u>19.9</u>	<u>87.3</u>	<u>8.13</u>	<u>464.4</u>	<u>7.75</u>	<u>427.3</u>
<u>Sampled</u>								

Sample Time: 0925 Sample Date: 7-27-2020

Purge End Time: 0929 6mm

Bubbles in the vials?: Yes No Where? _____ Amount _____ Size _____

Sampled by: D. Schneelk Sampler Signature: _____

IDW Management

Drum No.	Estimated volume per IDW drum (gal)
1	<u>14.5</u>
2	
Total	

IDW will be taken to: Pending Disposal IDW Label: Green Non-Haz

Comments: _____
 Reviewed by: J. Messenger Initials: Jm Review Date: 7-29-2020 Page 2 of 2



**DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)**

19 Oct 20

Colonel Ryan S. Nye
Vice Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland Air Force Base, New Mexico 87117

Kevin Pierard
Hazardous Waste Bureau
New Mexico Environment Department
Harold Runnels Building
1190 St. Francis Drive, Suite N2050
Santa Fe, New Mexico 87502

Dear Mr. Pierard:

This report is submitted pursuant to the reporting requirements in Resource Conservation and Recovery Act Permit NM9570024423 (RCRA Permit), Part 1.27 (1) for a water release at the groundwater treatment system (GWTS) associated with the Bulk Fuels Facility Interim Measure at Kirtland Air Force Base (AFB). Verbal notification was made by Kirtland AFB via voice mail within 24 hours of the release to Mr. Stephen Connolly of the New Mexico Environment Department (NMED) at approximately 4:20 p.m. on October 6, 2020, in accordance with the RCRA Permit. A follow-up email notification from Kirtland AFB was sent to Mr. Connolly on October 6, 2020 at 4:57 p.m. (Attachment 1). The release occurred due to a failure to shut down extraction wells KAFB-106233 and KAFB-106234 during a power outage. These extraction wells are part of an Interim Measure under Kirtland AFB's RCRA Permit. The objectives of this Interim Measure are to collapse and treat the dissolved-phase ethylene dibromide (EDB) plume that extends north of Ridgecrest Drive Southeast (SE). Currently, only residual concentrations of EDB are present within the plume, particularly in the vicinity of wells KAFB-106233 and KAFB-106234 (Attachment 2, Figure 1).

The U.S. Air Force contacted Mr. Dave Cobrain, Program Manager, NMED Hazardous Waste Bureau, to request an extension for the submittal of the 15-day reporting required in RCRA Permit Section 1.27 (2). The extension request was approved by NMED via email on October 8, 2020 at 11:33 a.m. (Attachment 1). The time on target date for submission of the report to NMED is October 20, 2020. As detailed below, based upon the absence of EDB and benzene, ethylbenzene, toluene, and total xylenes (BTEX), the depth to groundwater (approximately 450 feet below ground surface), and the fact that there are no surface waters in the area of the release, there is no reasonable potential for the accidental release due to equipment failure to injure or be detrimental to human health, animal or plant life, or property or unreasonably interfere with public welfare or use of property.

RELEASE BACKGROUND

GWTS personnel received a call from the Kirtland AFB fire department notifying them that water was observed in the vicinity of the GWTS building at approximately 11:30 p.m. on October 5, 2020. At that time, GWTS personnel mobilized and, upon arrival, discovered the overflow of the Train 1 influent tank inside the building. Personnel manually shut down the KAFB-106233 and KAFB-106234 extraction well

pumps in the well control house at approximately 11:45 p.m. Water within the building and the external sump was processed through the treatment system in manual mode. A photo log is included as Attachment 3.

An assessment of the system indicated that the uninterrupted power supply failed at the GWTS plant when a power outage occurred between approximately 6:45 and 9:00 p.m. on Monday, October 5, 2020. When the power outage occurred, Train 2 extraction wells KAFB-106228 and KAFB-106239 shut off automatically because they are wired directly into the control panel. Train 1 extraction wells KAFB-106233 and KAFB-106234, however, continued to pump extracted water to the GWTS, which had shut down because they are on a separate power supply than the GWTS. Water then overflowed the Train 1 influent tank. Although some of the overflow water was contained within the building and associated sumps, excess water was released onto the adjacent street and into a nearby stormwater drain that discharged to a nearby ditch to the northwest of the GWTS. All released water remained on Kirtland AFB.

The release occurred at the GWTS building located at the southeast corner of the intersection between Perimeter Circle SE and Ridgecrest Drive SE on Kirtland AFB. The release was mapped out on the morning of October 6, 2020 by personnel who walked the area and noted the wet areas on an aerial photograph. The released water primarily flowed to the west to Perimeter Circle SE then north to Ridgecrest Drive SE (Attachment 2 Figures 2 and 3). Some of the water flowed north along Ridgecrest Drive SE to the intersection with Conner Avenue SE. The majority of the release flowed southwest along Ridgecrest Drive SE then west into a storm drain that discharged to a nearby ditch and along a drainage pathway on the north side of Randolph Road SE. The released water terminated approximately 2,140 feet west of Ridgecrest Drive SE (Attachment 2, Figure 2). Based on the approximate flow rate of Train 1 and the estimated time period that the release could have occurred, it is estimated that between 38,000 and 83,000 total gallons of water could potentially have been released.

The water that was released is from extraction wells that are located outside of the distal EDB plume (Attachment 2, Figure 1). The extraction wells for the Interim Measure are regularly sampled and analyzed for EDB and BTEX. Analytical data from KAFB-106233 and KAFB-106234 indicate that EDB concentrations in these wells have been below the U.S. Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) of 0.05 micrograms per liter ($\mu\text{g/L}$) since January 2019 (Attachment 4, Table 1). Concentrations of BTEX have not been detected in these wells since March 2017. In addition, the treatment trains are sampled monthly. Concentrations of EDB in Train 1 have been below the reporting limit ($0.019 \mu\text{g/L}$) or not detected since May 2019, and been below the EPA MCL since September 2017 (Attachment 4, Table 2).

SAMPLE COLLECTION

On October 6, 2020, 14 surface soil samples were collected along the release pathways at approximate depths ranging from 0 to 3 inches to assess potential EDB concentrations in the soil (Attachment 2, Figures 2 and 3). Five of the samples were also analyzed for BTEX, iron, and manganese (potential constituents of concern identified for treatment at the GWTS). The samples were analyzed in accordance with EPA Methods SW8260B (volatile organic compounds), SW8011/504.1 modified (EDB), and SW6010B (iron and manganese). One grab water sample was also collected from standing water at the outflow of the culvert located along Ridgecrest Drive SE. The sample was analyzed for EDB by EPA Method SW8011. The analytical laboratory selected (Hall Environmental Analysis Laboratory in Albuquerque, New Mexico) was able to provide EDB and BTEX results on a 2-day turnaround time.

A second round of soil samples was collected on October 13, 2020 from the same locations as the October 6, 2020 samples. The second set of samples was submitted to Eurofins TestAmerica in Arvada, Colorado. Eurofins TestAmerica is a Department of Defense Environmental Laboratory Accreditation Program-certified laboratory and can provide all of the requirements listed in Section 6.5.18.1 of the RCRA Permit. This laboratory was unable to provide the rush turn-around time required to meet the 15-day reporting requirement. The results of this sampling event will be provided in an addendum to this report once the data become available.

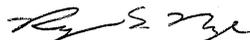
LABORATORY ANALYTICAL RESULTS

Results of the soil sample analyses are provided in the analytical results tables (Attachment 4, Table 3) and the analytical report is provided in Attachment 5. Analytical results for the soil samples were reported as non-detect for EDB and BTEX. Iron concentrations ranged from 6,700 to 8,600 milligrams per kilogram and manganese concentrations ranged from 70 to 90 milligrams per kilogram. All iron and manganese concentrations were below the regional screening levels. The water sample result was also reported as non-detect for EDB (Attachment 4, Table 4).

Based on these results, the absence of EDB and BTEX, the depth to groundwater (approximately 450 feet below ground surface), there are no surface waters in the area of the release, there is no reasonable potential for the discharge to injure or be detrimental to human health, animal or plant life, or property or unreasonably interfere with public welfare or use of property, the U.S. Air Force is requesting that no further action be required.

A document certification page is included as Attachment 6. If you have any questions or concerns, please contact Mr. Sheen Kottkamp at commercial line 505-846-7674 or email sheen.kottkamp.1@us.af.mil.

Sincerely,



RYAN S. NYE, Colonel, USAF
Vice Commander

Attachments:

- Attachment 1 – Notification Emails
- Attachment 2 – Figures
- Attachment 3 – Photo Log
- Attachment 4 – Analytical Data Tables
- Attachment 5 – Laboratory Analytical Reports
- Attachment 6 – Document Certification Page

cc: NMED HWB (Cobrain), letter
 NMED GWQB (Pullen), letter
 SAF-IEE (Lynnes), electronic only
 AFCEC/CZ (Renaghan, Clark, Kottkamp, Segura, Cash), electronic only
 USACE-ABQ District Office (Moayyad, Phaneuf, Kunkel, Dreeland, Cordova, Lovato),
 electronic only
 Public Info Repository, Administrative Record/Information Repository (AR/IR) and File

Attachment 1

Notification Emails

Brandon, Alan

From: KOTTKAMP, SHEEN T GS-13 USAF AFCEC AFCEC/CZOW <sheen.kottkamp.1@us.af.mil>
Sent: Wednesday, October 7, 2020 10:11 AM
To: Dreeland, Linda E CIV USARMY CESPA (USA); Moayyad, Behnaum CIV USARMY CESPA (USA)
Subject: FW: 24- Hour Oral Notification

See below. Sheen

From: SEGURA, CHRISTOPHER G GS-14 USAF AFCEC/CZO <christopher.segura.2@us.af.mil>
Sent: Tuesday, October 6, 2020 4:57 PM
To: stephen.Connolly@state.nm.us
Cc: KOTTKAMP; SHEEN T GS-13 USAF AFCEC AFCEC/CZOW <sheen.kottkamp.1@us.af.mil>
Subject: 24- Hour Oral Notification

Sir,

In accordance with the Kirtland Air Force Base Hazardous Waste Permit and pursuant to NMAC 20.6.2.1203, a voice message was left on your office line at approximately 1620 to notify you of a discharge from the Bulk Fuels Facility Groundwater Treatment System. The oral notification provided meets the 24-hour condition contained in both the permit and the NMAC. Please note that an additional notification was made to the environmental emergency line communicating the discharge at approximately 1700. A follow-on report will be provided in accordance with the permit conditions and NMAC. However, the permit states that a 5-day written report is required, while the NMAC states the report is required within one week. At your earliest convenience, could you please clarify what condition applies to the release?

If you have any questions or concerns, please feel free to contact me at your earliest convenience.

V/R

Chris G. Segura, GS-14, DAF
Chief, Kirtland Installation Support Section
Air Force Civil Engineer Center
DSN 263-5443 Comm (505) 853-5443

Bockisch, Bernard

From: KOTTKAMP, SHEEN T GS-13 USAF AFCEC AFCEC/CZOW <sheen.kottkamp.1@us.af.mil>
Sent: Thursday, October 8, 2020 11:40 AM
To: Behnaum.Moayyad (Behnaum.Moayyad@usace.army.mil); Phaneuf, Mark J SPA; Phil Lovato; Dreeland, Linda E CIV USARMY CESPA (USA); Bockisch, Bernard
Cc: LYNNES, KATHRYN D HQE USAF AFGSC 377 MSG/SAF/IEE; SEGURA, CHRISTOPHER G GS-14 USAF AFCEC/CZO; WORTMAN, RYAN J GS-13 USAF AFCEC AFCEC/CZO; CASH, CYNTHIA J GS-13 USAF AFMC AFCEC/CZR
Subject: FW: GWTS Release Reporting Extension Request

FYI and file. Sheen

From: KOTTKAMP, SHEEN T GS-13 USAF AFCEC AFCEC/CZOW
Sent: Thursday, October 8, 2020 11:37 AM
To: Cobrain, Dave, NMENV <dave.cobrain@state.nm.us>
Subject: RE: GWTS Release Reporting Extension Request

Thank you Sir. Sheen

From: Cobrain, Dave, NMENV <dave.cobrain@state.nm.us>
Sent: Thursday, October 8, 2020 11:33 AM
To: KOTTKAMP, SHEEN T GS-13 USAF AFCEC AFCEC/CZOW <sheen.kottkamp.1@us.af.mil>; Pierard, Kevin, NMENV <Kevin.Pierard@state.nm.us>
Subject: [Non-DoD Source] RE: GWTS Release Reporting Extension Request

Sheen,

In accordance with Permit Section 1.27 Item 2, your request is hereby approved. The report summarizing the release and related response action conducted at the Groundwater Treatment System must be submitted no later than October 20, 2020.

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: KOTTKAMP, SHEEN T GS-13 USAF AFCEC AFCEC/CZOW <sheen.kottkamp.1@us.af.mil>
Sent: Thursday, October 8, 2020 11:21 AM
To: Pierard, Kevin, NMENV <Kevin.Pierard@state.nm.us>; Cobrain, Dave, NMENV <dave.cobrain@state.nm.us>
Subject: [EXT] GWTS Release Reporting Extension Request

Good morning gentlemen. In accordance with the Kirtland AFB Resource Conservation and Recovery Act Permit NM9570024423, Section 1.27, I am formally requesting a 15 day extension request regarding the release of influent water from the Kirtland bulk fuels facility ground water treatment system that occurred Monday October 5th 2020. The request will allow for adequate time to receive the analytical data from sampling of media, compiling the report, and staffing the report for Wing CC signature. Upon approval of the request, Kirtland AFB will submit the written report to the New Mexico Environment Department October 20th 2020 meeting the requirements as specified in Section 1.27 of the permit. Thank you.

Respectfully,

Sheen T. Kottkamp GS-13
Environmental Program Manager/Scientist
Kirtland ISS, AFCEC/CZO
505-846-7674
DSN 246-7674
Cell 806-463-0811

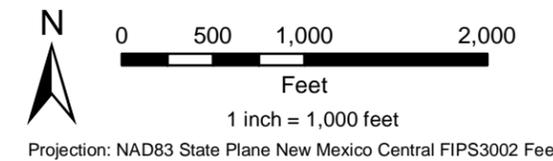
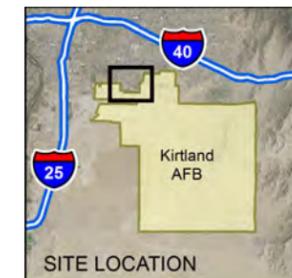
Attachment 2

Figures



Legend

- Drinking Water Supply Well
- Extraction Well
- Groundwater Treatment System Influent Piping
- Groundwater Treatment System Effluent Piping
- Former Buried Fuel Transfer Line
- Former Aboveground Fuel Transfer Line
- Installation Fence Boundary
- Bulk Fuels Facility (SWMU ST-106/SS-111)
- Former Aboveground Storage
- Q2 2020 EDB Concentration 0.05 µg/L (EPA MCL)
- Groundwater Treatment System Release Location

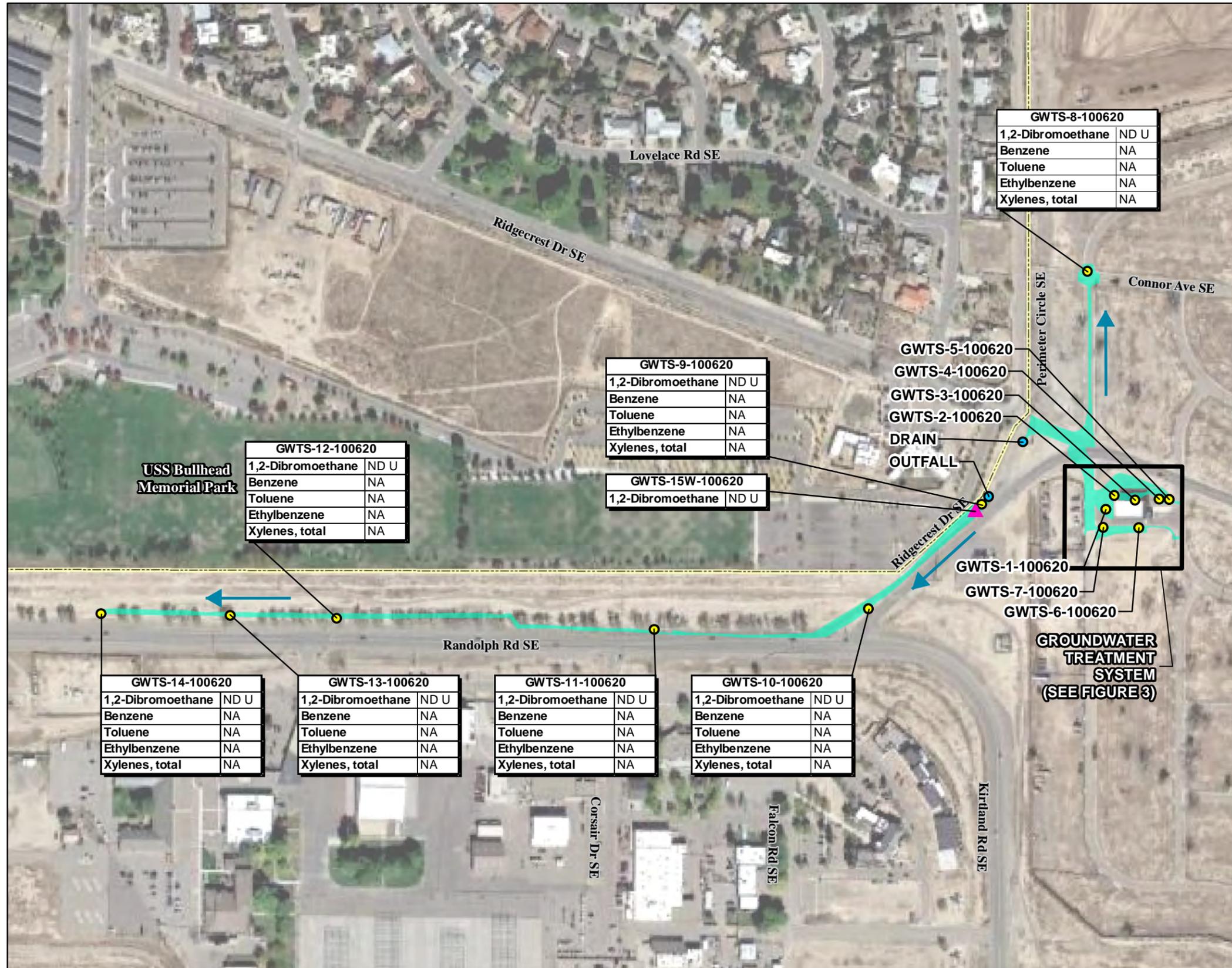


GROUNDWATER TREATMENT SYSTEM
 WATER RELEASE REPORT
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1

LOCATION MAP

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GWTS-12-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-9-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-15W-100620	
1,2-Dibromoethane	ND U

GWTS-8-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-14-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-13-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-11-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

GWTS-10-100620	
1,2-Dibromoethane	ND U
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylenes, total	NA

- GWTS-5-100620
- GWTS-4-100620
- GWTS-3-100620
- GWTS-2-100620
- DRAIN
- OUTFALL

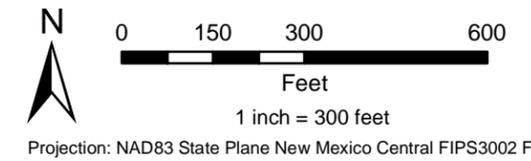
- GWTS-1-100620
- GWTS-7-100620
- GWTS-6-100620

GROUNDWATER TREATMENT SYSTEM (SEE FIGURE 3)

Legend

- Soil Sample Location and Identification
- ▲ Groundwater Sample Location and Identification
- Infrastructure
- Groundwater Treatment System Release Location
- █ Approximate Extent of Release
- Installation Fence Boundary
- ➔ Flow Direction

Notes:
 1,2-Dibromoethane results are in µg/kg
 BTEX results are in mg/kg
 Water sample GWTS-15W-100620 reporting in micrograms per liter
 µg/kg = micrograms per kilogram
 mg/kg = milligrams per kilogram
 NA = not analyzed
 ND = not detected
 U = qualifier denotes the analyte was analyzed but not detected above the detection limit.

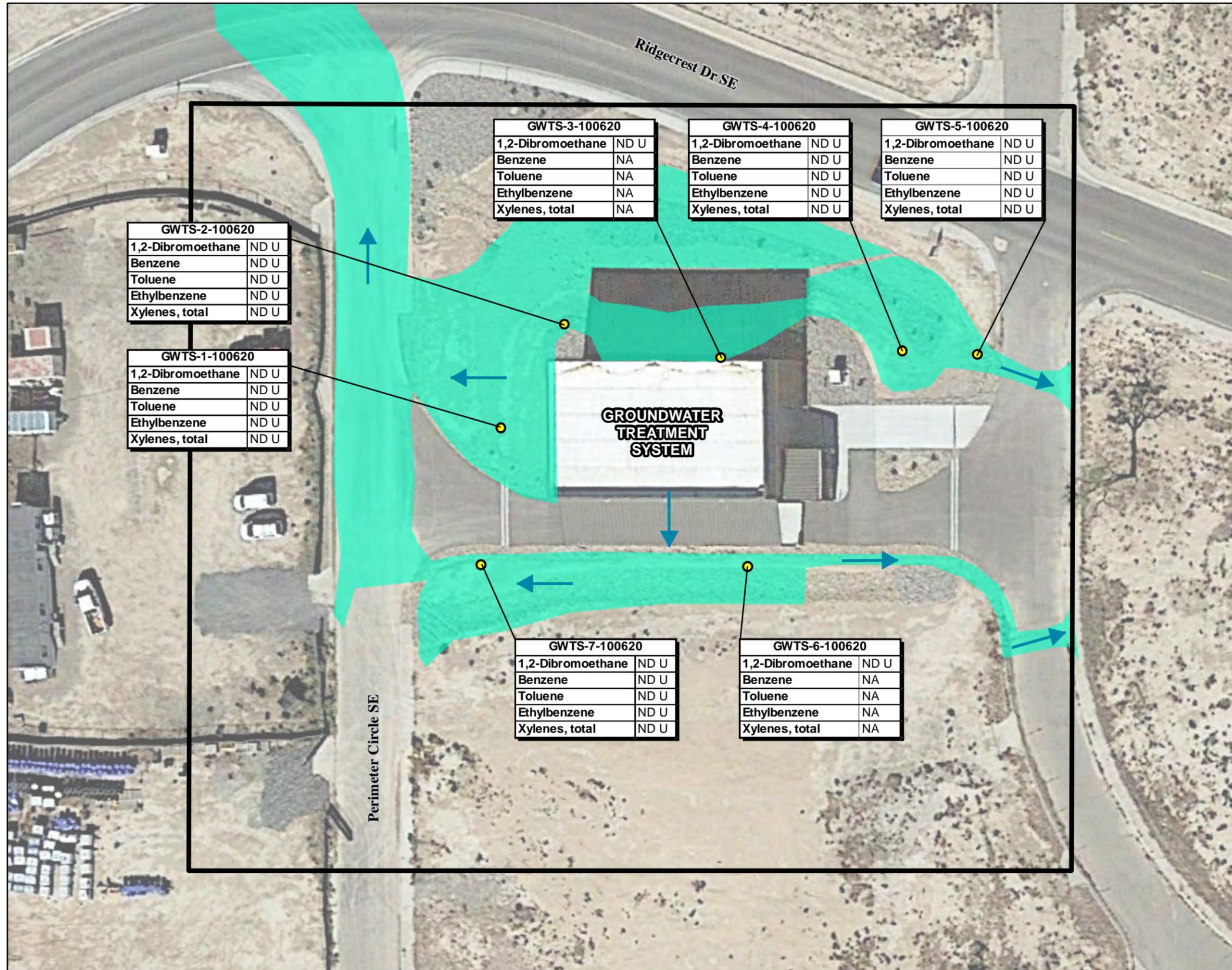


GROUNDWATER TREATMENT SYSTEM
 WATER RELEASE REPORT
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 2

SITE MAP

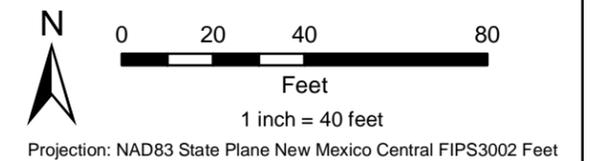
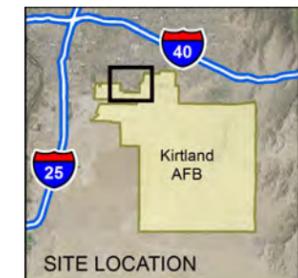
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Legend

- Soil Sample Location and Identification
- Groundwater Treatment System Release Location
- Approximate Extent of Release
- Installation Fence Boundary
- ➔ Flow Direction

Notes:
 1,2-Dibromoethane results are in µg/kg
 BTEX results are in mg/kg
 µg/kg = micrograms per kilogram
 mg/kg = milligrams per kilogram
 NA = not analyzed
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GROUNDWATER TREATMENT SYSTEM
 WATER RELEASE REPORT
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3

SITE MAP

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Attachment 3

Photo Log



Location: Looking South at stormwater drain.
Date: 10/6/2020

Direction: South



Location: Looking west at outflow along Ridgecrest Drive SE
Date: 10/6/2020

Direction: West



Looking north at Perimeter Circle SE from Ridgcrest Drive SE.
Date: 10/6/2020

Direction: North



Description: Looking east along a portion of the release pathway.
Date: 10/6/2020

Direction: East



Description: Looking east at the end of the release pathway.
Date: 10/6/2020

Direction: East

Attachment 4

Analytical Data Tables

**Table 1
Extraction Well Analytical Results**

		Well Location ID:			KAFB-106233			KAFB-106233			KAFB-106233				
		Sample Date:			GW233-042517			GW233-173			GW233-183				
		Field Sample ID:			4/25/2017			7/27/2017			7/18/2018				
		Sample Type:			REG			REG			REG				
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.05	0.05	0.075	0.05	0.090	--	0.019	0.048	--	0.019	0.034	--	0.019
BTEX	Method SW8260C (µg/L)	Benzene	10	5	4.5	5	ND	U	1	--	--	--	ND	U	1
		Ethylbenzene	750	700	15	700	ND	U	1	--	--	--	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	--	--	--	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	--	--	--	ND	U	1
Metals	Method SW6010C (mg/L)	Calcium	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
		Iron, dissolved	1.0	NS	NS	1.0	ND	U	0.200	--	--	--	ND	U	0.100
		Magnesium	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
		Manganese, dissolved	0.2	NS	NS	0.2	0.0318	--	0.0050	--	--	--	ND	U	0.0025
		Potassium	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
		Sodium	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
	Method SW6020A (mg/L)	Arsenic	0.01	0.01	0.00052	0.01	--	--	--	--	--	--	--	--	--
		Lead	0.015	0.015	0.015	0.015	--	--	--	--	--	--	--	--	--

**Table 1
Extraction Well Analytical Results**

		Well Location ID:		KAFB-106233		KAFB-106233		KAFB-106234		KAFB-106234								
		Sample Date:		GW233-191		GW233-201		GW234-171		GW234-173								
		Field Sample ID:		1/24/2019		1/14/2020		3/2/2017		7/27/2017								
		Sample Type:		REG		REG		REG		REG								
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.05	0.05	0.075	0.05	0.013	J	0.019	ND	U	0.019	0.085	--	0.019	0.064	--	0.019
BTEX	Method SW8260C (µg/L)	Benzene	10	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	1	--	--	--
		Ethylbenzene	750	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	1	--	--	--
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	1	--	--	--
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	1	--	--	--
Metals	Method SW6010C (mg/L)	Calcium	NS	NS	NS	NS	51.8	--	0.1	61.5	--	0.150	--	--	--	--	--	--
		Iron, dissolved	1.0	NS	NS	1.0	ND	U	0.1	ND	U	0.103	ND	U	0.2	--	--	--
		Magnesium	NS	NS	NS	NS	7.07	--	0.05	9.10	--	0.0751	--	--	--	--	--	--
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0025	ND	U	0.0052	ND	U	0.005	--	--	--
		Potassium	NS	NS	NS	NS	2.77	--	0.375	2.89	--	0.375	--	--	--	--	--	--
		Sodium	NS	NS	NS	NS	26.3	--	0.5	29.1	--	0.500	--	--	--	--	--	--
	Method SW6020A (mg/L)	Arsenic	0.01	0.01	0.00052	0.01	0.00099	J	0.0016	0.0011	J	0.0016	--	--	--	--	--	--
		Lead	0.015	0.015	0.015	0.015	ND	U	0.0024	0.0016	--	0.00025	--	--	--	--	--	--

**Table 1
Extraction Well Analytical Results**

		Well Location ID:		KAFB-106234		KAFB-106234		KAFB-106234		KAFB-106234								
		Sample Date:		GW234-183		GW234-191		GW234-062119		GW234-201								
		Field Sample ID:		7/18/2018		1/24/2019		6/21/2019		1/14/2020								
		Sample Type:		REG		REG		REG		REG								
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.05	0.05	0.075	0.05	0.050	--	0.019	0.022	J	0.019	0.023	J	0.019	0.017	J	0.019
BTEX	Method SW8260C (µg/L)	Benzene	10	5	4.5	5	ND	U	1	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	750	700	15	700	ND	U	1	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	2	ND	U	2	ND	U	2
Metals	Method SW6010C (mg/L)	Calcium	NS	NS	NS	NS	--	--	--	53.6	--	0.1	--	--	--	54.5	--	0.150
		Iron, dissolved	1.0	NS	NS	1.0	ND	U	0.100	ND	U	0.1	--	--	--	ND	U	0.103
		Magnesium	NS	NS	NS	NS	--	--	--	7.32	--	0.05	--	--	--	7.64	--	0.0751
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0025	ND	U	0.0025	--	--	--	ND	U	0.0052
		Potassium	NS	NS	NS	NS	--	--	--	2.76	--	0.375	--	--	--	2.90	--	0.375
		Sodium	NS	NS	NS	NS	--	--	--	26.7	--	0.5	--	--	--	29.1	--	0.500
	Method SW6020A (mg/L)	Arsenic	0.01	0.01	0.00052	0.01	--	--	--	0.00093	J	0.0016	--	--	--	0.00094	J	0.0016
		Lead	0.015	0.015	0.015	0.015	--	--	--	ND	U	0.0024	--	--	--	0.00043	J	0.00025

Table 1
Extraction Well Analytical Results

^a NMWQCC numeric standards per the NMAC Title 20.6.2.3101A, Standards for Ground Water of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC 2018). For metals, the NMWQCC numeric standard applies to dissolved metals.

^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2018).

^c EPA Region 6 RSL for Tapwater (May 2020) for hazard index = 1.0 for noncarcinogens and a 10-5 cancer risk level for carcinogens.

^d The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL. If no NMWQCC standard or MCL exists for any analyte, then the project screening level will be the EPA RSL.

— = Compound not analyzed for

µg/L = microgram per liter

AFB = Air Force Base

BTEX = benzene, toluene, ethylbenzene, and total xylenes

CFR = Code of Federal Regulations

EDB = ethylene dibromide (1,2-dibromoethane)

EPA = U.S. Environmental Protection Agency

ID = identification

LOD = limit of detection

MCL = maximum contaminant level

mg/L = milligrams per liter

ND = not detected

NMAC = New Mexico Administrative Code

NMWQCC = New Mexico Water Quality Control Commission

NS = not specified

REG = normal field sample

RSL = regional screening level

Val Qual = validation qualifier

VOC = volatile organic compound

Shading = detected concentrations above the detection limit

Bold/Shading = reported concentrations exceed the project screening level

Val Quals based on independent data validation

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

Table 2
Train 1 Influent Analytical Results

		Well Location ID:			GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1				
		Field Sample ID:			GWTS-INF			GWTS-INF-052016			GWTS-INF-062116			GWTS-INF-072116				
		Sample Date:			4/21/2016			5/20/2016			6/21/2016			7/21/2016				
		Sample Type:			REG			REG			REG			REG				
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD									
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.067		0.019	0.072		0.02	ND	U	0.19	0.075		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1									
		Ethylbenzene	700	700	15	700	ND	U	1									
		Toluene	1,000	1,000	1,100	1,000	ND	U	1									
		Xylenes, total	620	10,000	190	620	ND	U	1									
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	UJ	0.05	ND	U	0.05	ND	U	0.2	ND	U	0.2
		Manganese, dissolved	0.2	NS	NS	0.2	0.0012	J-	0.0025	ND	U	0.0025	ND	U	0.005	ND	U	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF-082216		GWTS-INF-092016		GWTS-INF-102016		GWTS-INF-102016		GWTS-INF-112116						
		Sample Date:		8/22/2016		9/20/2016		10/20/2016		10/20/2016		11/21/2016						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.09		0.019	0.078		0.019	0.072		0.019	0.074		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.2	ND	U	0.200	ND	U	0.200
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	ND	U	0.005	ND	U	0.0050	ND	U	0.0050

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF-12016		GWTS-INF-011817		GWTS-INF1-022317		GWTS-INF1-022317		GWTS-INF1DUP-022317						
		Sample Date:		12/20/2016		1/18/2017		2/23/2017		2/23/2017		2/23/2017						
		Sample Type:		REG		REG		REG		REG		Field Duplicate						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.082		0.019	0.082		0.019	0.078		0.019	0.074		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.200	ND	U	0.200	ND	U	0.200
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	0.0072	J	0.0050	ND	U	0.0050	ND	U	0.0050

Table 2
Train 1 Influent Analytical Results

		Well Location ID:			GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1				
		Field Sample ID:			GWTS-INF1-032317			GWTS-INF1-041917			GWTS-INF1-051817			GWTS-INF1-062217				
		Sample Date:			3/23/2017			4/19/2017			5/18/2017			6/22/2017				
		Sample Type:			REG			REG			REG			REG				
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD									
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.06		0.019	0.074		0.019	0.076		0.019	0.055		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1									
		Ethylbenzene	700	700	15	700	ND	U	1									
		Toluene	1,000	1,000	1,100	1,000	ND	U	1									
		Xylenes, total	620	10,000	190	620	ND	U	1									
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2									
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005									

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-072517		GWTS-INF1-082417		GWTS-INF1-092117		GWTS-INF1-101917		GWTS-INF1-101917						
		Sample Date:		7/25/2017		8/24/2017		9/21/2017		10/19/2017		10/19/2017						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.054		0.019	0.062		0.019	0.047		0.019	0.038		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.2	ND	U	0.2	ND	U	0.2
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	ND	U	0.005	ND	U	0.005	ND	U	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-011818		GWTS-INF1-020518		GWTS-INF1-020618		GWTS-INF1-020718		GWTS-INF1-020718						
		Sample Date:		1/18/2018		2/5/2018		2/6/2018		2/7/2018		2/7/2018						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.03		0.019	0.029		0.019	0.028	J	0.019	0.031		0.02
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.2	ND	U	0.2	ND	U	0.2
		Manganese, dissolved	0.2	NS	NS	0.2	0.0025	J	0.005	ND	U	0.005	ND	U	0.005	0.004	J	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-020818		GWTS-INF1-020918		GWTS-INF1-021018		GWTS-INF1-021118		GWTS-INF1-021118						
		Sample Date:		2/8/2018		2/9/2018		2/10/2018		2/11/2018		2/11/2018						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.029		0.019	0.032		0.019	0.031		0.019	0.029		0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.2	ND	U	0.2	ND	U	0.2
		Manganese, dissolved	0.2	NS	NS	0.2	0.0016	J	0.005	ND	U	0.005	ND	U	0.005	ND	U	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-021518		GWTS-INF1-022218		GWTS-INF1-030118		GWTS-INF1-030818		GWTS-INF1-030818						
		Sample Date:		2/15/2018		2/22/2018		3/1/2018		3/8/2018		3/8/2018						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.02	J	0.019	0.038		0.019	0.028	J	0.019	0.025	J	0.021
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.2	ND	U	0.2	ND	U	0.2	ND	U	0.2
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	0.0232		0.005	0.0038	J	0.005	0.0025	J	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-032218		GWTS-INF1-041918		GWTS-INF1-052318		GWTS-INF1-062118		GWTS-INF1-062118						
		Sample Date:		3/22/2018		4/19/2018		5/23/2018		6/21/2018		6/21/2018						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.017	J	0.019	0.024	J	0.019	0.02	J	0.019	0.015	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	1	ND	U	1	ND	U	1
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	1	ND	U	1	ND	U	1
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	UJ	0.2	ND	U	0.2	ND	U	0.2	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	ND	U	0.005	ND	U	0.005	ND	U	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-071818		GWTS-INF1-081618		GWTS-INF1-091318		GWTS-INF1-111218		GWTS-INF1-111218						
		Sample Date:		7/18/2018		8/16/2018		9/13/2018		11/12/2018		11/12/2018						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.042		0.018	0.017	J	0.019	0.016	J	0.019	0.022	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	1	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	1	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	1	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	1	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0025	ND	U	0.0025	ND	U	0.0025	ND	U	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-120318		GWTS-INF1-010919		GWTS-INF1-020719		GWTS-INF1-030719		GWTS-INF1-030719						
		Sample Date:		12/3/2018		1/9/2019		2/7/2019		3/7/2019		3/7/2019						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.024	J	0.019	0.016	J	0.019	0.021	J	0.019	0.013	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0025	ND	U	0.0025	ND	U	0.0025	ND	U	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-040419		GWTS-INF1-050119		GWTS-INF1-060619		GWTS-INF1-061319		GWTS-INF1-061319						
		Sample Date:		4/4/2019		5/1/2019		6/6/2019		6/13/2019		6/13/2019						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.022	J	0.019	0.016	J	0.019	0.015	J	0.019	0.014	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	0.293		0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	0.0028	J	0.0025	0.0032	J	0.0025	ND	U	0.0025	0.0023	J	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-061419		GWTS-INF1-061519		GWTS-INF1-061619		GWTS-INF1-061719		GWTS-INF1-061719						
		Sample Date:		6/14/2019		6/15/2019		6/16/2019		6/17/2019		6/17/2019						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.014	J	0.019	0.014	J	0.019	0.014	J	0.019	0.013	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	0.0018	J	0.0025	0.0016	J	0.0025	0.0016	J	0.0025	0.0016	J	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-061819		GWTS-INF1-061919		GWTS-INF1-062019		GWTS-INF1-062619		GWTS-INF1-062619						
		Sample Date:		6/18/2019		6/19/2019		6/20/2019		6/26/2019		6/26/2019						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.014	J	0.019	0.014	J	0.019	0.016	J	0.019	0.0097	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	0.0016	J	0.0025	0.0015	J	0.0025	0.0016	J	0.0025	0.002	J	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-070219		GWTS-INF1-071219		GWTS-INF1-071619		GWTS-INF1-080819		GWTS-INF1-080819						
		Sample Date:		7/2/2019		7/12/2019		7/16/2019		8/8/2019								
		Sample Type:		REG		REG		REG		REG								
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.014	J	0.019	0.014	J	0.019	ND	U	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.100
		Manganese, dissolved	0.2	NS	NS	0.2	0.0012	J	0.0025	ND	U	0.0025	ND	U	0.0025	ND	U	0.0025

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1						
		Field Sample ID:		GWTS-INF1-090519		GWTS-INF1-100919		GWTS-INF1-110719		GWTS-INF1-121019		GWTS-INF1-121019						
		Sample Date:		9/5/2019		10/9/2019		11/7/2019		12/10/2019		12/10/2019						
		Sample Type:		REG		REG		REG		REG		REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	ND	U	0.019	ND	U	0.019	0.014	J	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.100	ND	U	0.1	ND	U	0.100	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0025	ND	U	0.005	ND	U	0.0050	ND	U	0.005

Table 2
Train 1 Influent Analytical Results

		Well Location ID:		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		GWTS-BFF-INF1		
		Field Sample ID:		GWTS-INF1-011420		GWTS-INF1-020520		GWTS-INF1-030520		GWTS-INF1-040220		GWTS-INF1-030520		GWTS-INF1-040220		GWTS-INF1-040220		
		Sample Date:		1/14/2020		2/5/2020		3/5/2020		4/2/2020		3/5/2020		4/2/2020		4/2/2020		
		Sample Type:		REG		REG		REG		REG		REG		REG		REG		
Parameter	Analytical Method	Analyte	NMAC NMWQCC^a	EPA MCL^b	EPA RSL^c	Project Screening Level^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.016	J	0.019	0.016	J	0.019	0.012	J	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1	ND	U	0.103	ND	UJ	0.103	ND	U	0.103
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.005	ND	U	0.0052	ND	U	0.0052	ND	U	0.0052

Table 2
Train 1 Influent Analytical Results

			Well Location ID: GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1			GWTS-BFF-INF1						
			Field Sample ID: GWTS-INF1-051120			GWTS-INF1-060320			GWTS-INF1-072320			GWTS-INF1-080520						
			Sample Date: 5/11/2020			6/3/2020			7/23/2020			8/5/2020						
			Sample Type: REG			REG			REG			REG						
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2	ND	U	2	ND	U	2	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.103	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0052	0.012		0.0052	ND	U	0.0052	ND	U	0.0052

Table 2
Train 1 Influent Analytical Results

						Well Location ID:		GWTS-BFF-INF1	
						Field Sample ID:		GWTS-INF1-090920	
						Sample Date:		9/9/2020	
						Sample Type:		REG	
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	0.012	J	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	2
Dissolved Metals	Method SW6010C (mg/L)	Iron, dissolved	1.0	NS	NS	1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0052

Table 2
Train 1 Influent Analytical Results

^a NMWQCC numeric standards per the New Mexico Administrative Code Title 20.6.2.3101A, Standards for Groundwater of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC, 2018).

^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2018).

^c EPA Region 6 RSL for Tapwater (May 2020) for hazard index = 1.0 for noncarcinogens and a 10-5 cancer risk level for carcinogens.

^d The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL. If no NMWQCC numeric standard or MCL exists for any analyte, then the project screening level will be the EPA RSL.

µg/L = microgram per liter

AFB = Air Force Base

EDB = ethylene dibromide (1,2-dibromoethane)

EPA = U.S. Environmental Protection Agency

ID = identification

LOD = limit of detection

MCL = maximum contaminant level

mg/L= milligram per liter

ND = nondetect

NMAC = New Mexico Administrative Code

NMWQCC = New Mexico Water Quality Control Commission

NS = not specified

REG = normal field sample

RSL = regional screening level

Val Qual = validation qualifier

VOC = volatile organic compound

Shading = detected concentrations above the detection limit

Bold/Shading = reported concentrations exceed the project screening level

Val Quals based on independent data validation:

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

J- = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated and biased low.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

Table 3
Groundwater Treatment System Release Soil Samples

Field Sample Name	Sample Date	1,2-Dibromoethane			Benzene			Ethylbenzene			Toluene			Xylenes, total			Iron			Manganese		
		106-93-4			71-43-2			100-41-4			108-88-3			1330-20-7			7439-89-6			7439-96-5		
		Method SW8011 (µg/kg)			Method SW8260B (mg/kg)			Method SW6010B (mg/kg)			Method SW6010B (mg/kg)											
		Result	Val Qual	RL	Result	Val Qual	RL	Result	Val Qual	RL	Result	Val Qual	RL	Result	Val Qual	RL	Result	Val Qual	RL	Result	Val Qual	RL
GWTS-1-100620	10/6/2020	ND	U	0.74	ND	U	0.024	ND	U	0.047	ND	U	0.047	ND	U	0.094	7,900		250	90		0.4
GWTS-2-100620	10/6/2020	ND	U	0.062	ND	U	0.025	ND	U	0.049	ND	U	0.049	ND	U	0.099	8,600		250	81		0.4
GWTS-3-100620	10/6/2020	ND	U	0.058	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-4-100620	10/6/2020	ND	U	0.078	ND	U	0.024	ND	U	0.048	ND	U	0.048	ND	U	0.095	7,000		250	70		0.4
GWTS-5-100620	10/6/2020	ND	U	0.086	ND	U	0.024	ND	U	0.047	ND	U	0.047	ND	U	0.095	7,400		250	77		0.39
GWTS-6-100620	10/6/2020	ND	U	0.085	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-7-100620	10/6/2020	ND	U	0.85	ND	U	0.024	ND	U	0.048	ND	U	0.048	ND	U	0.095	6,700		250	73		0.4
GWTS-8-100620	10/6/2020	ND	U	0.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-9-100620	10/6/2020	ND	U	0.066	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-10-100620	10/6/2020	ND	U	0.076	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-11-100620	10/6/2020	ND	U	0.065	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-12-100620	10/6/2020	ND	U	0.086	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-13-100620	10/6/2020	ND	U	0.074	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GWTS-14-100620	10/6/2020	ND	U	0.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NMED Residential^a		672			17.8			75.1			5,230			871			54,800			10,500		
EPA Residential^b		360			12			58			4,900			580			55,000			1,800		

^a New Mexico Environment Department (NMED) Risk Assessment Guidance for Site Investigations and Remediation, Appendix A, Table A-1, NMED Soil Screening Levels (SSL). February 2019.

^b EPA Regional Screening Levels (RSLs) for residential use scenario for hazard index = 1.0 for noncarcinogens and a 10⁻⁵ cancer risk level for carcinogens. May 2020.

µg/kg = microgram per kilogram

mg/kg = milligrams per kilogram

ND = not detected

RL = reporting limit

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the reporting limit.

— = Compound not analyzed for.

Table 4
Groundwater Treatment System Water Release Sample

			Field Sample Name:		GWTS-15W-100620		
			Sample Date:		10/6/2020		
Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Result	Val Qual	RL
Method SW8011 (µg/L)	1,2-Dibromoethane	0.05	0.05	0.075	ND	U	0.0093

^a NMWQCC numeric standards per the NMAC Title 20.6.2.3101A, Standards for Ground Water of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC 2018).

For metals, the NMWCC numeric standard applies to dissolved metals.

^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2018).

^c EPA Region 6 RSL for Tapwater (May 2020) for hazard index = 1.0 for noncarcinogens and a 10⁻⁵ cancer risk level for carcinogens.

µg/L = microgram per liter

ND = not detected

RL = reporting limit

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the reporting limit.

Attachment 5

Laboratory Analytical Reports



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

October 15, 2020

Bernie Bockisch

EA Engineering Science & Technology

320 Gold Ave SW Suite 1210

Albuquerque, NM 87102

TEL:

FAX:

RE: KAFB BFF

OrderNo.: 2010292

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 17 sample(s) on 10/6/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-1-100620

Project: KAFB BFF

Collection Date: 10/6/2020 10:37:00 AM

Lab ID: 2010292-001

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Iron	7900	250		mg/Kg	100	10/8/2020 2:29:05 PM	55708
Manganese	90	0.40		mg/Kg	2	10/8/2020 2:00:25 PM	55708
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.74		µg/Kg	10	10/7/2020 12:18:45 PM	55693
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	10/8/2020 1:54:56 PM	55696
Toluene	ND	0.047		mg/Kg	1	10/8/2020 1:54:56 PM	55696
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 1:54:56 PM	55696
Xylenes, Total	ND	0.094		mg/Kg	1	10/8/2020 1:54:56 PM	55696
Surr: 1,2-Dichloroethane-d4	89.2	70-130		%Rec	1	10/8/2020 1:54:56 PM	55696
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/8/2020 1:54:56 PM	55696
Surr: Dibromofluoromethane	105	70-130		%Rec	1	10/8/2020 1:54:56 PM	55696
Surr: Toluene-d8	101	70-130		%Rec	1	10/8/2020 1:54:56 PM	55696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

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Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-2-100620

Project: KAFB BFF

Collection Date: 10/6/2020 10:44:00 AM

Lab ID: 2010292-002

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Iron	8600	250		mg/Kg	100	10/8/2020 2:30:33 PM	55708
Manganese	81	0.40		mg/Kg	2	10/8/2020 2:01:53 PM	55708
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.062		µg/Kg	1	10/7/2020 12:33:45 PM	55693
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	10/8/2020 2:23:27 PM	55696
Toluene	ND	0.049		mg/Kg	1	10/8/2020 2:23:27 PM	55696
Ethylbenzene	ND	0.049		mg/Kg	1	10/8/2020 2:23:27 PM	55696
Xylenes, Total	ND	0.099		mg/Kg	1	10/8/2020 2:23:27 PM	55696
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	10/8/2020 2:23:27 PM	55696
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/8/2020 2:23:27 PM	55696
Surr: Dibromofluoromethane	105	70-130		%Rec	1	10/8/2020 2:23:27 PM	55696
Surr: Toluene-d8	102	70-130		%Rec	1	10/8/2020 2:23:27 PM	55696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-3-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 10:47:00 AM**Lab ID:** 2010292-003**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.058		µg/Kg	1	10/7/2020 12:48:52 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-4-100620

Project: KAFB BFF

Collection Date: 10/6/2020 10:50:00 AM

Lab ID: 2010292-004

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Iron	7000	250		mg/Kg	100	10/8/2020 2:32:01 PM	55708
Manganese	70	0.40		mg/Kg	2	10/8/2020 2:03:21 PM	55708
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.078		µg/Kg	1	10/7/2020 1:03:59 PM	55693
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	10/8/2020 2:51:56 PM	55696
Toluene	ND	0.048		mg/Kg	1	10/8/2020 2:51:56 PM	55696
Ethylbenzene	ND	0.048		mg/Kg	1	10/8/2020 2:51:56 PM	55696
Xylenes, Total	ND	0.095		mg/Kg	1	10/8/2020 2:51:56 PM	55696
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	10/8/2020 2:51:56 PM	55696
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/8/2020 2:51:56 PM	55696
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/8/2020 2:51:56 PM	55696
Surr: Toluene-d8	102	70-130		%Rec	1	10/8/2020 2:51:56 PM	55696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-5-100620

Project: KAFB BFF

Collection Date: 10/6/2020 10:57:00 AM

Lab ID: 2010292-005

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Iron	7400	250		mg/Kg	100	10/8/2020 2:33:28 PM	55708
Manganese	77	0.39		mg/Kg	2	10/8/2020 2:04:48 PM	55708
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.086		µg/Kg	1	10/7/2020 1:19:11 PM	55693
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	10/8/2020 3:20:31 PM	55696
Toluene	ND	0.047		mg/Kg	1	10/8/2020 3:20:31 PM	55696
Ethylbenzene	ND	0.047		mg/Kg	1	10/8/2020 3:20:31 PM	55696
Xylenes, Total	ND	0.095		mg/Kg	1	10/8/2020 3:20:31 PM	55696
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%Rec	1	10/8/2020 3:20:31 PM	55696
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/8/2020 3:20:31 PM	55696
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/8/2020 3:20:31 PM	55696
Surr: Toluene-d8	99.8	70-130		%Rec	1	10/8/2020 3:20:31 PM	55696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-6-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:01:00 AM**Lab ID:** 2010292-006**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.085		µg/Kg	1	10/7/2020 1:34:21 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-7-100620

Project: KAFB BFF

Collection Date: 10/6/2020 11:04:00 AM

Lab ID: 2010292-007

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Iron	6700	250		mg/Kg	100	10/8/2020 2:53:04 PM	55708
Manganese	73	0.40		mg/Kg	2	10/8/2020 2:06:16 PM	55708
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.85		µg/Kg	10	10/7/2020 1:49:39 PM	55693
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	10/8/2020 3:49:03 PM	55696
Toluene	ND	0.048		mg/Kg	1	10/8/2020 3:49:03 PM	55696
Ethylbenzene	ND	0.048		mg/Kg	1	10/8/2020 3:49:03 PM	55696
Xylenes, Total	ND	0.095		mg/Kg	1	10/8/2020 3:49:03 PM	55696
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%Rec	1	10/8/2020 3:49:03 PM	55696
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/8/2020 3:49:03 PM	55696
Surr: Dibromofluoromethane	111	70-130		%Rec	1	10/8/2020 3:49:03 PM	55696
Surr: Toluene-d8	99.2	70-130		%Rec	1	10/8/2020 3:49:03 PM	55696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-8-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:10:00 AM**Lab ID:** 2010292-008**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.64		µg/Kg	10	10/7/2020 2:04:53 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-9-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:24:00 AM**Lab ID:** 2010292-009**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.066		µg/Kg	1	10/7/2020 2:35:35 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-10-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:30:00 AM**Lab ID:** 2010292-010**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.076		µg/Kg	1	10/7/2020 2:50:56 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-11-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:39:00 AM**Lab ID:** 2010292-011**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.065		µg/Kg	1	10/7/2020 3:06:17 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-12-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:46:00 AM**Lab ID:** 2010292-012**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.086		µg/Kg	1	10/7/2020 3:21:42 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-13-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:53:00 AM**Lab ID:** 2010292-013**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.074		µg/Kg	1	10/7/2020 3:37:05 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-14-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 11:57:00 AM**Lab ID:** 2010292-014**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.77		µg/Kg	10	10/7/2020 3:52:32 PM	55693

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-15W-100620**Project:** KAFB BFF**Collection Date:** 10/6/2020 12:45:00 PM**Lab ID:** 2010292-015**Matrix:** AQUEOUS**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB							Analyst: JME
1,2-Dibromoethane	ND	0.0093		µg/L	1	10/7/2020 10:49:02 AM	55695

NOTES:

No trip blank was included with work order

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2010292

Date Reported: 10/15/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering Science & Technology

Client Sample ID: GWTS-2-100620DUP

Project: KAFB BFF

Collection Date: 10/6/2020 10:44:00 AM

Lab ID: 2010292-016

Matrix: SOIL

Received Date: 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: mb
1,2-Dibromoethane	ND	0.086		µg/Kg	1	10/13/2020 2:44:00 PM	55780
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	10/14/2020 9:21:07 AM	55797
Benzene	ND	0.023		mg/Kg	1	10/14/2020 9:21:07 AM	55797
Toluene	ND	0.047		mg/Kg	1	10/14/2020 9:21:07 AM	55797
Ethylbenzene	ND	0.047		mg/Kg	1	10/14/2020 9:21:07 AM	55797
Xylenes, Total	ND	0.093		mg/Kg	1	10/14/2020 9:21:07 AM	55797
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	1	10/14/2020 9:21:07 AM	55797

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical ReportLab Order **2010292**Date Reported: **10/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** EA Engineering Science & Technology**Client Sample ID:** GWTS-4-100620DUP**Project:** KAFB BFF**Collection Date:** 10/6/2020 10:50:00 AM**Lab ID:** 2010292-017**Matrix:** SOIL**Received Date:** 10/6/2020 3:50:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1 MODIFIED: EDB							Analyst: mb
1,2-Dibromoethane	ND	0.087		µg/Kg	1	10/13/2020 3:14:19 PM	55780
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	10/14/2020 10:32:17 AM	55797
Benzene	ND	0.024		mg/Kg	1	10/14/2020 10:32:17 AM	55797
Toluene	ND	0.047		mg/Kg	1	10/14/2020 10:32:17 AM	55797
Ethylbenzene	ND	0.047		mg/Kg	1	10/14/2020 10:32:17 AM	55797
Xylenes, Total	ND	0.095		mg/Kg	1	10/14/2020 10:32:17 AM	55797
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	1	10/14/2020 10:32:17 AM	55797

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology

Project: KAFB BFF

Sample ID: MB-55693	SampType: MBLK	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: PBS	Batch ID: 55693	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543898	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: MB-55693	SampType: MBLK	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: PBS	Batch ID: 55693	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543899	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: LCS-55693	SampType: LCS	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: LCSS	Batch ID: 55693	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543902	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.72	0.10	1.000	0	72.2	70	130			

Sample ID: MB-55780	SampType: MBLK	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: PBS	Batch ID: 55780	RunNo: 72615								
Prep Date: 10/13/2020	Analysis Date: 10/13/2020	SeqNo: 2550133	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: 2010292-017AMS	SampType: MS	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: GWTS-4-100620DUP	Batch ID: 55780	RunNo: 72615								
Prep Date: 10/13/2020	Analysis Date: 10/13/2020	SeqNo: 2550134	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.95	0.094	0.9358	0	102	65	135			

Sample ID: LCS-55780	SampType: LCS	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: LCSS	Batch ID: 55780	RunNo: 72615								
Prep Date: 10/13/2020	Analysis Date: 10/13/2020	SeqNo: 2550137	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.1	0.10	1.000	0	108	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **2010292**

15-Oct-20

Client: EA Engineering Science & Technology**Project:** KAFB BFF

Sample ID: MB-55780	SampType: MBLK	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: PBS	Batch ID: 55780	RunNo: 72615								
Prep Date: 10/13/2020	Analysis Date: 10/13/2020	SeqNo: 2550140	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID: 2010292-017AMSD	SampType: MSD	TestCode: EPA Method 8011/504.1 Modified: EDB								
Client ID: GWTS-4-100620DUP	Batch ID: 55780	RunNo: 72615								
Prep Date: 10/13/2020	Analysis Date: 10/13/2020	SeqNo: 2550149	Units: µg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.0	0.10	0.9972	0	103	65	135	7.63	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology

Project: KAFB BFF

Sample ID: MB-55695	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 55695	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543891	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: MB-55695	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 55695	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543892	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-55695	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 55695	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543893	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	111	70	130			

Sample ID: LCSD-55695	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 55695	RunNo: 72485								
Prep Date: 10/7/2020	Analysis Date: 10/7/2020	SeqNo: 2543894	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	105	70	130	5.65	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology

Project: KAFB BFF

Sample ID: LCS-55696	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 55696	RunNo: 72529								
Prep Date: 10/7/2020	Analysis Date: 10/8/2020	SeqNo: 2545827	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: mb-55696	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 55696	RunNo: 72529								
Prep Date: 10/7/2020	Analysis Date: 10/8/2020	SeqNo: 2545828	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	80	120			

Sample ID: mb-55797	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 55797	RunNo: 72630								
Prep Date: 10/13/2020	Analysis Date: 10/14/2020	SeqNo: 2551485	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Sample ID: LCS-55797	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 55797	RunNo: 72630								
Prep Date: 10/13/2020	Analysis Date: 10/14/2020	SeqNo: 2551486	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.94	0.10	1.000	0	94.5	70.9	141			
Benzene	0.90	0.025	1.000	0	90.0	80	120			
Toluene	0.95	0.050	1.000	0	94.6	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: 2010292-016ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: GWTS-2-100620DUP	Batch ID: 55797	RunNo: 72630								
Prep Date: 10/13/2020	Analysis Date: 10/14/2020	SeqNo: 2551488	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.096	0.9588	0	94.1	78.1	153			
Benzene	0.88	0.024	0.9588	0	92.2	76.3	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology

Project: KAFB BFF

Sample ID: 2010292-016ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: GWTS-2-100620DUP	Batch ID: 55797	RunNo: 72630								
Prep Date: 10/13/2020	Analysis Date: 10/14/2020	SeqNo: 2551488	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	0.94	0.048	0.9588	0	98.3	78.5	120			
Ethylbenzene	0.97	0.048	0.9588	0	102	78.1	124			
Xylenes, Total	2.9	0.096	2.876	0	102	79.3	125			
Surr: 4-Bromofluorobenzene	0.96		0.9588		100	80	120			

Sample ID: 2010292-016amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: GWTS-2-100620DUP	Batch ID: 55797	RunNo: 72630								
Prep Date: 10/13/2020	Analysis Date: 10/14/2020	SeqNo: 2551489	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.093	0.9285	0	96.6	78.1	153	0.565	20	
Benzene	0.90	0.023	0.9285	0	96.4	76.3	120	1.28	20	
Toluene	0.95	0.046	0.9285	0	102	78.5	120	0.740	20	
Ethylbenzene	0.99	0.046	0.9285	0	107	78.1	124	1.54	20	
Xylenes, Total	3.0	0.093	2.786	0	106	79.3	125	0.691	20	
Surr: 4-Bromofluorobenzene	0.92		0.9285		99.6	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology

Project: KAFB BFF

Sample ID: ics-55696		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: LCSS		Batch ID: 55696		RunNo: 72513						
Prep Date: 10/7/2020		Analysis Date: 10/8/2020		SeqNo: 2545061		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.6	70	130			
Toluene	1.0	0.050	1.000	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.2	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Sample ID: mb-55696		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: PBS		Batch ID: 55696		RunNo: 72513						
Prep Date: 10/7/2020		Analysis Date: 10/8/2020		SeqNo: 2545062		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.3	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID: 2010292-001ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: GWTS-1-100620		Batch ID: 55696		RunNo: 72513						
Prep Date: 10/7/2020		Analysis Date: 10/8/2020		SeqNo: 2545810		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9930	0	84.3	67.9	137			
Toluene	0.99	0.050	0.9930	0	99.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.4965		93.3	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.4965		108	70	130			
Surr: Dibromofluoromethane	0.50		0.4965		101	70	130			
Surr: Toluene-d8	0.50		0.4965		102	70	130			

Sample ID: 2010292-001amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: GWTS-1-100620		Batch ID: 55696		RunNo: 72513						
Prep Date: 10/7/2020		Analysis Date: 10/8/2020		SeqNo: 2545811		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9901	0	95.6	67.9	137	12.3	20	
Toluene	1.0	0.050	0.9901	0	103	70	130	2.60	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **2010292**

15-Oct-20

Client: EA Engineering Science & Technology**Project:** KAFB BFF

Sample ID: 2010292-001amsd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: GWTS-1-100620	Batch ID: 55696	RunNo: 72513								
Prep Date: 10/7/2020	Analysis Date: 10/8/2020	SeqNo: 2545811	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.4950		96.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4950		101	70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4950		108	70	130	0	0	
Surr: Toluene-d8	0.49		0.4950		99.2	70	130	0	0	

Sample ID: ics-55696	SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BatchQC	Batch ID: 55696	RunNo: 72548								
Prep Date: 10/7/2020	Analysis Date: 10/9/2020	SeqNo: 2546785	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.5	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.8	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2010292

15-Oct-20

Client: EA Engineering Science & Technology**Project:** KAFB BFF

Sample ID: MB-55708	SampType: MBLK	TestCode: EPA Method 6010B: Soil Metals								
Client ID: PBS	Batch ID: 55708	RunNo: 72520								
Prep Date: 10/7/2020	Analysis Date: 10/8/2020	SeqNo: 2545190	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	2.5								
Manganese	ND	0.20								

Sample ID: LCS-55708	SampType: LCS	TestCode: EPA Method 6010B: Soil Metals								
Client ID: LCSS	Batch ID: 55708	RunNo: 72520								
Prep Date: 10/7/2020	Analysis Date: 10/8/2020	SeqNo: 2545192	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	25	2.5	25.00	0	101	80	120			
Manganese	24	0.20	25.00	0	97.7	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		



Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: EA Engineering

Work Order Number: 2010292

RcptNo: 1

Received By: Juan Rojas 10/6/2020 3:50:00 PM *Juan Rojas*

Completed By: Emily Mocho 10/6/2020 4:12:36 PM

Reviewed By: *mg* *10/6/20*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH:
 (<2 or >12 unless noted)
 Adjusted?
 Checked by: *JR 10/6/20*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Not Present			

Chain-of-Custody Record

Client: EA ENGINEERING
 Mailing Address: 320 GOLD AVE SW
ABQ, NM 87102
 Phone #: 505-280-0572
 email or Fax#: bbockisch@enest.com
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: AZ Compliance
 NELAC Other
 EDD (Type)

Date	Time	Matrix	Sample Name
10/6/2020	10:37	Soil	GWTS-1-100620
	10:44		GWTS-2-100620
	10:47		GWTS-3-100620
	10:50		GWTS-4-100620
	10:57		GWTS-5-100620
	11:01		GWTS-6-100620
	11:04		GWTS-7-100620
	11:10		GWTS-8-100620
	11:24		GWTS-9-100620
	11:30		GWTS-10-100620
	11:39		GWTS-11-100620
	11:46		GWTS-12-100620

Relinquished by: Josh Livingston
 Date: 10/6/2020 Time: 15:30
 Relinquished by: _____
 Date: _____ Time: _____

Turn-Around Time:
 Standard Rush 2 DAY
 Project Name: KIRTLAND BFF
 Project #: 6360401

Project Manager: Bernie Bockisch
 Sampler: JRL
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including CP): 4.0-0=4.0 (°C)

Container Type and #	Preservative Type	HEAL No.
1x4oz	NA	2010292
		001
		002
		003
		004
		005
		006
		007
		008
		009
		010
		011
		012

Received by: [Signature] Date: 10/6/2020 Time: 15:50
 Received by: _____ Date: _____ Time: _____



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request	
<input checked="" type="checkbox"/>	BTEX / MTBE / TMB's (8021)
<input checked="" type="checkbox"/>	TPH:8015D(GRO / DRO / MRO)
<input checked="" type="checkbox"/>	8081 Pesticides/8082 PCB's
<input checked="" type="checkbox"/>	EDB (Method 504.1)/8011
<input type="checkbox"/>	PAHs by 8310 or 8270SIMS
<input type="checkbox"/>	RCRA 8 Metals
<input type="checkbox"/>	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄
<input type="checkbox"/>	8260 (VOA)
<input type="checkbox"/>	8270 (Semi-VOA)
<input type="checkbox"/>	Total Coliform (Present/Absent)
<input checked="" type="checkbox"/>	TOTAL Fe, Mn

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: EA ENGINEERING

Mailing Address: 320 GOLD AVE SW
ABQ, NM 87102

Phone #: 505-280-0572
 email or Fax#: bhockisch@east.com

QA/QC Package:
 Standard Level 4 (Full Validation)

Accreditation: Az Compliance
 NELAC Other

EDD (Type)

Turn-Around Time:
 Standard Rush 2 DAY

Project Name: Kirtland BFF

Project #: 6360401

Project Manager: Bernie Bockisch

Sampler: JRL

On Ice: Yes No

of Coolers: 1

Cooler Temp (including CF): 4.0-0=4.0 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/6/2020	1153	Soil	GWTS-15-100620	1x4oz	—	20102012
	1157		GWTS-15-100620			013
			GWTS-15-100620			014
			GWTS-17-100620			
			GWTS-18-100620			
			GWTS-19-100620			
			GWTS-20-100620			
10/6/2020	1245	H2O	GWTS-15W-100620	2x40ml	Sodium Trisulfate	015

Date: 10/6/2020 Time: 1530 Relinquished by: JOSH LIVINGSTON

Date: 2020 Time: 1550 Relinquished by: [Signature]

Received by: [Signature] Date: 10/6/20 Time: 1550

Received by: [Signature] Date: 10/6/20 Time: 1550



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request	
BTEX / MTBE / TMB's (8021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCBs	
EDB (Method 504.1) / 8011	X
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **EA Engineering**

Work Order Number: **2010292**

RcptNo: 1

Received By: **Juan Rojas** 10/6/2020 3:50:00 PM *Juan Rojas*

Completed By: **Emily Mocho** 10/6/2020 4:12:36 PM

Reviewed By: *EMJ* *10/6/20* *ENM 10/12/20*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH:
 (<2 or >12 unless noted)
 Adjusted?
 Checked by: *JR 10/6/20*
 2nd label By: *DAD 10/12/20*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Not Present			

Chain-of-Custody Record

Client: EA ENGINEERING
 Mailing Address: 320 GOLD AVE SW
 ABQ, NM 87102
 Phone #: 505-280-0572
 email or Fax#: bbockisch@east.com

QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: Az Compliance Other
 NELAC EDD (Type)

Turn-Around Time:
 Standard Rush 2 DAY
 Project Name: Kirtland BFF
 Project #: 6360401
 Project Manager: Bernie Boekisch

Sampler: JRL
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including cp): 4.0-4.0 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/16/20	1153	Soil	GWTS-15-100620	1x4oz	-	2010292
	1157		GWTS-15-100620			013
			GWTS-16-100620			014
			GWTS-17-100620			
			GWTS-18-100620			
			GWTS-19-100620			
			GWTS-20-100620			
10/16/20	1245	420	GWTS-15W-100620	2x40ml	Sodium Thiosulfate	015
10/16/20	1044	Soil	GWTS-7-100620 DUP			-016
10/16/20	1050	Soil	GWTS-4-100620 DUP			-017
			ENH 10/12/20			

Date: 10/16/2020
 Relinquished by: Josh Lwin King
 Date: 10/16/2020
 Relinquished by: Bernie Boekisch
 Received by: [Signature] Via: CDD Date: 10/16/20 15:50
 Received by: [Signature] Via: Date: Date



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Analysis Request	Analysis Request
BTX / MTBE / TMB's (8021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCB's	
EDB (Method 504.1) / 8011	X
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	
ENH 10/12/20	
BTEX/EDB only per	
Bernard Boekisch	

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: EA ENGINEERING
 Mailing Address: 320 GOLD AVE SW
ABQ, NM 87102
 Phone #: 505-280-0572
 email or Fax#: bbockisch@enest.com

QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: Az Compliance
 NELAC Other
 EDD (Type)

Turn-Around Time:
 Standard Rush 2 DAY
 Project Name: KIRTLAND BFF
 Project #: 6360401
 Project Manager: Bernie Bockisch
 Sampler: JRL
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including CP): 4.0-0=4.0 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10/16/2020	10:37	Soil	GWTS-1-100620	1x402	NA	2010292
	10:44		GWTS-2-100620			001
	10:47		GWTS-3-100620			002
	10:50		GWTS-4-100620			003
	10:57		GWTS-5-100620			004
	11:01		GWTS-6-100620			005
	11:04		GWTS-7-100620			006
	11:10		GWTS-8-100620			007
	11:24		GWTS-9-100620			008
	11:30		GWTS-10-100620			009
	11:39		GWTS-11-100620			010
	11:46		GWTS-12-100620			011
						012

Date: 10/16/2020 Time: 15:36 Relinquished by: Josh Livingstone JLL
 Date: 10/16/2020 Time: 15:50 Relinquished by: JOS
 Received by: JOS Date: 10/16/20 Time: 15:50
 Received by: JOS Date: 10/16/20 Time: 15:50



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request	
BTEX / MTBE / TMBs (8021)	<input checked="" type="checkbox"/>
TPH:8015D(GRO / DRO / MRO)	<input checked="" type="checkbox"/>
8081 Pesticides/8082 PCB's	<input checked="" type="checkbox"/>
EDB (Method 504.1)/8011	<input checked="" type="checkbox"/>
PAHs by 8310 or 8270SIMS	<input type="checkbox"/>
RCRA 8 Metals	<input type="checkbox"/>
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	<input type="checkbox"/>
8260 (VOA)	<input type="checkbox"/>
8270 (Semi-VOA)	<input type="checkbox"/>
Total Coliform (Present/Absent)	<input checked="" type="checkbox"/>
TOTAL Fe, Mn	<input checked="" type="checkbox"/>

Remarks:

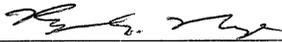
Attachment 6

Document Certification Page

40 CFR 270.11
DOCUMENT CERTIFICATION

**40 CFR 270.11
DOCUMENT CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.



RYAN S. NYE, Colonel, U.S. Air Force
Vice Commander, 377th Air Base Wing

Date

19 Oct 20

This document has been approved for public release.



KIRTLAND AIR FORCE BASE
377th Air Base Wing Public Affairs

Date

19 OCT 20



**DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)**

11 November 2020

Colonel David S. Miller, USAF
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

Kevin Pierard
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Dear Mr. Pierard:

This addendum supplements the 15-Day Letter Report, which was submitted to the New Mexico Environment Department's (NMED) Hazardous Waste Bureau on October 19, 2020 regarding the release of water that occurred at the groundwater treatment system (GWTS) on October 6, 2020. The GWTS, which is associated with the Bulk Fuels Facility Interim Measure at Kirtland Air Force Base (AFB), is operated under the corrective action provisions in Part 6 of the Resource Conservation and Recovery Act Hazardous Waste Treatment Operating Permit Number NM9570024423 (RCRA Permit). The report was submitted pursuant to the 15-day reporting requirement in Part 1.27.1 of the RCRA Permit.

OCTOBER 12, 2020 SAMPLING EVENT AND RESULTS

A second round of soil samples were collected on October 12, 2020 from approximately the same locations and depths as the October 6, 2020 samples (Attachment 1, Figures 1 and 2). The second set of samples were submitted to Eurofins TestAmerica in Arvada, Colorado for the same analyses as the first round. Eurofins TestAmerica maintains a Department of Defense Environmental Laboratory Accreditation Program certification.

Item 1 of NMED's letter *Reporting Requirements for all Document Submittals, Kirtland Air Force Base, New Mexico EPA ID# NM6213820974, HWB-KAFB-20-MISC* dated September 2, 2020, discusses requirements of Part 6.5.18.2, Laboratory Deliverables. Per Part 6.5.18.2 of the RCRA Permit, laboratory analytical data packages were prepared in accordance with Environmental Protection Agency-established Level 2 and 4 analytical data reporting protocols. In accordance with this requirement, a summary table of data and Level 2 analytical report for the second sampling event are presented in Attachments 2 and 3 of this letter. The Level 4 analytical reports containing raw analytical data including calibration curves, instrument

calibration data, data calculation work sheets, and other laboratory supporting data will be maintained on file at Kirtland AFB for reference.

The analytical results were received from the Eurofins TestAmerica laboratory on October 28, 2020. The EDB and BTEX analytical results were reported non-detect at the limit of detection per DoD requirement for the samples collected October 12, 2020 (Attachment 3). Iron concentrations ranged from 7,200 to 11,000 milligrams per kilogram and manganese concentrations ranged from 91 to 140 milligrams per kilogram. Iron and manganese concentrations were below the EPA regional residential screening levels. Based on the fact that EDB and BTEX analytical results were non-detect, the Air Force believes no further abatement activities are necessary regarding the release. A document certification page for this letter is included as Attachment 4.

If you have any questions or concerns, please contact Mr. Sheen Kottkamp at commercial line 505-846-7674 or email sheen.kottkamp.1@us.af.mil.

Sincerely



DAVID S. MILLER, Colonel, USAF
Commander

Attachments:

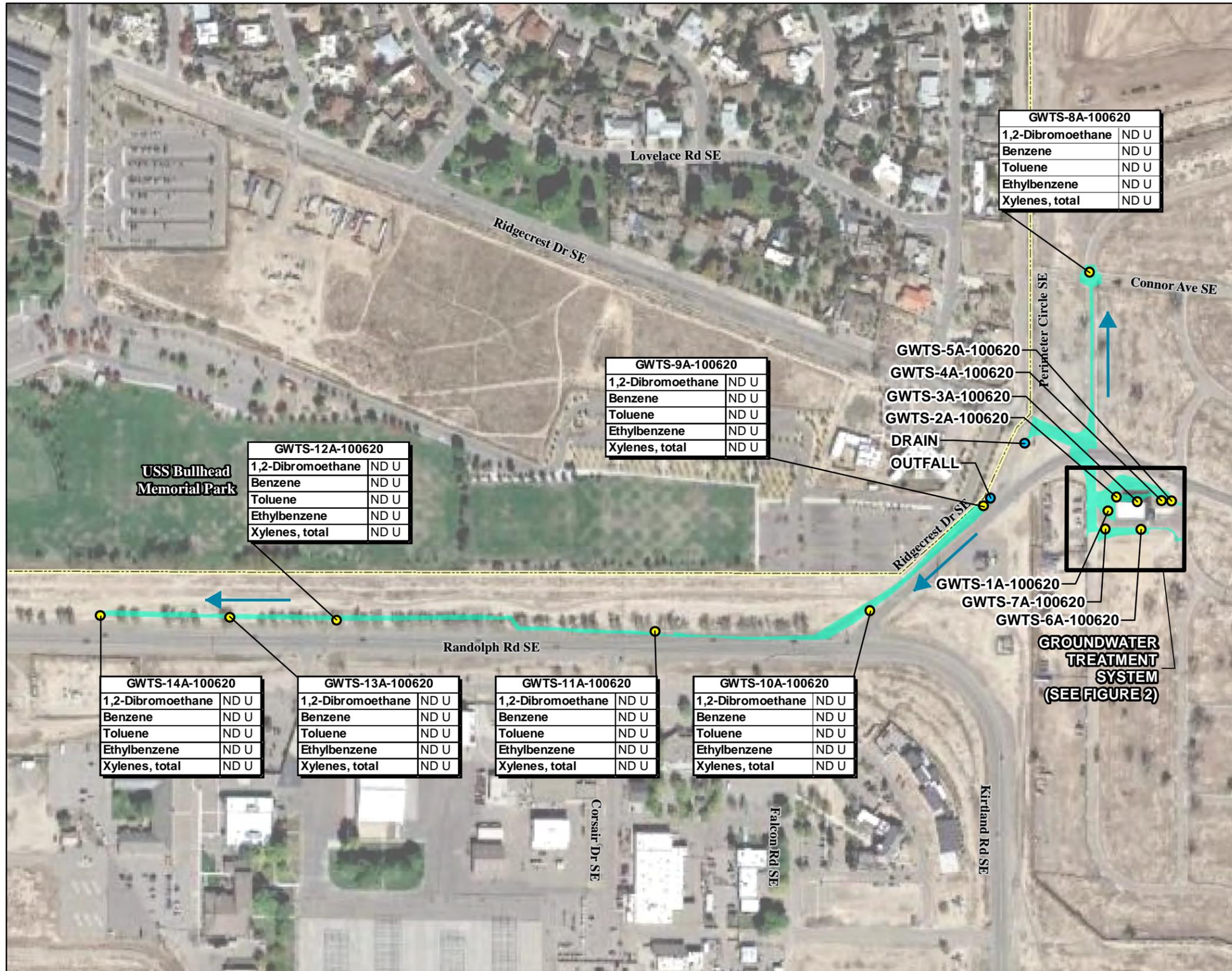
Attachment 1, Figures
Attachment 2, Laboratory Analytical Reports
Attachment 3, Table
Attachment 4, Document Certification

cc:

NMED HWB (Cobrain), letter
NMED GWQB (Pullen), letter
SAF-IEE (Lynnes), electronic only
AFCEC/CZ (Renaghan, Clark, Kottkamp, Segura, Cash, Banks), electronic only
USACE-ABQ District Office (Moayyad, Phaneuf, Kunkel, Dreeland, Cordova, Lovato),
electronic only
Public Info Repository, Administrative Record/Information Repository (AR/IR) and File

ATTACHMENT 1

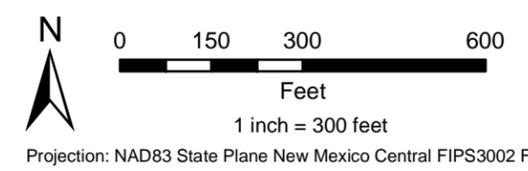
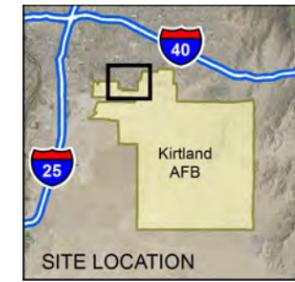
FIGURES



Legend

- Soil Sample Location and Identification
- Infrastructure
- Groundwater Treatment System Release Location
- ⬭ Approximate Extent of Release
- Installation Fence Boundary
- ➔ Flow Direction

Notes:
 1,2-Dibromoethane results are in µg/kg
 BTEX results are in mg/kg
 µg/kg = micrograms per kilogram
 mg/kg = milligrams per kilogram
 ND = not detected
 U = qualifier denotes the analyte was analyzed but not detected above the detection limit.

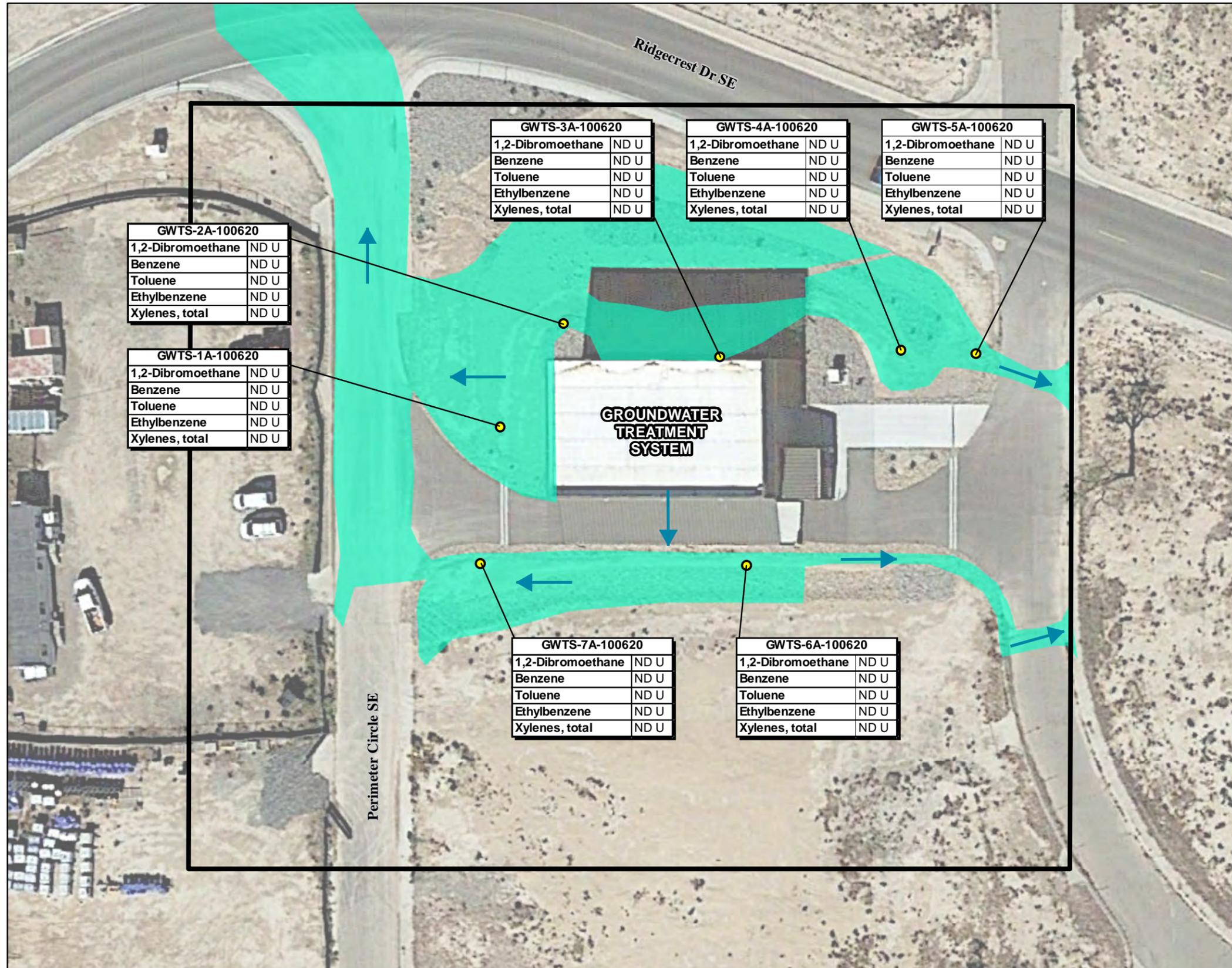


ADDENDUM TO GROUNDWATER TREATMENT SYSTEM
 WATER RELEASE REPORT
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1

SITE MAP

C:\Users\ecarpio\Desktop\WORKING PROJECT FILES\KAFB_LOCAL_GIS\WXD\GWTS_SPILL_REPORT\1_ADDENDUM_GWTS_SPILL_REPORT_SITE_RESULTS.mxd 10/29/2020 EA ecarpio



GWTS-2A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

GWTS-1A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

GWTS-3A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

GWTS-4A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

GWTS-5A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

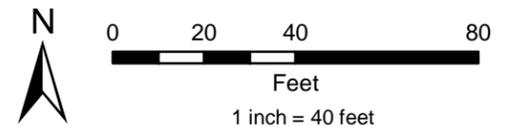
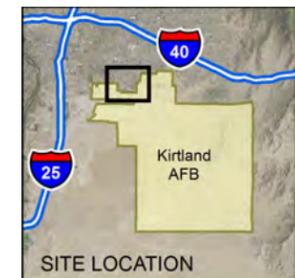
GWTS-7A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

GWTS-6A-100620	
1,2-Dibromoethane	ND U
Benzene	ND U
Toluene	ND U
Ethylbenzene	ND U
Xylenes, total	ND U

Legend

- Soil Sample Location and Identification
- Groundwater Treatment System Release Location
- Approximate Extent of Release
- Installation Fence Boundary
- Flow Direction

Notes:
 1,2-Dibromoethane results are in µg/kg
 BTEX results are in mg/kg
 µg/kg = micrograms per kilogram
 mg/kg = milligrams per kilogram
 ND = not detected
 U = qualifier denotes the analyte was analyzed but not detected above the detection limit.



Projection: NAD83 State Plane New Mexico Central FIPS3002 Feet

ADDENDUM TO GROUNDWATER TREATMENT SYSTEM
 WATER RELEASE REPORT
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 2

SITE MAP

C:\Users\ecarpio\Desktop\WORKING PROJECT FILES\KAFB_LOCAL_GIS\WXD\GWTS_SPILL_REPORT2_ADDENDUM_GWTS_SPILL_REPORT_INSET_RESULTS.mxd 10/29/2020 EA ecarpio

ATTACHMENT 2

EUROFINS ANALYSIS REPORTS DATED OCTOBER 28, 2020



Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-17007-1

Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:

EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
10/28/2020 4:53:42 PM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

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15

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Darlene Bandy
Project Manager I
10/28/2020 4:53:42 PM



Table of Contents

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Surrogate Summary	11
QC Sample Results	12
QC Association Summary	15
Lab Chronicle	17
Certification Summary	19
Method Summary	20
Sample Summary	21
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Receipt Checklists	33

Definitions/Glossary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Job ID: 410-17007-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-17007-1

Comments

No additional comments.

Receipt

The samples were received on 10/13/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 3.1° C.

Receipt Exceptions

The samples in job 410-17007-1 were shipped directly to Eurofins TestAmerica Denver by the client. The inter-company COC (ICOC) was generated only because, since the samples were logged by Eurofins Lancaster Laboratories Environment, they needed to be "shipped" in the LIMS in order for ETA Denver to receive them.

GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

As requested by the client, two of the samples were also logged as field duplicates. Sample GWTS-1A-101220 (410-17007-1) was also logged as sample GWTS-1A-101220-FD (410-17007-17). Sample GWTS-2A-101220 (410-17007-2) was also logged as sample GWTS-2A-101220-FD (410-17007-18).

Containers for these samples were received 10/13/2020: GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15) and GWTS-TB02-101220 (410-17007-16)

One cooler was delayed by FedEx, and was received at the laboratory on 10/14/2020. It is noted that this cooler was received within temperature requirements. Due to the delay in sample receipt, the turnaround time began on 10/14/2020.

The client needed the 8011 data as soon as possible; therefore, the 8011 and % Moisture methods were split off into job series 410-17007-2, with a faster turnaround time. All other methods on the chain of custody are reported under SDG 410-17007-1. GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	9600	J1	85	21	8.8	mg/Kg	1	☼	6010C	Total/NA
Manganese	140	J1	4.8	0.42	0.11	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	11000		84	21	8.6	mg/Kg	1	☼	6010C	Total/NA
Manganese	140		4.7	0.42	0.10	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7500		82	21	8.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	110		4.6	0.41	0.10	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7800		71	18	7.3	mg/Kg	1	☼	6010C	Total/NA
Manganese	99		4.0	0.35	0.088	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7200		72	18	7.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	91		4.1	0.36	0.090	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

No Detections.

Client Sample ID: GWTS-TB02-101220

Lab Sample ID: 410-17007-16

No Detections.

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	9500	J1	86	21	8.8	mg/Kg	1	☼	6010C	Total/NA
Manganese	110	J1	4.8	0.43	0.11	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	11000		74	19	7.7	mg/Kg	1	☼	6010C	Total/NA
Manganese	130		4.2	0.37	0.093	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.2

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg	☼	10/26/20 10:30	1
Ethylbenzene	0.80	U	5.0	0.80	0.30	ug/Kg	☼	10/26/20 10:30	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg	☼	10/26/20 10:30	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg	☼	10/26/20 10:30	1
o-Xylene	0.80	U	5.0	0.80	0.26	ug/Kg	☼	10/26/20 10:30	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg	☼	10/26/20 10:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		85 - 116	10/26/20 07:20	10/26/20 10:30	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 10:30	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 10:30	1
Dibromofluoromethane (Surr)	100		78 - 119	10/26/20 07:20	10/26/20 10:30	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	9600	J1	85	21	8.8	mg/Kg	☼	10/16/20 11:41	1
Manganese	140	J1	4.8	0.42	0.11	mg/Kg	☼	10/16/20 11:41	1

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 89.3

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.43	U	5.3	0.43	0.16	ug/Kg	☼	10/26/20 10:52	1
Ethylbenzene	0.86	U	5.3	0.86	0.33	ug/Kg	☼	10/26/20 10:52	1
Toluene	0.86	U	5.3	0.86	0.24	ug/Kg	☼	10/26/20 10:52	1
m-Xylene & p-Xylene	3.4	U	3.4	3.4	1.1	ug/Kg	☼	10/26/20 10:52	1
o-Xylene	0.86	U	5.3	0.86	0.28	ug/Kg	☼	10/26/20 10:52	1
Xylenes, Total	1.1	U	11	1.1	0.65	ug/Kg	☼	10/26/20 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		85 - 116	10/26/20 07:20	10/26/20 10:52	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 10:52	1
4-Bromofluorobenzene (Surr)	99		79 - 119	10/26/20 07:20	10/26/20 10:52	1
Dibromofluoromethane (Surr)	102		78 - 119	10/26/20 07:20	10/26/20 10:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		84	21	8.6	mg/Kg	☼	10/16/20 12:11	1
Manganese	140		4.7	0.42	0.10	mg/Kg	☼	10/16/20 12:11	1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.44	U	5.4	0.44	0.16	ug/Kg	☼	10/26/20 11:15	1
Ethylbenzene	0.87	U	5.4	0.87	0.33	ug/Kg	☼	10/26/20 11:15	1
Toluene	0.87	U	5.4	0.87	0.25	ug/Kg	☼	10/26/20 11:15	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
m-Xylene & p-Xylene	3.5	U	3.5	3.5	1.1	ug/Kg	☼	10/26/20 11:15	1
o-Xylene	0.87	U	5.4	0.87	0.29	ug/Kg	☼	10/26/20 11:15	1
Xylenes, Total	1.1	U	11	1.1	0.66	ug/Kg	☼	10/26/20 11:15	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)	100		85 - 116		10/26/20 07:20	10/26/20 11:15	1		
1,2-Dichloroethane-d4 (Surr)	103		71 - 136		10/26/20 07:20	10/26/20 11:15	1		
4-Bromofluorobenzene (Surr)	101		79 - 119		10/26/20 07:20	10/26/20 11:15	1		
Dibromofluoromethane (Surr)	100		78 - 119		10/26/20 07:20	10/26/20 11:15	1		

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7500		82	21	8.5	mg/Kg	☼	10/16/20 12:15	1
Manganese	110		4.6	0.41	0.10	mg/Kg	☼	10/16/20 12:15	1

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg	☼	10/26/20 11:37	1
Ethylbenzene	0.80	U	5.0	0.80	0.31	ug/Kg	☼	10/26/20 11:37	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg	☼	10/26/20 11:37	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg	☼	10/26/20 11:37	1
o-Xylene	0.80	U	5.0	0.80	0.27	ug/Kg	☼	10/26/20 11:37	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg	☼	10/26/20 11:37	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)	98		85 - 116		10/26/20 07:20	10/26/20 11:37	1		
1,2-Dichloroethane-d4 (Surr)	103		71 - 136		10/26/20 07:20	10/26/20 11:37	1		
4-Bromofluorobenzene (Surr)	100		79 - 119		10/26/20 07:20	10/26/20 11:37	1		
Dibromofluoromethane (Surr)	101		78 - 119		10/26/20 07:20	10/26/20 11:37	1		

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7800		71	18	7.3	mg/Kg	☼	10/16/20 12:18	1
Manganese	99		4.0	0.35	0.088	mg/Kg	☼	10/16/20 12:18	1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.41	U	5.2	0.41	0.16	ug/Kg	☼	10/26/20 11:59	1
Ethylbenzene	0.83	U	5.2	0.83	0.32	ug/Kg	☼	10/26/20 11:59	1
Toluene	0.83	U	5.2	0.83	0.24	ug/Kg	☼	10/26/20 11:59	1
m-Xylene & p-Xylene	3.3	U	3.3	3.3	1.1	ug/Kg	☼	10/26/20 11:59	1
o-Xylene	0.83	U	5.2	0.83	0.28	ug/Kg	☼	10/26/20 11:59	1
Xylenes, Total	1.0	U	10	1.0	0.63	ug/Kg	☼	10/26/20 11:59	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 11:59	1
1,2-Dichloroethane-d4 (Surr)	105		71 - 136	10/26/20 07:20	10/26/20 11:59	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 11:59	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 11:59	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7200		72	18	7.5	mg/Kg	☼	10/16/20 12:21	1
Manganese	91		4.1	0.36	0.090	mg/Kg	☼	10/16/20 12:21	1

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:57	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:57	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 10:57	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 10:57	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 10:57	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		89 - 112		10/22/20 10:57	1
1,2-Dichloroethane-d4 (Surr)	93		81 - 118		10/22/20 10:57	1
4-Bromofluorobenzene (Surr)	105		85 - 114		10/22/20 10:57	1
Dibromofluoromethane (Surr)	99		80 - 119		10/22/20 10:57	1

Client Sample ID: GWTS-TB02-101220

Lab Sample ID: 410-17007-16

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 11:19	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 11:19	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 11:19	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 11:19	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 11:19	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 11:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		89 - 112		10/22/20 11:19	1
1,2-Dichloroethane-d4 (Surr)	106		81 - 118		10/22/20 11:19	1
4-Bromofluorobenzene (Surr)	105		85 - 114		10/22/20 11:19	1
Dibromofluoromethane (Surr)	101		80 - 119		10/22/20 11:19	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.44	U	5.5	0.44	0.17	ug/Kg	☼	10/26/20 12:22	1
Ethylbenzene	0.88	U	5.5	0.88	0.34	ug/Kg	☼	10/26/20 12:22	1
Toluene	0.88	U	5.5	0.88	0.25	ug/Kg	☼	10/26/20 12:22	1
m-Xylene & p-Xylene	3.5	U	3.5	3.5	1.1	ug/Kg	☼	10/26/20 12:22	1
o-Xylene	0.88	U	5.5	0.88	0.29	ug/Kg	☼	10/26/20 12:22	1
Xylenes, Total	1.1	U	11	1.1	0.67	ug/Kg	☼	10/26/20 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 12:22	1
1,2-Dichloroethane-d4 (Surr)	103		71 - 136	10/26/20 07:20	10/26/20 12:22	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 12:22	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 12:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	9500	J1	86	21	8.8	mg/Kg	☼	10/21/20 12:58	1
Manganese	110	J1	4.8	0.43	0.11	mg/Kg	☼	10/21/20 12:58	1

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.1	0.40	0.15	ug/Kg	☼	10/26/20 12:44	1
Ethylbenzene	0.81	U	5.1	0.81	0.31	ug/Kg	☼	10/26/20 12:44	1
Toluene	0.81	U	5.1	0.81	0.23	ug/Kg	☼	10/26/20 12:44	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.1	ug/Kg	☼	10/26/20 12:44	1
o-Xylene	0.81	U	5.1	0.81	0.27	ug/Kg	☼	10/26/20 12:44	1
Xylenes, Total	1.0	U	10	1.0	0.62	ug/Kg	☼	10/26/20 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 12:44	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 12:44	1
4-Bromofluorobenzene (Surr)	99		79 - 119	10/26/20 07:20	10/26/20 12:44	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 12:44	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		74	19	7.7	mg/Kg	☼	10/21/20 13:17	1
Manganese	130		4.2	0.37	0.093	mg/Kg	☼	10/21/20 13:17	1

Eurofins Lancaster Laboratories Env, LLC

Surrogate Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (85-116)	DCA (71-136)	BFB (79-119)	DBFM (78-119)
410-17007-1	GWTS-1A-101220	99	104	100	100
410-17007-2	GWTS-2A-101220	97	104	99	102
410-17007-4	GWTS-4A-101220	100	103	101	100
410-17007-5	GWTS-5A-101220	98	103	100	101
410-17007-7	GWTS-7A-101220	98	105	100	101
410-17007-17	GWTS-1A-101220-FD	98	103	100	101
410-17007-18	GWTS-2A-101220-FD	98	104	99	101
LCS 280-514059/1-A	Lab Control Sample	100	97	98	100
LCSD 280-514059/2-A	Lab Control Sample Dup	97	97	98	99
MB 280-514059/3-A	Method Blank	97	101	100	100

Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (89-112)	DCA (81-118)	BFB (85-114)	DBFM (80-119)
410-17007-8	GWTS-TB01-101220	99	93	105	99
410-17007-16	GWTS-TB02-101220	101	106	105	101
LCS 280-513584/4	Lab Control Sample	99	92	99	99
MB 280-513584/9	Method Blank	99	104	96	98

Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-513584/9

Matrix: Water

Analysis Batch: 513584

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:36	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:36	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 10:36	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 10:36	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 10:36	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 10:36	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	99		89 - 112		10/22/20 10:36	1
1,2-Dichloroethane-d4 (Surr)	104		81 - 118		10/22/20 10:36	1
4-Bromofluorobenzene (Surr)	96		85 - 114		10/22/20 10:36	1
Dibromofluoromethane (Surr)	98		80 - 119		10/22/20 10:36	1

Lab Sample ID: LCS 280-513584/4

Matrix: Water

Analysis Batch: 513584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	25.0	26.8		ug/L		107	79 - 120
Ethylbenzene	25.0	27.4		ug/L		109	79 - 121
Toluene	25.0	26.6		ug/L		106	80 - 121
m-Xylene & p-Xylene	25.0	27.1		ug/L		108	80 - 121
o-Xylene	25.0	28.1		ug/L		113	78 - 122
Xylenes, Total	50.0	55.2		ug/L		110	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		89 - 112
1,2-Dichloroethane-d4 (Surr)	92		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	99		80 - 119

Lab Sample ID: MB 280-514059/3-A

Matrix: Solid

Analysis Batch: 514060

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 514059

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg		10/26/20 09:00	1
Ethylbenzene	0.80	U	5.0	0.80	0.31	ug/Kg		10/26/20 09:00	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg		10/26/20 09:00	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg		10/26/20 09:00	1
o-Xylene	0.80	U	5.0	0.80	0.27	ug/Kg		10/26/20 09:00	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg		10/26/20 09:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	97		85 - 116	10/26/20 07:20	10/26/20 09:00	1
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	10/26/20 07:20	10/26/20 09:00	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 09:00	1

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-514059/3-A
Matrix: Solid
Analysis Batch: 514060Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 514059

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	100		78 - 119	10/26/20 07:20	10/26/20 09:00	1

Lab Sample ID: LCS 280-514059/1-A
Matrix: Solid
Analysis Batch: 514060Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 514059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
Ethylbenzene	50.0	50.1		ug/Kg		100	76 - 122	
Toluene	50.0	48.6		ug/Kg		97	77 - 121	
m-Xylene & p-Xylene	50.0	52.0		ug/Kg		104	77 - 124	
o-Xylene	50.0	49.3		ug/Kg		99	77 - 123	
Xylenes, Total	100	101		ug/Kg		101	78 - 124	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		85 - 116
1,2-Dichloroethane-d4 (Surr)	97		71 - 136
4-Bromofluorobenzene (Surr)	98		79 - 119
Dibromofluoromethane (Surr)	100		78 - 119

Lab Sample ID: LCSD 280-514059/2-A
Matrix: Solid
Analysis Batch: 514060Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 514059

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethylbenzene	50.0	54.7		ug/Kg		109	76 - 122	9	20
Toluene	50.0	53.8		ug/Kg		108	77 - 121	10	20
m-Xylene & p-Xylene	50.0	56.2		ug/Kg		112	77 - 124	8	20
o-Xylene	50.0	53.6		ug/Kg		107	77 - 123	8	20
Xylenes, Total	100	110		ug/Kg		110	78 - 124	8	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		85 - 116
1,2-Dichloroethane-d4 (Surr)	97		71 - 136
4-Bromofluorobenzene (Surr)	98		79 - 119
Dibromofluoromethane (Surr)	99		78 - 119

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-512651/1-A
Matrix: Solid
Analysis Batch: 512939Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512651

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Iron	20	U	80	20	8.3	mg/Kg		10/16/20 11:34	1
Manganese	0.40	U	4.5	0.40	0.10	mg/Kg		10/16/20 11:34	1

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-512651/2-A
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512651
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron	1000	970		mg/Kg		97	81 - 118
Manganese	100	95.2		mg/Kg		95	84 - 114

Lab Sample ID: 410-17007-1 MS
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: GWTS-1A-101220
Prep Type: Total/NA
Prep Batch: 512651
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron	9600	J1	815	9970	4	mg/Kg	✱	51	81 - 118
Manganese	140	J1	81.5	184	J1	mg/Kg	✱	59	84 - 114

Lab Sample ID: 410-17007-1 MSD
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: GWTS-1A-101220
Prep Type: Total/NA
Prep Batch: 512651
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron	9600	J1	864	9640	4	mg/Kg	✱	9	81 - 118	3	20
Manganese	140	J1	86.4	185	J1	mg/Kg	✱	56	84 - 114	1	20

Lab Sample ID: MB 280-513218/1-A
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513218
%Rec.

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	20	U	80	20	8.3	mg/Kg		10/21/20 12:51	1
Manganese	0.40	U	4.5	0.40	0.10	mg/Kg		10/21/20 12:51	1

Lab Sample ID: LCS 280-513218/2-A
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513218
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron	1000	955		mg/Kg		96	81 - 118
Manganese	100	91.1		mg/Kg		91	84 - 114

Lab Sample ID: 410-17007-17 MS
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: GWTS-1A-101220-FD
Prep Type: Total/NA
Prep Batch: 513218
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron	9500	J1	985	9350	4	mg/Kg	✱	-16	81 - 118
Manganese	110	J1	98.5	178	J1	mg/Kg	✱	72	84 - 114

Lab Sample ID: 410-17007-17 MSD
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: GWTS-1A-101220-FD
Prep Type: Total/NA
Prep Batch: 513218
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron	9500	J1	1030	9930	4	mg/Kg	✱	42	81 - 118	6	20
Manganese	110	J1	103	187	J1	mg/Kg	✱	77	84 - 114	5	20

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QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

GC/MS VOA

Analysis Batch: 513584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8260C DOD	
410-17007-16	GWTS-TB02-101220	Total/NA	Water	8260C DOD	
MB 280-513584/9	Method Blank	Total/NA	Water	8260C DOD	
LCS 280-513584/4	Lab Control Sample	Total/NA	Water	8260C DOD	

Prep Batch: 514059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	5030B	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	5030B	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	5030B	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	5030B	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	5030B	
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	5030B	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	5030B	
MB 280-514059/3-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-514059/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-514059/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 514060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8260C DOD	514059
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8260C DOD	514059
MB 280-514059/3-A	Method Blank	Total/NA	Solid	8260C DOD	514059
LCS 280-514059/1-A	Lab Control Sample	Total/NA	Solid	8260C DOD	514059
LCSD 280-514059/2-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	514059

Metals

Prep Batch: 512651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	3050B	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	3050B	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	3050B	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	3050B	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	3050B	
MB 280-512651/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-512651/2-A	Lab Control Sample	Total/NA	Solid	3050B	
410-17007-1 MS	GWTS-1A-101220	Total/NA	Solid	3050B	
410-17007-1 MSD	GWTS-1A-101220	Total/NA	Solid	3050B	

Analysis Batch: 512939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	6010C	512651
410-17007-2	GWTS-2A-101220	Total/NA	Solid	6010C	512651
410-17007-4	GWTS-4A-101220	Total/NA	Solid	6010C	512651
410-17007-5	GWTS-5A-101220	Total/NA	Solid	6010C	512651

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Metals (Continued)

Analysis Batch: 512939 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-7	GWTS-7A-101220	Total/NA	Solid	6010C	512651
MB 280-512651/1-A	Method Blank	Total/NA	Solid	6010C	512651
LCS 280-512651/2-A	Lab Control Sample	Total/NA	Solid	6010C	512651
410-17007-1 MS	GWTS-1A-101220	Total/NA	Solid	6010C	512651
410-17007-1 MSD	GWTS-1A-101220	Total/NA	Solid	6010C	512651

Prep Batch: 513218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	3050B	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	3050B	
MB 280-513218/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-513218/2-A	Lab Control Sample	Total/NA	Solid	3050B	
410-17007-17 MS	GWTS-1A-101220-FD	Total/NA	Solid	3050B	
410-17007-17 MSD	GWTS-1A-101220-FD	Total/NA	Solid	3050B	

Analysis Batch: 513521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	6010C	513218
MB 280-513218/1-A	Method Blank	Total/NA	Solid	6010C	513218
LCS 280-513218/2-A	Lab Control Sample	Total/NA	Solid	6010C	513218
410-17007-17 MS	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218
410-17007-17 MSD	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220**Lab Sample ID: 410-17007-1****Date Collected: 10/12/20 09:00****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 90.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 10:30	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 11:41	MRJ	TAL DEN

Client Sample ID: GWTS-2A-101220**Lab Sample ID: 410-17007-2****Date Collected: 10/12/20 09:03****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 89.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 10:52	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:11	MRJ	TAL DEN

Client Sample ID: GWTS-4A-101220**Lab Sample ID: 410-17007-4****Date Collected: 10/12/20 09:09****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 90.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:15	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:15	MRJ	TAL DEN

Client Sample ID: GWTS-5A-101220**Lab Sample ID: 410-17007-5****Date Collected: 10/12/20 09:11****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 88.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:37	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:18	MRJ	TAL DEN

Client Sample ID: GWTS-7A-101220**Lab Sample ID: 410-17007-7****Date Collected: 10/12/20 09:17****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 95.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:59	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:21	MRJ	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-TB01-101220**Lab Sample ID: 410-17007-8****Date Collected: 10/12/20 13:00****Matrix: Water****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	513584	10/22/20 10:57	JLS	TAL DEN

Client Sample ID: GWTS-TB02-101220**Lab Sample ID: 410-17007-16****Date Collected: 10/12/20 13:00****Matrix: Water****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	513584	10/22/20 11:19	JLS	TAL DEN

Client Sample ID: GWTS-1A-101220-FD**Lab Sample ID: 410-17007-17****Date Collected: 10/12/20 09:00****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 90.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 12:22	GPM	TAL DEN
Total/NA	Prep	3050B			513218	10/20/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	513521	10/21/20 12:58	LMT	TAL DEN

Client Sample ID: GWTS-2A-101220-FD**Lab Sample ID: 410-17007-18****Date Collected: 10/12/20 09:03****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 88.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 12:44	GPM	TAL DEN
Total/NA	Prep	3050B			513218	10/20/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	513521	10/21/20 13:17	LMT	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Laboratory: Eurofins TestAmerica, Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

- 1
- 2
- 3
- 4
- 5
- 6
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- 8
- 9
- 10
- 11
- 12
- 13
- 14
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Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
3050B	Preparation, Metals	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-17007-1	GWTS-1A-101220	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-2	GWTS-2A-101220	Solid	10/12/20 09:03	10/13/20 09:15	
410-17007-4	GWTS-4A-101220	Solid	10/12/20 09:09	10/13/20 09:15	
410-17007-5	GWTS-5A-101220	Solid	10/12/20 09:11	10/13/20 09:15	
410-17007-7	GWTS-7A-101220	Solid	10/12/20 09:17	10/13/20 09:15	
410-17007-8	GWTS-TB01-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-16	GWTS-TB02-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-17	GWTS-1A-101220-FD	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-18	GWTS-2A-101220-FD	Solid	10/12/20 09:03	10/13/20 09:15	

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410-17007 Chain of Custody

		225 Schilling Creek Suite 400 Hunt Valley Rd Tel No. (410) 584-7000 Fax No. (410) 771-7625		COC NUMBER COC-GWTS1-101220	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		YEAR: 2020 QUARTER: Q4	
LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002		FAX AND MAIL REPORTS/IED TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA Pam Moss: pmoss@eaest.com EA		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258	
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		ANALYSIS REQUIRED (Specify number of bottles)	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS	
1	GWTS-1A-101220	10/12/2020	0900	(SM2320B) Alkalinity	--
2	GWTS-2A-101220	10/12/2020	0903	(SM4500S2CF) Sulfide	--
3	GWTS-3A-101220	10/12/2020	0906	(SM4500NH3) Ammonia	--
4	GWTS-4A-101220	10/12/2020	0909	(353.2) Nitrate-Nitrite	--
5	GWTS-5A-101220	10/12/2020	0911	(300.0) Chloride, bromide, sulfate	--
6	GWTS-6A-101220	10/12/2020	0914	(6010C)+8260C Dissolved Fe, Mn+BTEX	1
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	--
				(8011) EDB/EDB Soil	1
				(8260C) BTEXN	--
				(8260C) BTEX	--
				(8260C) VOCs	--
				Total Number of Bottles	2

Please give all samples a 5-Day rush turn around

3.4 ICH 11-0.3 R1 10/14/20

SAMPLER(S): J Livingston	RECEIVED BY: Fedex:
Printed Name and Signature: J Livingston	Printed Name and Signature:
DATE: 10/12/2020	DATE: 10/14/20
TIME: 1500	TIME: 0945
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:
Printed Name and Signature:	Printed Name and Signature:



CHAIN-OF-CUSTODY RECORD

	225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-7025	PROJECT NUMBER: 6360401	COC NUMBER COC-GWTS2-101220
PROJECT NAME: Kirtland AFB Bulk Fuels Facility	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA	YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258	

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn+BTEX (6010C)+8260C	(300.0) Chloride, bromide, sulfate	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500S2CF)	
1	GWTS-7A-101220	10/12/2020	0917	--	--	1	--	1	--	--	--	--	--	
2	GWTS-TB01-101220	10/12/2020	1300	--	2	--	2	--	--	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	RELINQUISHED BY:	DATE: 10/12/2020	TIME: 1500
Printed Name and Signature: J Livingston	RECEIVED BY:	DATE: 10/14/20	TIME: 0945
Printed Name and Signature:	Printed Name and Signature:		
Printed Name and Signature:	Printed Name and Signature:		
Printed Name and Signature:	Printed Name and Signature:		

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CHAIN-OF-CUSTODY RECORD

 225 Schilling Circle, Suite 400 Hunt Valley, MD 21084 Tel No: (410) 594-7600 Fax No: (410) 771-1625	PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	COC NUMBER COC-GWTS3-101220 YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7299	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond tlamond@eurofins.com EA Amanda Smith asmith@eurofins.com EA Pam Moss pmoss@eurofins.com EA

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	BTEX	BTEXN	(8260C) EDB/EDB Soil	(8011)	Total As, Pb, Ca, K, Na, Mg	(6020A/6010C) Dissolved Fe, Mn	(6010C) Chloride, bromide, sulfate	(353.2) Nitrate-Nitrite	(SM4500NH3) Ammonia	(SM4500S2CF) Sulfide	(SM2320B) Alkalinity	COMMENTS
1	GWTS-8A-101220	10/12/2020	0920	1	--	--	--	1	--	--	--	--	--	--	--	--	 410-17007 Chain of Custody
2	GWTS-9A-101220	10/12/2020	0923	1	--	--	--	1	--	--	--	--	--	--	--	--	
3	GWTS-10A-101220	10/12/2020	0926	1	--	--	--	1	--	--	--	--	--	--	--	--	
4	GWTS-11A-101220	10/12/2020	0929	1	--	--	--	1	--	--	--	--	--	--	--	--	
5	GWTS-12A-101220	10/12/2020	0932	1	--	--	--	1	--	--	--	--	--	--	--	--	
6	GWTS-13A-101220	10/12/2020	0935	1	--	--	--	1	--	--	--	--	--	--	--	--	

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	COURIER AND SHIPPING NUMBER: Fedex: 110C -0.3 JPH/1 SH 10/13/20	RECEIVED BY:	DATE: 10/13/20	TIME: 0115
RELINQUISHED BY: J Livingston	DATE: 10/12/2020	TIME: 1500	PRINTED NAME AND SIGNATURE: J Livingston	
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		

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CHAIN-OF-CUSTODY RECORD

<p>205 Schilling Circle Suite 400 Hunt Valley, MD Tel No. (410) 584-7000 Fax No. (410) 771-1625</p>	<p>PROJECT NAME: Kirtland AFB Bulk Fuels Facility</p> <p>PROJECT NUMBER: 6360401</p>	<p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Avada, CO 80002</p> <p>LAB CONTACT: Kay Hower Eurofins 1 (717) 566-7258</p>	<p>FAX AND MAIL REPORTS/IED TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA</p> <p>LAB CONTACT: Kay Hower Eurofins 1 (717) 566-7258</p>	<p>COC NUMBER COC-GWTS4-101220</p> <p>YEAR: 2020</p> <p>QUARTER: Q4</p>
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ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB/EDB Soil	(8011) Total As Pb, Ca, K, Na, Mg	(6020A/6010C) Dissolved Fe, Mn	(6010C) Chloride, bromide, sulfate	(300.0) Nitrate-Nitrite	(353.2) Ammonia	(SM4500NH3) Sulfide		(SM4500S2CF) Alkalinity
1	GWTS-14A-101220	10/12/2020	0938	--	--	--	1	--	--	--	--	--	--	--	
2	GWTS-TB02-101220	10/12/2020	1300	--	--	--	2	--	--	--	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S)	RELINQUISHED BY:	DATE	TIME	COURIER AND SHIPPING NUMBER:	RECEIVED BY:	DATE	TIME
	J Livingston	10/12/2020	1500	Fedex:	Scott Hall	10/13/20	0915
	J Livingston				Scott Hall		

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ORIGIN ID:ONMA (505) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

SHIP DATE: 12OCT20
 ACTWGT: 51.75 LB
 CAD: 6995204/SSFE2121
 DIMS: 24x14x14 IN
 BILL THIRD PARTY



410-17007 Waybill

TO **ATTN: DARLENE BANDY**
EUROFINS TESTAMERICA
4955 YARROW ST

ARVADA CO 80002

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(303) 736-0100
 THU:
 P01

REF: FZ

8287
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FedEx Express



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TUE - 13 OCT 10:30A
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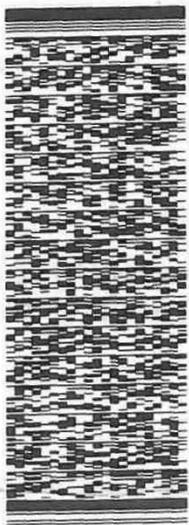
ORIGIN ID:DNMHA (505) 224-9013
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 320 GOLD AVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

WT: 51.75 LB
 RCT: 6995204/55FE2121
 DIMS: 24X14X14 IN
 BILL THIRD PARTY

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 ATTN: DARLENE BANDY
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 4955 YARROW ST

ARVADA CO 80002

(303) 738-0100 REF:
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2 of 2
 MPS# 3977 5166 8298
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 Metr# 3977 5166 8287
 0201

TUE - 13 OCT 10:30A
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PRN TO STATION FOR
 FIRST DATA ENTRY

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410-17007 Waybill

ORIGIN 10:0NHA (505) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 ALBUQUERQUE, NH 87102
 UNITED STATES US

SHIP DATE: 12OCT20
 ACTWGT: 51.75 LB
 CAD: 6995204/SSFE2121
 DIMS: 24X14X14 IN
 BILL THIRD PARTY

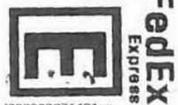
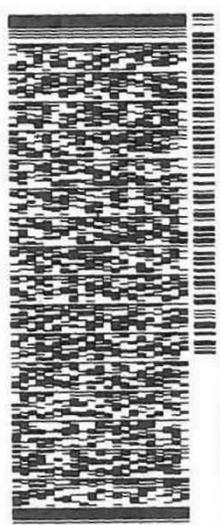
10 ATTN: DARLENE BANDY
 EUROFINS TESTAMERICA
 4955 YARROW ST

ARVADA CO 80002

(303) 736-0100
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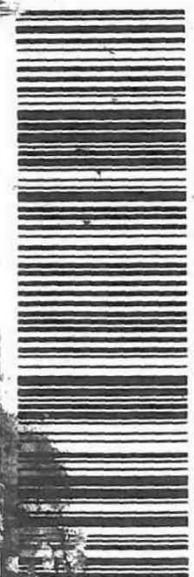


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 MPS# 3977 5166 8298
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TUE - 13 OCT 10:30A
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CHAIN-OF-CUSTODY RECORD

 <p>225 Schilling Circle, Suite 400 Hunt Valley MD Tel No: (410) 594-7600 Fax No: (410) 771-1625</p>	<p>PROJECT NAME: Kirtland AFB Bulk Fuels Facility</p> <p>PROJECT NUMBER: 6360401</p>	<p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002</p> <p>LAB PO NUMBER: 21295</p>	<p>FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA</p> <p>LAB CONTACT: Kay Hower: KayHower@eurofinsUS.com Eurofins 1 (717) 566-7299</p>	<p>COC NUMBER COC-GWTS3-101220</p> <p>YEAR: 2020</p> <p>QUARTER: Q4</p>
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ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(811) EDB/EDB Soil	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn (6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500S2CF)	Alkalinity (SM2320B)	COMMENTS
1	GWTS-8A-101220	10/12/2020	0920	1	--	--	--	1	--	--	--	--	--	--	--	 410-17007 Chain of Custody
2	GWTS-9A-101220	10/12/2020	0923	1	--	--	--	1	--	--	--	--	--	--	--	
3	GWTS-10A-101220	10/12/2020	0926	1	--	--	--	1	--	--	--	--	--	--	--	
4	GWTS-11A-101220	10/12/2020	0929	1	--	--	--	1	--	--	--	--	--	--	--	
5	GWTS-12A-101220	10/12/2020	0932	1	--	--	--	1	--	--	--	--	--	--	--	
6	GWTS-13A-101220	10/12/2020	0935	1	--	--	--	1	--	--	--	--	--	--	--	

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	RELINQUISHED BY:	DATE:	TIME:
J Livingston	J Livingston	10/12/2020	1500
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:
J Livingston	J Livingston	10/13/20	0915
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:
Printed Name and Signature:	Printed Name and Signature:		
Printed Name and Signature:	Printed Name and Signature:		

COURIER AND SHIPPING NUMBER: **Fedex:** 110C -0.3 JPH/1 SH 10/13/20

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EA		CHAIN-OF-CUSTODY RECORD		COC NUMBER COC-GWTS4-101220
205 Schilling Circle Suite 400 Hunt Valley, MD Tel No. (410) 584-7000 Fax No. (410) 771-1625		LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002		YEAR: 2020
PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401		FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA		QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		
		ANALYSIS REQUIRED (Specify number of bottles)		
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-14A-101220	10/12/2020	0938	(SM2320B) Alkalinity --
2	GWTS-TB02-101220	10/12/2020	1300	(SM4500S2CF) Sulfide --
3				(SM4500NH3) Ammonia --
4				(353.2) Nitrate-Nitrite --
5				(300.0) Chloride, bromide, sulfate --
6				(6010C) Dissolved Fe, Mn --
				(6020A/6010C) Total As Pb, Ca, K, Na, Mg --
				(8011) EDB/EDB Soil 1 2
				(8260C) BTEXN --
				(8260C) BTEX --
				(8260C) VOCs --
				Total Number of Bottles 1 2

Please give all samples a 5-Day rush turn around

SAMPLER(S): <i>J Livingston</i>	COURIER AND SHIPPING NUMBER: Fedex:	RECEIVED BY:	DATE	TIME
RELINQUISHED BY:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>	10/12/2020	1500
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>	10/13/20	0915
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>		
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>		
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME

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410-17007 Chain of Custody

EA		225 Schilling Creek Suite 400 Hunt Valley Rd Tel No. (410) 584-7000 Fax No. (410) 771-7625		COC NUMBER COC-GWTS1-101220	
PROJECT NAME - Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		YEAR: 2020	
LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002		FAX AND MAIL REPORTS/IED TO: Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com		QUARTER: Q4	
PROJECT SITE AND PHASE: ST106/SS111		LAB CONTACT: Kay Hower Eurofins 1 (717) 556-7258			
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS	
1	GWTS-1A-101220	10/12/2020	0900	(SM2320B) Alkalinity	
2	GWTS-2A-101220	10/12/2020	0903	(SM4500S2CF) Sulfide	
3	GWTS-3A-101220	10/12/2020	0906	(SM4500NH3) Ammonia	
4	GWTS-4A-101220	10/12/2020	0909	(353.2) Nitrate-Nitrite	
5	GWTS-5A-101220	10/12/2020	0911	(300.0) Chloride, bromide, sulfate	
6	GWTS-6A-101220	10/12/2020	0914	(6010C)+8260C Dissolved Fe, Mn+BTEX	
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	
				(8011) EDB/EDB Soil	
				(8260C) BTEXN	
				(8260C) BTEX	
				(8260C) VOCs	
				Total Number of Bottles	

ANALYSIS REQUIRED (Specify number of bottles)

3.4 ICH 11-0.3 R1 10/14/20

Please give all samples a 5-Day rush turn around

SAMPLER(S):	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
J Livingston	J Livingston	10/12/2020	1500	[Signature]	10/14/20	0945

COURIER AND SHIPPING NUMBER: Fedex:

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CHAIN-OF-CUSTODY RECORD

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-7025	PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA	COC NUMBER COC-GWTS2-101220
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258	YEAR: 2020 QUARTER: Q4	

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn+BTEX (6010C)+8260C	(300.0) Chloride, bromide, sulfate	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500S2CF)		Alkalinity (SM2320B)
1	GWTS-7A-101220	10/12/2020	0917	--	--	--	1	--	1	--	--	--	--	--	
2	GWTS-TB01-101220	10/12/2020	1300	--	2	--	2	--	--	--	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	RELINQUISHED BY:	DATE:	TIME:
J Livingston	J Livingston	10/12/2020	1500
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:
J Livingston	J Livingston	10/14/20	0945
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:
Printed Name and Signature:	Printed Name and Signature:	DATE:	TIME:

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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007
List Number: 2
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/13/20 08:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007
List Number: 3
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/13/20 08:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 4****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 5****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007
List Number: 6
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/16/20 12:51 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-17007-2

Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:

EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
10/28/2020 11:09:33 AM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Darlene Bandy
Project Manager I
10/28/2020 11:09:33 AM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Job ID: 410-17007-2

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-17007-2

Comments

No additional comments.

Receipt

The samples were received on 10/13/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 3.1° C.

Receipt Exceptions

The samples in job 410-17007-1 were shipped directly to Eurofins TestAmerica Denver by the client. The inter-company COC (ICOC) was generated only because, since the samples were logged by Eurofins Lancaster Laboratories Environment, they needed to be "shipped" in the LIMS in order for ETA Denver to receive them.

GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

As requested by the client, two of the samples were also logged as field duplicates. Sample GWTS-1A-101220 (410-17007-1) was also logged as sample GWTS-1A-101220-FD (410-17007-17). Sample GWTS-2A-101220 (410-17007-2) was also logged as sample GWTS-2A-101220-FD (410-17007-18).

One cooler was delayed by FedEx, and was received at the laboratory on 10/14/2020. It is noted that this cooler was received within temperature requirements. Due to the delay in sample receipt, the turnaround time began on 10/14/2020.

Containers for these samples were received 10/13/2020: GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15) and GWTS-TB02-101220 (410-17007-16)

The client needed the 8011 data as soon as possible; therefore, the 8011 and % Moisture methods were split off into job series 410-17007-2, with a faster turnaround time. All other methods on the chain of custody are reported under SDG 410-17007-1. GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-1A-101220	Lab Sample ID: 410-17007-1
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-2A-101220	Lab Sample ID: 410-17007-2
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-3A-101220	Lab Sample ID: 410-17007-3
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-4A-101220	Lab Sample ID: 410-17007-4
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-5A-101220	Lab Sample ID: 410-17007-5
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-6A-101220	Lab Sample ID: 410-17007-6
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-7A-101220	Lab Sample ID: 410-17007-7
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-TB01-101220	Lab Sample ID: 410-17007-8
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-8A-101220	Lab Sample ID: 410-17007-9
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-9A-101220	Lab Sample ID: 410-17007-10
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-10A-101220	Lab Sample ID: 410-17007-11
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-11A-101220	Lab Sample ID: 410-17007-12
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-12A-101220	Lab Sample ID: 410-17007-13
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-13A-101220	Lab Sample ID: 410-17007-14
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-14A-101220	Lab Sample ID: 410-17007-15
<input type="checkbox"/> No Detections.	
Client Sample ID: GWTS-1A-101220-FD	Lab Sample ID: 410-17007-17
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.017	ug/Kg	☼	10/15/20 18:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dibromopropane (1C)	95		55 - 130			10/15/20 10:02	10/15/20 18:36	1	

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	9.8		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	90.2		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 89.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 18:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dibromopropane (1C)	92		55 - 130			10/15/20 10:02	10/15/20 18:57	1	

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	10.7		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	89.3		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-3A-101220

Lab Sample ID: 410-17007-3

Date Collected: 10/12/20 09:06

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 19:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dibromopropane (1C)	95		55 - 130			10/15/20 10:02	10/15/20 19:19	1	

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	95.8		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.042	U M	0.11	0.042	0.017	ug/Kg	☼	10/15/20 19:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dibromopropane (1C)	99		55 - 130			10/15/20 10:02	10/15/20 19:40	1	

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	10.0		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	90.0		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 20:02	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>		<i>Prepared</i>			<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130		10/15/20 10:02			10/15/20 20:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	11.2		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	88.8		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-6A-101220

Lab Sample ID: 410-17007-6

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 87.9

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 20:23	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>		<i>Prepared</i>			<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	87		55 - 130		10/15/20 10:02			10/15/20 20:23	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	12.1		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	87.9		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 20:45	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>		<i>Prepared</i>			<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130		10/15/20 10:02			10/15/20 20:45	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.5		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	95.5		0.1	0.05	0.1	%		10/22/20 14:03	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.014	U	0.020	0.014	0.0036	ug/L		10/16/20 15:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	103		70 - 130				10/16/20 09:54	10/16/20 15:42	1

Client Sample ID: GWTS-8A-101220

Lab Sample ID: 410-17007-9

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.6

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 21:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	88	M	55 - 130				10/15/20 10:02	10/15/20 21:56	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.4		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	95.6		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-9A-101220

Lab Sample ID: 410-17007-10

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 22:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	75	M	55 - 130				10/15/20 10:02	10/15/20 22:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	95.8		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-10A-101220

Lab Sample ID: 410-17007-11

Date Collected: 10/12/20 09:26

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 91.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.016	ug/Kg	☼	10/15/20 22:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	85		55 - 130				10/15/20 10:02	10/15/20 22:39	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	8.7		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	91.3		0.1	0.05	0.1	%		10/22/20 22:11	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-11A-101220

Lab Sample ID: 410-17007-12

Date Collected: 10/12/20 09:29

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.4

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.039	U	0.10	0.039	0.015	ug/Kg	☼	10/15/20 23:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared		Analyzed	Dil Fac
1,2-Dibromopropane (1C)	92		55 - 130			10/15/20 10:02		10/15/20 23:01	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	2.6		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	97.4		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-12A-101220

Lab Sample ID: 410-17007-13

Date Collected: 10/12/20 09:32

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.11	0.040	0.016	ug/Kg	☼	10/15/20 23:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared		Analyzed	Dil Fac
1,2-Dibromopropane (1C)	89		55 - 130			10/15/20 10:02		10/15/20 23:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	5.8		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	94.2		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-13A-101220

Lab Sample ID: 410-17007-14

Date Collected: 10/12/20 09:35

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.11	0.040	0.016	ug/Kg	☼	10/15/20 23:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared		Analyzed	Dil Fac
1,2-Dibromopropane (1C)	86		55 - 130			10/15/20 10:02		10/15/20 23:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	5.7		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	94.3		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-14A-101220

Lab Sample ID: 410-17007-15

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.039	U	0.10	0.039	0.015	ug/Kg	☼	10/16/20 00:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared		Analyzed	Dil Fac
1,2-Dibromopropane (1C)	85		55 - 130			10/15/20 10:02		10/16/20 00:05	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-14A-101220

Lab Sample ID: 410-17007-15

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	2.8		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	97.2		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.016	ug/Kg	☼	10/16/20 00:27	1	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	87		55 - 130					10/15/20 14:02	10/16/20 00:27	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	9.3		0.1	0.05	0.1	%		10/26/20 09:03	1
Percent Solids	90.7		0.1	0.05	0.1	%		10/26/20 09:03	1

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/16/20 00:48	1	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130					10/15/20 14:02	10/16/20 00:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	11.1		0.1	0.05	0.1	%		10/26/20 09:03	1
Percent Solids	88.9		0.1	0.05	0.1	%		10/26/20 09:03	1

Surrogate Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DBP1 (55-130)
410-17007-1	GWTS-1A-101220	95
410-17007-2	GWTS-2A-101220	92
410-17007-3	GWTS-3A-101220	95
410-17007-4	GWTS-4A-101220	99
410-17007-5	GWTS-5A-101220	91
410-17007-6	GWTS-6A-101220	87
410-17007-7	GWTS-7A-101220	91
410-17007-9	GWTS-8A-101220	88 M
410-17007-10	GWTS-9A-101220	75 M
410-17007-11	GWTS-10A-101220	85
410-17007-12	GWTS-11A-101220	92
410-17007-13	GWTS-12A-101220	89
410-17007-14	GWTS-13A-101220	86
410-17007-15	GWTS-14A-101220	85
410-17007-17	GWTS-1A-101220-FD	87
410-17007-18	GWTS-2A-101220-FD	91
LCS 280-512725/2-A	Lab Control Sample	90
LCSD 280-512725/3-A	Lab Control Sample Dup	96
MB 280-512725/1-A	Method Blank	86

Surrogate Legend

12DBP = 1,2-Dibromopropane

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DBP1 (70-130)
410-17007-8	GWTS-TB01-101220	103
LCS 280-512894/2-A	Lab Control Sample	97
LCSD 280-512894/3-A	Lab Control Sample Dup	99
MB 280-512894/1-A	Method Blank	96

Surrogate Legend

12DBP = 1,2-Dibromopropane

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 280-512725/1-A

Matrix: Solid

Analysis Batch: 512765

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 512725

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide (1C)	0.038	U	0.10	0.038	0.015	ug/Kg		10/15/20 17:31	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	86		55 - 130		10/15/20 10:02	10/15/20 17:31	1		

Lab Sample ID: LCS 280-512725/2-A

Matrix: Solid

Analysis Batch: 512765

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 512725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dibromopropane (1C)	90		55 - 130							

Lab Sample ID: LCSD 280-512725/3-A

Matrix: Solid

Analysis Batch: 512765

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 512725

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dibromopropane (1C)	96		55 - 130							

Lab Sample ID: MB 280-512894/1-A

Matrix: Water

Analysis Batch: 512921

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 512894

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide (1C)	0.014	U M	0.020	0.014	0.0037	ug/L		10/16/20 13:53	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	96		70 - 130		10/16/20 09:54	10/16/20 13:53	1		

Lab Sample ID: LCS 280-512894/2-A

Matrix: Water

Analysis Batch: 512921

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 512894

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.	RPD	Limit
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dibromopropane (1C)	97		70 - 130							

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QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCSD 280-512894/3-A
 Matrix: Water
 Analysis Batch: 512921

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 512894

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits	RPD	RPD	Limit
Ethylene Dibromide (1C)	0.250	0.231	M	ug/L		92	70 - 130	6	30	
Surrogate	LCSD %Recovery		LCSD Qualifier	Limits						
1,2-Dibromopropane (1C)	99			70 - 130						

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QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

GC Semi VOA

Prep Batch: 512725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8011	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8011	
410-17007-3	GWTS-3A-101220	Total/NA	Solid	8011	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8011	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8011	
410-17007-6	GWTS-6A-101220	Total/NA	Solid	8011	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8011	
410-17007-9	GWTS-8A-101220	Total/NA	Solid	8011	
410-17007-10	GWTS-9A-101220	Total/NA	Solid	8011	
410-17007-11	GWTS-10A-101220	Total/NA	Solid	8011	
410-17007-12	GWTS-11A-101220	Total/NA	Solid	8011	
410-17007-13	GWTS-12A-101220	Total/NA	Solid	8011	
410-17007-14	GWTS-13A-101220	Total/NA	Solid	8011	
410-17007-15	GWTS-14A-101220	Total/NA	Solid	8011	
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8011	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8011	
MB 280-512725/1-A	Method Blank	Total/NA	Solid	8011	
LCS 280-512725/2-A	Lab Control Sample	Total/NA	Solid	8011	
LCSD 280-512725/3-A	Lab Control Sample Dup	Total/NA	Solid	8011	

Analysis Batch: 512765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8011	512725
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8011	512725
410-17007-3	GWTS-3A-101220	Total/NA	Solid	8011	512725
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8011	512725
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8011	512725
410-17007-6	GWTS-6A-101220	Total/NA	Solid	8011	512725
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8011	512725
410-17007-9	GWTS-8A-101220	Total/NA	Solid	8011	512725
410-17007-10	GWTS-9A-101220	Total/NA	Solid	8011	512725
410-17007-11	GWTS-10A-101220	Total/NA	Solid	8011	512725
410-17007-12	GWTS-11A-101220	Total/NA	Solid	8011	512725
410-17007-13	GWTS-12A-101220	Total/NA	Solid	8011	512725
410-17007-14	GWTS-13A-101220	Total/NA	Solid	8011	512725
410-17007-15	GWTS-14A-101220	Total/NA	Solid	8011	512725
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8011	512725
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8011	512725
MB 280-512725/1-A	Method Blank	Total/NA	Solid	8011	512725
LCS 280-512725/2-A	Lab Control Sample	Total/NA	Solid	8011	512725
LCSD 280-512725/3-A	Lab Control Sample Dup	Total/NA	Solid	8011	512725

Prep Batch: 512894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8011	
MB 280-512894/1-A	Method Blank	Total/NA	Water	8011	
LCS 280-512894/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 280-512894/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

GC Semi VOA

Analysis Batch: 512921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8011	512894
MB 280-512894/1-A	Method Blank	Total/NA	Water	8011	512894
LCS 280-512894/2-A	Lab Control Sample	Total/NA	Water	8011	512894
LCSD 280-512894/3-A	Lab Control Sample Dup	Total/NA	Water	8011	512894

General Chemistry

Analysis Batch: 513665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	Moisture	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	Moisture	
410-17007-3	GWTS-3A-101220	Total/NA	Solid	Moisture	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	Moisture	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	Moisture	
410-17007-6	GWTS-6A-101220	Total/NA	Solid	Moisture	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	Moisture	

Analysis Batch: 513774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-9	GWTS-8A-101220	Total/NA	Solid	Moisture	
410-17007-10	GWTS-9A-101220	Total/NA	Solid	Moisture	
410-17007-11	GWTS-10A-101220	Total/NA	Solid	Moisture	
410-17007-12	GWTS-11A-101220	Total/NA	Solid	Moisture	
410-17007-13	GWTS-12A-101220	Total/NA	Solid	Moisture	
410-17007-14	GWTS-13A-101220	Total/NA	Solid	Moisture	
410-17007-15	GWTS-14A-101220	Total/NA	Solid	Moisture	

Analysis Batch: 514083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	Moisture	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	Moisture	

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-1A-101220**Lab Sample ID: 410-17007-1**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-1A-101220**Lab Sample ID: 410-17007-1**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 18:36	JSM	TAL DEN

Client Sample ID: GWTS-2A-101220**Lab Sample ID: 410-17007-2**

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-2A-101220**Lab Sample ID: 410-17007-2**

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 18:57	JSM	TAL DEN

Client Sample ID: GWTS-3A-101220**Lab Sample ID: 410-17007-3**

Date Collected: 10/12/20 09:06

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-3A-101220**Lab Sample ID: 410-17007-3**

Date Collected: 10/12/20 09:06

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 19:19	JSM	TAL DEN

Client Sample ID: GWTS-4A-101220**Lab Sample ID: 410-17007-4**

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-4A-101220**Lab Sample ID: 410-17007-4**

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 19:40	JSM	TAL DEN

Client Sample ID: GWTS-5A-101220**Lab Sample ID: 410-17007-5**

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-5A-101220**Lab Sample ID: 410-17007-5**

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:02	JSM	TAL DEN

Client Sample ID: GWTS-6A-101220**Lab Sample ID: 410-17007-6**

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-6A-101220**Lab Sample ID: 410-17007-6**

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:23	JSM	TAL DEN

Client Sample ID: GWTS-7A-101220**Lab Sample ID: 410-17007-7**

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-7A-101220**Lab Sample ID: 410-17007-7**

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:45	JSM	TAL DEN

Client Sample ID: GWTS-TB01-101220**Lab Sample ID: 410-17007-8**

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512894	10/16/20 09:54	JSM	TAL DEN
Total/NA	Analysis	8011		1	512921	10/16/20 15:42	JSM	TAL DEN

Client Sample ID: GWTS-8A-101220**Lab Sample ID: 410-17007-9**

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-8A-101220**Lab Sample ID: 410-17007-9**

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 21:56	JSM	TAL DEN

Client Sample ID: GWTS-9A-101220**Lab Sample ID: 410-17007-10**

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-9A-101220**Lab Sample ID: 410-17007-10**

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 22:18	JSM	TAL DEN

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-10A-101220**Lab Sample ID: 410-17007-11**

Date Collected: 10/12/20 09:26

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-10A-101220**Lab Sample ID: 410-17007-11**

Date Collected: 10/12/20 09:26

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 91.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 22:39	JSM	TAL DEN

Client Sample ID: GWTS-11A-101220**Lab Sample ID: 410-17007-12**

Date Collected: 10/12/20 09:29

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-11A-101220**Lab Sample ID: 410-17007-12**

Date Collected: 10/12/20 09:29

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:01	JSM	TAL DEN

Client Sample ID: GWTS-12A-101220**Lab Sample ID: 410-17007-13**

Date Collected: 10/12/20 09:32

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-12A-101220**Lab Sample ID: 410-17007-13**

Date Collected: 10/12/20 09:32

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:22	JSM	TAL DEN

Client Sample ID: GWTS-13A-101220**Lab Sample ID: 410-17007-14**

Date Collected: 10/12/20 09:35

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-13A-101220**Lab Sample ID: 410-17007-14**

Date Collected: 10/12/20 09:35

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:44	JSM	TAL DEN

Client Sample ID: GWTS-14A-101220**Lab Sample ID: 410-17007-15**

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-14A-101220**Lab Sample ID: 410-17007-15**

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:05	JSM	TAL DEN

Client Sample ID: GWTS-1A-101220-FD**Lab Sample ID: 410-17007-17**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	514083	10/26/20 09:03	IEU	TAL DEN

Client Sample ID: GWTS-1A-101220-FD**Lab Sample ID: 410-17007-17**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 14:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:27	JSM	TAL DEN

Client Sample ID: GWTS-2A-101220-FD**Lab Sample ID: 410-17007-18**

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	514083	10/26/20 09:03	IEU	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-2A-101220-FD
Lab Sample ID: 410-17007-18
Date Collected: 10/12/20 09:03
Matrix: Solid
Date Received: 10/13/20 09:15
Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 14:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:48	JSM	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Solids

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Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method	Method Description	Protocol	Laboratory
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN
8011	Microextraction	SW846	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-17007-1	GWTS-1A-101220	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-2	GWTS-2A-101220	Solid	10/12/20 09:03	10/13/20 09:15	
410-17007-3	GWTS-3A-101220	Solid	10/12/20 09:06	10/13/20 09:15	
410-17007-4	GWTS-4A-101220	Solid	10/12/20 09:09	10/13/20 09:15	
410-17007-5	GWTS-5A-101220	Solid	10/12/20 09:11	10/13/20 09:15	
410-17007-6	GWTS-6A-101220	Solid	10/12/20 09:14	10/13/20 09:15	
410-17007-7	GWTS-7A-101220	Solid	10/12/20 09:17	10/13/20 09:15	
410-17007-8	GWTS-TB01-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-9	GWTS-8A-101220	Solid	10/12/20 09:20	10/13/20 09:15	
410-17007-10	GWTS-9A-101220	Solid	10/12/20 09:23	10/13/20 09:15	
410-17007-11	GWTS-10A-101220	Solid	10/12/20 09:26	10/13/20 09:15	
410-17007-12	GWTS-11A-101220	Solid	10/12/20 09:29	10/13/20 09:15	
410-17007-13	GWTS-12A-101220	Solid	10/12/20 09:32	10/13/20 09:15	
410-17007-14	GWTS-13A-101220	Solid	10/12/20 09:35	10/13/20 09:15	
410-17007-15	GWTS-14A-101220	Solid	10/12/20 09:38	10/13/20 09:15	
410-17007-17	GWTS-1A-101220-FD	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-18	GWTS-2A-101220-FD	Solid	10/12/20 09:03	10/13/20 09:15	

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410-17007 Chain of Custody

		225 Schilling Creek Suite 400 Hunt Valley Rd Tel No. (410) 584-7000 Fax No. (410) 771-7625		COC NUMBER COC-GWTS1-101220	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		YEAR: 2020 QUARTER: Q4	
LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002		FAX AND MAIL REPORTS/IED TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA Pam Moss: pmoss@eaest.com EA		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258	
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		ANALYSIS REQUIRED (Specify number of bottles)	
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS	
1	GWTS-1A-101220	10/12/2020	0900	(SM2320B) Alkalinity	--
2	GWTS-2A-101220	10/12/2020	0903	(SM4500S2CF) Sulfide	--
3	GWTS-3A-101220	10/12/2020	0906	(SM4500NH3) Ammonia	--
4	GWTS-4A-101220	10/12/2020	0909	(353.2) Nitrate-Nitrite	--
5	GWTS-5A-101220	10/12/2020	0911	(300.0) Chloride, bromide, sulfate	--
6	GWTS-6A-101220	10/12/2020	0914	(6010C)+8260C Dissolved Fe, Mn+BTEX	1
				(6020A/6010C) Total As,Pb,Ca,K,Na,Mg	--
				(8011) EDB/EDB Soil	1
				(8260C) BTEXN	--
				(8260C) BTEX	--
				(8260C) VOCs	--
				Total Number of Bottles	2

Please give all samples a 5-Day rush turn around

3.4 ICH 11-0.3 R1 10/14/20

SAMPLER(S): J Livingston	RELINQUISHED BY:	DATE	TIME	COURIER AND SHIPPING NUMBER: Fedex:	RECEIVED BY:	DATE	TIME
J Livingston	J Livingston	10/12/2020	1500			10/14/20	0945
Printed Name and Signature:	Printed Name and Signature:						



CHAIN-OF-CUSTODY RECORD

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-7025	PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	COC NUMBER COC-GWTS2-101220
PROJECT NAME AND PHASE: Kirtland AFB Bulk Fuels Facility ST106/SS111	FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA	YEAR: 2020 QUARTER: Q4	
LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS	
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	Total As, Pb, Ca, K, Na, Mg (6020A/6010C)	Dissolved Fe, Mn+BTEX (6010C)+8260C	(300.0) Chloride, bromide, sulfate	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500S2CF)		Alkalinity (SM2320B)
1	GWTS-7A-101220	10/12/2020	0917	--	--	1	1	--	--	--	--	--	--	--	
2	GWTS-TB01-101220	10/12/2020	1300	--	2	--	2	--	--	--	--	--	--	--	
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4															
5															
6															

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	COURIER AND SHIPPING NUMBER: Fedex:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Printed Name and Signature: J Livingston	Printed Name and Signature: J Livingston	10/12/2020	1500	Printed Name and Signature: [Signature]	10/14/20	0945
Printed Name and Signature:	Printed Name and Signature:			Printed Name and Signature:		
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CHAIN-OF-CUSTODY RECORD

 225 Schilling Circle, Suite 400 Hunt Valley, MD 21086 Tel No: (410) 594-7600 Fax No: (410) 771-1625	PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	COC NUMBER COC-GWTS3-101220 YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7299	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	(6010C) Dissolved Fe, Mn	Chloride, bromide, sulfate (300.0)	(353.2) Nitrate-Nitrite	(SM4500NH3) Ammonia	(SM4500S2CF) Sulfide	(SM2320B) Alkalinity	COMMENTS
1	GWTS-8A-101220	10/12/2020	0920	1	--	--	--	1	--	--	--	--	--	--	--	 410-17007 Chain of Custody
2	GWTS-9A-101220	10/12/2020	0923	1	--	--	--	1	--	--	--	--	--	--	--	
3	GWTS-10A-101220	10/12/2020	0926	1	--	--	--	1	--	--	--	--	--	--	--	
4	GWTS-11A-101220	10/12/2020	0929	1	--	--	--	1	--	--	--	--	--	--	--	
5	GWTS-12A-101220	10/12/2020	0932	1	--	--	--	1	--	--	--	--	--	--	--	
6	GWTS-13A-101220	10/12/2020	0935	1	--	--	--	1	--	--	--	--	--	--	--	

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	COURIER AND SHIPPING NUMBER: Fedex: 110C -0.3 JPH/1 SH 10/13/20	RECEIVED BY:	DATE: 10/13/20	TIME: 0915
RELINQUISHED BY: J Livingston	DATE: 10/12/2020	TIME: 1500	PRINTED NAME AND SIGNATURE: J Livingston	
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		
DATE:	TIME:	PRINTED NAME AND SIGNATURE:		

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EA		CHAIN-OF-CUSTODY RECORD		COC NUMBER COC-GWTS4-101220
205 Schilling Circle Suite 400 Hunt Valley, MD Tel No. (410) 584-7000 Fax No. (410) 771-1625		LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002		YEAR: 2020
PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401		FAX AND MAIL REPORTS/IED TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA		QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		
		ANALYSIS REQUIRED (Specify number of bottles)		
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-14A-101220	10/12/2020	0938	(SM2320B) Alkalinity --
2	GWTS-TB02-101220	10/12/2020	1300	(SM4500S2CF) Sulfide --
3				(SM4500NH3) Ammonia --
4				(353.2) Nitrate-Nitrite --
5				(300.0) Chloride, bromide, sulfate --
6				(6010C) Dissolved Fe, Mn --
				(6020A/6010C) Total As Pb, Ca, K, Na, Mg --
				(8011) EDB/EDB Soil 1 2
				(8260C) BTEXN --
				(8260C) BTEX --
				(8260C) VOCs --
				Total Number of Bottles 1 2

Please give all samples a 5-Day rush turn around

SAMPLER(S): <i>J Livingston</i>	COURIER AND SHIPPING NUMBER: Fedex:	RECEIVED BY:	DATE	TIME
RELINQUISHED BY:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>	10/12/2020	1500
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
<i>J Livingston</i>	<i>J Livingston</i>	<i>Scott Hall</i>	10/13/20	0915
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME
Printed Name and Signature:	Printed Name and Signature:	Printed Name and Signature:	DATE	TIME

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ORIGIN ID:ONMA (505) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

SHIP DATE: 12OCT20
 ACTWGT: 51.75 LB
 CAD: 6995204/SSFE2121
 DIMS: 24x14x14 IN
 BILL THIRD PARTY



410-17007 Waybill

TO **ATTN: DARLENE BANDY**
EUROFINS TESTAMERICA
4955 YARROW ST

ARVADA CO 80002

650

4 10:30

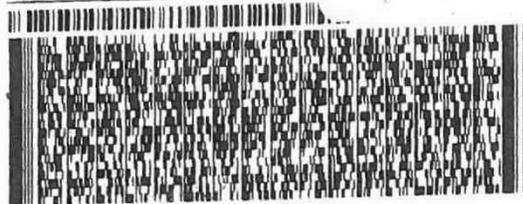
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(303) 736-0100
 THU: P01

REF: FZ



FedEx
Express



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1 of 2

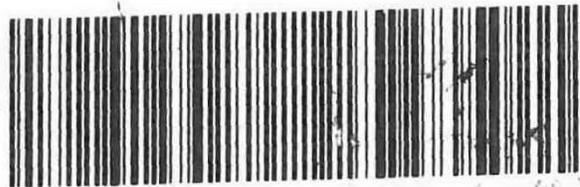
TRK# **3977 5166 8287**

0201
 ## MASTER ##

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TUE - 13 OCT 10:30A
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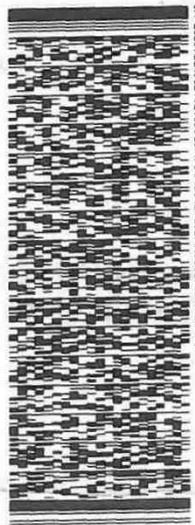
ORIGIN ID:DNMHA (505) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

SRF: 51.75 LB
 PCT: 6995204/55FE2121
 DIMS: 24X14X14 IN
 BILL THIRD PARTY

TO
 ATTN: DARLENE BANDY
 EUROFINIS TESTAMERICA
 4955 YARROW ST

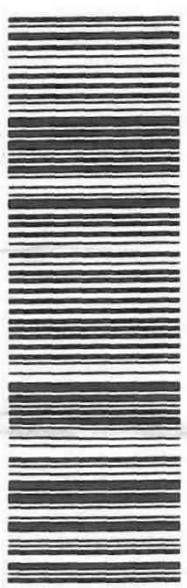
ARVADA CO 80002

(303) 738-0100 REF:
 1NU1 DEPT1
 P01



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TUE - 13 OCT 10:30A
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 FIRST DATA ENTRY

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410-17007 Waybill

ORIGIN 10:ONHA (505) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 ALBUQUERQUE, NH 87102
 UNITED STATES US

SHIP DATE: 12OCT20
 ACTWGT: 51.75 LB
 CAD: 6995204/SSFE2121
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 BILL THIRD PARTY

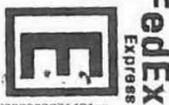
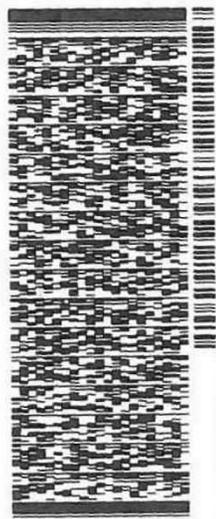
10 ATTN: DARLENE BANDY
 EUROFINS TESTAMERICA
 4955 YARROW ST

ARVADA CO 80002

(303) 736-0100

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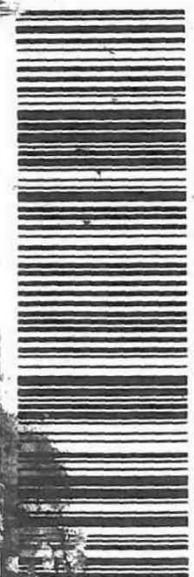
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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007
List Number: 2
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/13/20 08:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007
List Number: 3
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/13/20 08:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 4****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 5****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007
List Number: 6
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 10/16/20 12:51 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT 3

TABLE

Table 1
Groundwater Treatment System 10/12/2020 Soil Sample Results

Sample Name	Sampling Date	Sample Type	Ethylene Dibromide (µg/kg)			Benzene (µg/kg)			Ethylbenzene (µg/kg)			m- & p-Xylenes (µg/kg)			Xylenes, total (µg/kg)			Iron (mg/kg)			Manganese (mg/kg)		
			Result	Qual	LOD	Result	Qual	LOD	Result	Qual	LOD	Result	Qual	LOD	Result	Qual	LOD	Result	Qual	LOD	Result	Qual	LOD
GWTS-1A-101220	10/12/20	REG	ND	U	0.042	ND	U	0.4	ND	U	0.8	ND	U	3.2	ND	U	1	9600	J	21	140	J	0.42
GWTS-1A-101220-FD	10/12/20	FD	ND	U	0.042	ND	U	0.44	ND	U	0.88	ND	U	3.5	ND	U	1.1	9500	J	21	110	J	0.43
GWTS-2A-101220	10/12/20	REG	ND	U	0.043	ND	U	0.43	ND	U	0.86	ND	U	3.4	ND	U	1.1	11000	--	21	140	--	0.42
GWTS-2A-101220-FD	10/12/20	FD	ND	U	0.043	ND	U	0.4	ND	U	0.81	ND	U	3.2	ND	U	1	11000	--	19	130	--	0.37
GWTS-3A-101220	10/12/20	REG	ND	U	0.040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-4A-101220	10/12/20	REG	ND	UM	0.042	ND	U	0.44	ND	U	0.87	ND	U	3.5	ND	U	1.1	7500	--	21	110	--	0.41
GWTS-5A-101220	10/12/20	REG	ND	U	0.043	ND	U	0.4	ND	U	0.8	ND	U	3.2	ND	U	1	7800	--	18	99	--	0.35
GWTS-6A-101220	10/12/20	REG	ND	U	0.043	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-7A-101220	10/12/20	REG	ND	U	0.040	ND	U	0.41	ND	U	0.83	ND	U	3.3	ND	U	1	7200	--	18	91	--	0.36
GWTS-8A-101220	10/12/20	REG	ND	U	0.040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-9A-101220	10/12/20	REG	ND	U	0.040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-10A-101220	10/12/20	REG	ND	U	0.042	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-11A-101220	10/12/20	REG	ND	U	0.039	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-12A-101220	10/12/20	REG	ND	U	0.040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-13A-101220	10/12/20	REG	ND	U	0.040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GWTS-14A-101220	10/12/20	REG	ND	U	0.039	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NMED Residential ^a			672			17.8			75.1			5,230			871			54,800			10,500		
EPA Residential ^b			360			12			58			4,900			580			55000			1800		

Note:

^a New Mexico Environment Department (NMED) Risk Assessment Guidance for Site Investigations and Remediation, Appendix A, Table A-1, NMED Soil Screening Levels (SSL). February 2019.

^b EPA Regional Screening Levels (RSLs) for residential use scenario for hazard index = 1.0 for noncarcinogens and a 10⁻⁵ cancer risk level for carcinogens. May 2020.

µg/kg = microgram per kilogram

mg/kg = milligram per kilogram

FD = Field Duplicate

LOD = limit of detection

ND = not detected

QUAL = qualifier

REG = normal field sample

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

M = Qualifier denotes manual integrated compound.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

— = Compound not analyzed for.

ATTACHMENT 4
DOCUMENT CERTIFICATION

**40 CFR 270.11
DOCUMENT CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.



DAVID S. MILLER, Colonel, U.S. Air Force
Commander, 377th Air Base Wing

11 November 2020

Date

This document has been approved for public release.



KIRTLAND AIR FORCE BASE
377th Air Base Wing Public Affairs

10/10/20

Date

APPENDIX I-4

**DATA QUALITY EVALUATION REPORT –
GROUNDWATER TREATMENT SYSTEM AND DISCHARGE PERMIT
DP-1839 SAMPLES
(OCTOBER–DECEMBER AND JULY 2020)**

LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
AFB	Air Force Base
BTEX	benzene, toluene, ethylbenzene, and total xylenes
DL	detection limit
DP	Discharge Permit
DoD	Department of Defense
EC	Eurofins Calscience
EDB	ethylene dibromide
ELLE	Eurofins Lancaster Laboratories Environmental, LLC
EPA	U.S. Environmental Protection Agency
GAC	granular activated carbon
GWTS	groundwater treatment system
ICP	inductively coupled plasma
ICS	interference check sample
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection
LOQ	limit of quantification
MDL	method detection limit
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
O&M	operations and maintenance
Q4	fourth quarter of the year (October 1 through December 31)
QAPjP	Quality Assurance Project Plan (2017)
QAPP	Quality Assurance Project Plan (2020)
QC	quality control
QSM	Quality Systems Manual
RPD	relative percent different
SDG	sample delivery group
SW	Solid Waste
VOA	volatile organic analysis
VOC	volatile organic compound

I-4.1 DATA QUALITY EVALUATION REPORT – GROUNDWATER TREATMENT SYSTEM AND DISCHARGE PERMIT DP-1839 SAMPLES (OCTOBER–DECEMBER AND JULY 2020)

I-4.1.1 Laboratory Data Quality Summary

This Data Quality Evaluation Report describes the findings of the data validation performed for the analysis of samples collected during fourth quarter (Q4) of 2020 associated with the groundwater treatment system (GWTS) and associated extraction and monitoring wells; and Kirtland Air Force Base (AFB) discharge permit DP-1839 annual monitoring. These data were collected in support of the Work Plan, Bulk Fuels Facility Expansion of the Dissolved-Phase Plume GWTS Design Revision 2, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base (AFB), New Mexico (Kirtland AFB, 2017a). Sampling and analysis for the Q4 2020 events and the DP-1839 permit monitoring were conducted in accordance with the procedures and overall quality control (QC) and quality assurance protocols presented in the following documents: (1) Operations and Maintenance (O&M) Plan GWTS Bulk Fuels Facility Solid Waste Management Units ST-106/SS-111, Kirtland AFB, New Mexico (Kirtland AFB, 2017b); (2) the Quality Assurance Project Plan (QAPP) Groundwater Monitoring and Interim Remedial Operations Bulk Fuels Facility Solid Waste Management Units ST-106/SS-111, Kirtland AFB, New Mexico (Kirtland AFB, 2020).; and (3) Standard Operating Procedure for Disinfection of the GWTS Remediation Wells and Groundwater Monitoring Wells, Discharge Permit DP-1839, Bulk Fuels Facility Solid Waste Management Units ST-106/SS-111, Kirtland AFB, New Mexico (Kirtland AFB, 2018).

Samples discussed in this report were collected during the months of October, November, and December 2020 for the GWTS and include monthly samples from (1) the untreated influent (GWTS-BFF-INF1 and GWTS-BFF-INF2), (2) a port located after the lead granular activated carbon (GAC) vessel (GWTS-BFF-GAC1 and GWTS-BFF-GAC2) but before the final GAC vessel, and (3) the treated effluent (GWTS-BFF-EFF1 and GWTS-BFF-EFF2). In addition to the monthly samples, pre- and post-disinfection treatment samples were collected from well KAFB-106239, and soil samples were collected in conjunction with a release at the GWTS in October. The samples collected in association with the DP-1839 permit monitoring were collected in July 2020. Field QC samples were collected in association with the sampling events and included five field duplicates, five trip blanks, and three field blank samples associated with the GWTS and one field duplicate and two trip blanks associated with the permit sampling event.

Samples collected from the GWTS treatment trains and the permit monitoring were shipped to Eurofins Lancaster Laboratories Environmental, LLC (ELLE), Lancaster, Pennsylvania for analysis. ELLE maintains a current Department of Defense (DoD) Environmental Laboratory Accreditation Program certification to perform the analyses required for this project. Sample analyses were performed in accordance with the following guidance documents:

- DoD Quality Systems Manual (QSM), Version 5.1.1 (DoD, 2018)
- U.S. Environmental Protection Agency (EPA) Solid Waste (SW) 846 – Test Methods for Evaluating SW, Third Edition and Updates (1986).
- Standard Methods (SM) for the Examination of Water and Wastewater, 22nd Edition (American Public Health Association, 2005).

- EPA Methods for Chemical Analysis of Water and Wastes (1993).

Q4 2020 GWTS samples were analyzed for the following list of parameters and methods as required:

- *Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)*—Method SW8260C.
- *Ethylene Dibromide (EDB)*—Method SW8011.
- *Dissolved Metals (Iron and Manganese)*—Method SW6010C.

DP-1839 monitoring samples were analyzed for the following list of parameters and methods as required:

- *Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)*—Method SW8260C.
- *Ethylene Dibromide (EDB)*—Method SW8011.
- *Dissolved Metals (Aluminum, Barium, Calcium, Iron, Potassium, Manganese, Magnesium, Sodium)*—Method SW6010C.
- *Dissolved Metals (Arsenic, Strontium)*—Method SW6020A.
- *Silica*—Method SM4500 SiO₂ C.

Samples collected from well KAFB-106239 for pre- and post-disinfection monitoring were shipped to Eurofins Calscience (EC), Irvine and Garden Grove, California for analysis of drinking water disinfectants. Samples were analyzed in accordance with EPA Methods for Chemical Analysis of Water and Wastes (1993) and Determination of Perchlorate in Drinking Water by Liquid Chromatography Electro spray Ionization Mass Spectrometry (2005). Disinfectant analysis included the following list of parameters:

- *Bromate and Chlorite*—Method E300.1B.
- *Perchlorate*—Method E331.0.

Chemical analytical data for Q4 2020 and permit sampling were reported by ELLE in sample delivery groups (SDGs) 410-8885-1, 410-15769-1, 410-17007-1 and -2, 410-20479-1, and 410-22885-1. Q4 2020 analytical data were reported by EC in SDGs 440-276448-1 and 440-276775-1. Appendix I-4 – Table 1 summarizes GWTS and DP1839 samples and field QC samples; collection date; laboratory SDG; and analytical parameters for the sampling events.

A third-party subcontractor, Environmental Data Services, Inc., Palm Gardens, Florida, and Validata Chemical Services, Inc., Duluth, Georgia, conducted EPA Stage 2B/3 data validation on 100 percent (%) of the Q4 2020 and the permit sample data. Analytical data validation was performed using the quality criteria specified in the following documents, analytical guidelines, and methods:

- Work Plan (includes QAPjP) (Kirtland AFB, 2017a)
- O&M Plan (Kirtland AFB, 2016, 2017b, 2018)
- QAPP (Kirtland AFB, 2020)
- DoD QSM for Environmental Laboratories, Version 5.1.1 (DoD, 2018)

- DoD QSM for Environmental Laboratories, Version 5.3 (DoD, 2019)
- EPA Test Methods for Evaluating SW, Physical/Chemical Methods (SW 846, Third Edition and updates) (EPA, 1986)
- EPA Methods for Chemical Analysis of Water and Wastes (EPA, 1993)
- Determination of Perchlorate in Drinking Water by Liquid Chromatography Electrospray Ionization Mass Spectrometry (EPA, 2005)
- EPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2014a)
- EPA Contract Laboratory Program, National Functional Guidelines for Inorganic Superfund Data Review (EPA, 2014b).
- DoD General Data Validation Guidelines (DoD, 2019).

The following QC criteria were included in the EPA Stage 2B/3 validation as applicable to the analytical method:

- Sample preservation and extraction and analysis holding times
- Laboratory method blank contamination
- Surrogate spike recoveries (organic analyses)
- Laboratory control sample (LCS) and LCS duplicate (LCSD) recoveries
- Matrix spike (MS) and matrix spike duplicate (MSD) sample recoveries
- Relative percent difference (RPD)
- Initial and continuing calibrations
- Inductively coupled plasma (ICP) interference check samples (metals)
- ICP serial dilutions (metals)
- Second column confirmation (for EDB analysis only)
- Trip and field blank results
- Field duplicate sample precision.

Analytical data were reviewed for all sampling events to evaluate precision, accuracy (bias), representativeness, comparability, completeness, and sensitivity as defined below:

- *Precision* is expressed as the RPD between the results of replicate sample analyses: sample duplicates, LCSDs, and MSDs. When analyte RPDs exceed the acceptance criteria, the data are qualified accordingly.
- *Accuracy (bias)* is demonstrated by recovery of target analytes from fortified blank and sample matrices, LCS/LCSD, and MS/MSD, respectively. For organic methods, bias is also demonstrated through recovery of surrogates from each field and QC sample. A comparison was made from the recovery of target analytes from fortified samples to the acceptance criteria defined in the QAPjP/QAPP (Kirtland AFB, 2017a, 2020) and DoD QSM. When the acceptance criteria are not available in the QAPjP/QAPP or DoD QSM, results are compared with the laboratory in-house control limits. When these criteria are not met, the data are qualified accordingly. Bias may be indicated as high or low.

- *Representativeness* of the samples submitted for analysis is ensured by adherence to standard sampling techniques and standard analytical method protocols.
- *Comparability* of sample results is ensured through the use of approved sampling and analysis methods and comparison of sample results to historical sample data.
- *Completeness* of data is evaluated based on contractual, analytical, and technical completeness for the quarterly data. Technical completeness of data is used to assess overall project completeness and is expressed as a percentage of the ratio of the number of usable data results to the total number of analytical data results. Only rejected data (R-qualified) are considered not usable to achieve project objectives.
- *Sensitivity* is determined by the ability to achieve the established method-specific reporting limits in accordance with DoD QSM requirements and includes establishing the detection limit (DL), limit of detection (LOD), and limit of quantitation (LOQ). For this project, the laboratory will report positive results to the DL and results between the DL and LOQ will be flagged with a J-qualifier and reported as estimated data. Pre- and post-disinfection well data are not being reported per the DoD QSM since the analysis is being performed using drinking water methods. These analytical data are reported to the method detection limit (MDL) and positive results between the MDL and the method reporting limit (MRL) will be flagged with a J-qualifier and reported as estimated data. Sensitivity is evaluated based on comparison of the sample reporting limits to the project screening levels.

The following sections present the EPA Stage 2B/3 data validation findings for the Q4 2020 GWTS sample data and the permit data. Appendix I-4 – Table 2 presents the data qualification flags and reason codes to be applied to analytical data, if required.

I-4.2 DATA QUALITY FINDINGS

I-4.2.1 Sample Preservation and Sample Extraction and Analysis Holding Times (Reason Code HT)

The sample coolers and samples contained within the coolers were received intact at the laboratory below 6 degrees Celsius, per EPA guidelines. All samples were preserved appropriately per the requirements of EPA method guidelines, with no exceptions. Sample holding times were evaluated by comparing the (1) sample collection date to the sample extraction date, and (2) extraction date to the analysis date to determine if the method-specified holding times were exceeded. Q4 2020 and DP-1839 permit sample extraction and analysis holding times were met for all samples. No data were qualified based on holding times.

I-4.2.2 Laboratory Method Blanks (Reason Code MB)

The GWTS and permit sample results were evaluated with respect to the laboratory method blank prepared and analyzed for each analytical batch for each analytical method. Based on the DoD QSM requirements (2018, 2019), laboratory method blank concentrations are considered acceptable when contaminant levels in the blank are less than one-half the LOQ for target analytes and less than the LOQ for common laboratory contaminants. Analytical method-specific blank criteria were used for evaluation of the well disinfection analyses. No detections of analytes were reported in method blank samples that resulted in data qualification for the Q4 2020 and permit samples.

I-4.2.3 Initial and Continuing Calibration Blanks (Reason Code CB/CCB)

Initial and continuing calibration blank criteria were reviewed to ensure that the instruments were free of contamination prior to sample analysis. Based on the DoD QSM requirements (2018, 2019), calibration blank concentrations are considered acceptable when contaminant levels in the blank are less than one-half the LOQ for target analytes and less than the LOQ for common laboratory contaminants. Analytical method-specific control criteria were used for the evaluation of the well disinfection analyses. Initial and continuing calibration blank data were within control criteria for the Q4 2020 and permit sample analyses although iron and manganese were reported in the CCB for SDG 410-17007-1 but did not result in data qualification based on the concentration in the associated samples. All percent relative standard deviation and/or correlation coefficients and relative response factor criteria were within control limits and no data were qualified based on initial and continuing calibration blank criteria.

I-4.2.4 Surrogate Recoveries (Reason Code SURR)

Surrogate compounds are added to field and laboratory QC samples for organic analysis to evaluate the matrix effect and method performance on an individual sample basis. All surrogate compound recoveries for the Q4 2020 and permit sample data were within method control criteria or did not result in data qualification since the recoveries were above the control limit and the associated sample results were non-detect.

I-4.2.5 Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries and Precision (Reason Codes LCS/RPD)

The LCS is an aliquot of an analyte-free matrix spiked with target analytes that are prepared with each analytical batch for each analytical method. The recovery of target analytes from the LCS analysis is a measurement of method performance in an interference-free sample matrix. All LCS recoveries for the Q4 2020 and permit sample data were within method control limits.

I-4.2.6 Matrix Spike/Matrix Spike Duplicate Recoveries and Precision (Reason Codes MS/MSD and RPD)

The MS and MSD samples are a portion of a field sample or a standard reference material spiked with target analytes that are prepared with each analytical batch and method as appropriate. The MS/MSD results are used to evaluate any bias introduced to the method due to matrix interference, and to measure bias and precision for each analytical batch.

MS/MSD project-specific samples were collected for each of the monthly GWTS sampling events and the permit monitoring, achieving the QAPjP/QAPP rate of one per 20 samples for the GWTS routine monitoring program. MS/MSD recoveries for the Q4 2020 GWTS sample data were within method control criteria or did not result in data qualification with the exception of one MS/MSD recovery below the control limit for manganese in soil in SDG 410-17007-1. The manganese results in the parent and field duplicate samples were “J” qualified. In addition, the arsenic MS/MSD recovery for the permit samples in SDG 410-8885-1 recovered below the control limit so the associated non-detect arsenic result was qualified “UJ”. Appendix I-4 – Table 3 summarizes Q4 2020 and permit sample results qualified based on MS/MSD recoveries.

I-4.2.7 Initial and Continuing Calibration Verification (Reason Code CCV)

Instrument calibration is performed for all analyses in accordance with method requirements. The linear analytical range is established for each method by analysis of calibration standards prepared at increasing concentrations that cover the expected sample concentration range. The acceptability of the initial calibration is determined by calculation of a percent relative standard deviation or coefficient.

Routinely during sample analysis, the stability of the analytical system is monitored by analysis of continuing calibration standards at concentrations near the mid-point of the instrument calibration range. The percent difference values between the relative response factor in the initial calibration and the relative response factor in the continuing calibration are reviewed to ensure instrument calibration criteria are within method control limits. All initial and continuing calibration verifications met the method-specific control criteria for the Q4 2020 GWTS and permit analytical data.

I-4.2.8 Interference Check Sample (Reason Code ICS)

The interference check sample (ICS) verifies the inter-element and background correction factors for metals analysis using ICP instrumentation. The ICSs were analyzed at the required frequencies, and all ICS results are within the established control criteria for the ICP analytical methods for the Q4 2020 GWTS and permit analytical data.

I-4.2.9 Inductively Coupled Plasma Serial Dilution (Reason Code SD)

The ICP serial dilution determines whether significant physical or chemical interferences exist due to sample matrix. When the concentration of an analyte exceeds 50 times the DL for ICP and 100 times the DL for ICP mass spectrometry, the ICP serial dilution is performed and the results between the original analysis and the diluted analysis are compared. The results of the ICP serial dilution are deemed acceptable when a percent difference between the original analysis and the diluted analysis is less than or equal to 10%.

ICP serial dilution was performed based on the above criteria for the Q4 2020 GWTS and permit samples as deemed appropriate. ICP serial dilution results were within the above criteria for all samples and analytes with the exception of the iron serial dilution in SDG 410-17007-1 which exceeded the control

limit. The associated sample and field duplicate sample detects were qualified “J” signifying estimated data. Appendix I-4 – Table 3 summarizes GWTS and permit sample results qualified based on exceedance of the control limit for serial dilution.

I-4.2.10 Sample Confirmation (Reason Code RPD)

As required by DoD and EPA analytical method guidance, sample detections for EDB require confirmation using a second column analysis. EDB sample detections for the Q4 2020 and permit data analyzed using EPA Method SW8011 were confirmed by a second column analysis and reported from the primary column. Any detection of EDB on the second column is considered confirmed unless it appears to be associated with matrix interference. All sample results for Q4 2020 GWTS and permit monitoring were reported from the primary column. No sample results were qualified based on second column confirmation.

I-4.2.11 Field Blanks for Volatile Organic Compounds (Reason Code FB)

Field blanks serve as a check for possible VOCs, BTEX or EDB in air associated with a sampling location. The field blanks are prepared in the field during sampling by pouring ultra-pure water into EPA-certified clean sample containers and exposing the container to the environment at a particular sample location that may be associated with airborne VOC contaminants.

Field blanks for the Q4 2020 sampling events are collected as deemed necessary based on the site conditions at the time of sample collection. Three field blank samples were collected in association with the Q4 GWTS sampling events. No detections were reported in field blank samples. Appendix I-4 – Table 4 presents the results for the field blank samples collected during the Q4 2020 sampling events.

I-4.2.12 Trip Blanks for Volatile Organic Compounds (Reason Code TB)

Trip blanks were prepared by the laboratory and stored with the groundwater samples collected for BTEX and EDB analysis. In accordance with the QAPjP/QAPP requirements, trip blank samples are to be included at a rate of one per cooler when sampling groundwater samples for VOC analysis. A trip blank sample was included with each GWTS and permit sample shipment. No detections of VOCs, BTEX or EDB were reported in trip blank samples for the sampling events. Appendix I-4 – Table 4 summarizes the results for trip blank samples for the Q4 2020 GWTS and DP-1839 sampling events.

I-4.2.13 Equipment Rinse Blanks (Reason Code EB)

No equipment rinse blank samples are required to be collected in conjunction with the GWTS sampling since samples are collected directly from a designated sampling port using dedicated sampling equipment. In addition, equipment rinse blanks were not collected in association with the GWTS soil samples or the permit well samples in Q4 2020.

I-4.2.14 Field Duplicate Samples

In accordance with the project QAPjP/QAPP requirements (Kirtland AFB, 2017a, 2020), field duplicate samples are collected at a frequency of 10% of the total number of GWTS samples for each monthly sampling event. Field duplicate samples are not collected in association with the well disinfection samples. Five field duplicate samples were collected during the Q4 2020 GWTS sampling events in association with GWTS samples (16%). One field duplicate was also collected in association with the three wells sampled for the DP-1839 sampling. The 10% project requirement for the Q4 sampling events and permit sampling was achieved.

Field duplicate RPD was evaluated by calculating the RPD between the parent sample and the duplicate sample. The RPD was calculated using the following equation:

$$RPD = \frac{(S-D)}{[(S+D)/2]} \times 100$$

Where;

- S = Sample result.
- D = Duplicate result.

Acceptable precision control criteria are established at less than or equal to 35% for water samples. The RPD was calculated between pairs of field duplicate samples when both results are reported at or above the LOQ.

The results for the field duplicate samples collected during Q4 2020 GWTS and permit sampling are presented on Appendix I-4 – Table 5-1 (GWTS groundwater, Table 5-2 (permit wells) and Table 5-3 (GWTS soil). The field duplicate results demonstrate acceptable overall field sampling procedures and analytical method precision.

I-4.2.15 Professional Judgement

Professional judgement may be applied by a third-party data validation subcontractor or the project chemist during the data review process to apply validation qualifiers based on site-specific and project-specific knowledge, historical data, comparability of data, and analytical expertise. Professional judgement was not used to apply or revise any data qualifiers applied by the validation subcontractors for the Q4 2020 and permit sampling events.

I-4.3 COMPLETENESS

The following sections present a discussion of contractual, analytical, and technical completeness for the Q4 2020 GWTS and DP1839 permit monitoring analytical data. Completeness calculations were performed for the samples that are used for project decisions. Completeness results are presented in the following sections.

I-4.3.1 Contractual Completeness

Contractual completeness is a quantitative determination of the number of unqualified results compared to the total number of sample results expressed as a percentage, based on data qualified for QC outliers related to analytical method performance. These include data qualified for calibration or method blank contamination, missed holding times, sample receipt condition, LCS recovery, and/or precision. The contractual completeness goal is 95% per quarterly event. Contractual completeness was calculated as follows:

$$\text{Percent Contractual Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100$$

No results were qualified during data validation based on contractual completeness criteria. Contractual completeness for the Q4 2020 and permit sampling events is 100%.

I-4.3.2 Analytical Completeness

Analytical completeness is a quantitative measure of the number of unqualified data results compared to the total number of results expressed as a percentage, based on the target analytes qualified for exceedances of QC requirements based on calibration, LCS, MS/MSD, surrogate, method precision, and laboratory method blank contamination results and professional judgement. The analytical completeness goal is 90% for the project. Analytical completeness was calculated as follows:

$$\text{Percent Analytical Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100$$

For the Q4 2020 GWTS and DP-1839 analytical results, 5 sample results were qualified “J, or UJ” based on the analytical completeness criteria for MS/MSD and serial dilution. The analytical completeness for the Q4 and permit sample data is 98.4% (310 non-qualified results/315 total results x 100). The 90% analytical completeness objective was achieved for the Q4 2020 GWTS and DP-1839 sampling events.

I-4.3.3 Technical Completeness

Technical completeness is a quantitative measure of the data usability based on the number of rejected data compared to the total number of sample results. The technical completeness goal for all methods is equal to or greater than 95%. The technical completeness calculation considers all data that are not rejected (R-qualified) to be usable data to achieve project objectives. The technical completeness was calculated as follows:

$$\text{Percent Technical Completeness} = \frac{\text{Number of Usable Results}}{\text{Total Number of Results}} \times 100$$

The project data quality objectives were achieved for all methods and samples for the Q4 2020 and permit sampling events. The technical completeness for the Q4 2020 data is 100% for all analytical parameters. Technical completeness is presented in Appendix I-4 – Table 6.

I-4.3.4 1.2.4 Data Analysis Completeness

As a part of the data review process, chain-of-custody forms and project data deliverables are reviewed against the project requirements in the Work Plan and QAPP (Kirtland AFB, 2017a, 2020) and O&M Plan (Kirtland AFB, 2016, 2017b, 2018) to ensure compliance with the sampling plan and that analytical results were reported for all planned methods and samples. Data completeness for the Q4 GWTS and permit data deliverables was determined to be 100% complete. Level 2 analytical data packages for Q4 2020 GWTS and DP-1839 data are provided in Appendix I-5. Level 4 data reports are available upon request.

I-4.4 REPRESENTATIVENESS AND COMPARABILITY

Q4 2020 GWTS and DP-1839 sampling was conducted in accordance with the sampling and analysis protocols and standard operating procedures documented in the O&M Plan (Kirtland AFB, 2016, 2017b, 2018). Approved procedures were used to collect, preserve, document, and ship samples to the ELLE and EC laboratories, thus ensuring the samples collected for the sampling events were representative of the conditions.

Groundwater samples for VOCs, BTEX and EDB were collected in 40-milliliter volatile organic analysis (VOA) vials preserved with hydrochloric acid and shipped to ELLE at a temperature less than 6 degrees Celsius. Samples received in VOA vials were inspected to evaluate the presence or absence of any headspace (estimated in millimeters) and documented as sample condition on the laboratory sample receipt report. No VOA vials collected for sampling events presented headspace greater than 6 millimeters upon receipt at the laboratory.

The project laboratory (ELLE) maintains current DoD Environmental Laboratory Accreditation Program certification and adhered to the analytical methods documented in the project QAPjP/QAPP and DoD QSM requirements to prepare and analyze samples and report the data. This ensured the comparability of the analytical results between different samples and different sampling events. The EC project laboratories for the well disinfection sample analysis maintain state-specific drinking water certification. For the Q4 2020 GWTS and permit data, an EPA Stage 2B/3 validation was performed on 100% of the analytical data to verify that the laboratory complied with the DoD QSM, project QAPjP/QAPP, and method requirements. QC results that exceeded method control criteria resulted in data qualification as presented in the previous sections. Based on a review of the completed sample collection logs, chain-of-custody forms, sample receipt forms, and laboratory data packages, the analytical data reported for the sampling events achieved the project data representativeness and comparability requirements.

I-4.5 SENSITIVITY

Data sensitivity for the Q4 2020 GWTS and permit analytical data was achieved by complying with the analytical method guidelines and reporting limits specified in the project QAPjP/QAPP. The analytical methods used for sample analysis achieved the lower of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 (New Mexico Environment Department, 2010) and New Mexico Administrative Code Title 20.6.2.3103, Standards for Groundwater of 10,000 Milligrams per Liter Total Dissolved Solids Concentration or Less (New Mexico Administrative Code, 2018). Project screening levels are presented in the QAPjP, Attachment 1, Table 1-1 and QAPP Worksheet 15 table. For the Q4 2020 GWTS and permit analytical results, detections of target compounds reported below the LOQ and MRL are J-flagged as estimated values. Non-detect analytes are reported at the LOD per the DoD QSM requirements unless as noted above and reported at the MRL for the well disinfection data.

I-4.6 CONCLUSIONS

The analytical data reported for the Q4 2020 GWTS, well disinfection samples and permit monitoring samples have been reviewed for precision, accuracy (bias), representativeness, comparability, completeness, and sensitivity. Data quality criteria exceedances were noted for five sample results based on 1) MS/MSD recovery exceedance for manganese and arsenic, and 2) serial dilution recovery exceedance for iron. Associated sample data were qualified “J, and UJ” signifying estimated detect and non-detect sample results, respectively. All data are usable to achieve the project data quality objectives as qualified. The 95% technical completeness goal was achieved for all analytical methods for the Q4 2020 GWTS and permit sampling events.

I-4.7 REFERENCES

- Department of Defense (DoD). 2018. *DoD Quality Systems Manual for Environmental Laboratories, Version 5.1.1*. February.
- DoD. 2019. *DoD Quality Systems Manual for Environmental Laboratories, Version 5.3*. May.
- DoD. 2019. *General Data Validation Guidelines, Environmental Data Quality Work Group*. November. (U.S.) Environmental Protection Agency (EPA). 1986. *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, Third Edition and Updates*. September.
- EPA. 1993. *EPA Methods for Chemical Analysis of Water and Wastes, Revision 2.1*. August.
- EPA. 2005. Determination of Perchlorate in Drinking Water by Liquid Chromatography Electrospray Ionization Mass Spectrometry, Revision 1.0. January.
- EPA. 2014a. *EPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review, EPA-540-R-014-002*. Office of Superfund Remediation and Technology Innovation. August.
- EPA. 2014b. *EPA Contract Laboratory Program, National Functional Guidelines for Inorganic Superfund Data Review, EPA-540-R-014-001*. Office of Superfund Remediation and Technology Innovation. August.
- Kirtland Air Force Base (AFB). 2016. *Operations and Maintenance Plan, Groundwater Treatment System, Bulk Fuels Facility, SWMU ST-106/SS-111, Kirtland Air Force Base, New Mexico*. Prepared by EA Engineering, Science, and Technology, Inc., PBC for Kirtland AFB under USACE–Albuquerque District Contract No. W912DR-12-D-0006. August.
- Kirtland AFB. 2017a. *Work Plan, Bulk Fuels Facility Expansion of the Dissolved-Phase Plume Groundwater Treatment System Design Revision 1, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base, Albuquerque, New Mexico*. Prepared by EA Engineering, Science, and Technology, Inc., PBC for USACE–Albuquerque District. January.
- Kirtland AFB. 2017b. *Operations and Maintenance Plan Groundwater Treatment System Bulk Fuels Facility Solid Waste Management Unit ST-106/SS-111, Kirtland Air Force Base, Albuquerque, New Mexico*. September.
- Kirtland AFB. 2018. *Operations and Maintenance Plan, Groundwater Treatment System, Bulk Fuels Facility, SWMU ST-106/SS-111, Kirtland Air Force Base, New Mexico, Revision 2*. Prepared by EA Engineering, Science, and Technology, Inc., PBC for Kirtland AFB under USACE–Albuquerque District Contract No. W912DR-12-D-0006. June.
- Kirtland Air Force Base. 2020. *Quality Assurance Project Plan for Groundwater Monitoring and Interim Remedial Operations, Bulk Fuels Facility, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base, Albuquerque, New Mexico*. Prepared for U.S. Army Corps of Engineers–Albuquerque District under Contract W912PP20C0020. December.
- New Mexico Administrative Code. 2018. State of New Mexico; Title 20.6.2 Ground Water and Surface Water Protection.

New Mexico Environment Department. 2010. Hazardous Waste Treatment Facility Operating Permit, EPA ID Number NM9570024423, Issued to U.S. Air Force for the Open Detonation Unit Located at Kirtland Air Force Base, Bernalillo County, New Mexico, by the New Mexico Environment Department Hazardous Waste Bureau. July.

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Table 1
Sample Collection Summary, Q4 2020

Well Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter ^a	Comments
KAFB-0505	GW505-203	7/27/2020	410-8885-1	BTEX, EDB, Metals, Silica ^b	MS/MSD
ST105MW507R	GW507R-203	7/27/2020	410-8885-1	BTEX, EDB, Metals, Silica ^b	—
ST105MW507R	GW507R-603	7/27/2020	410-8885-1	BTEX, EDB, Metals, Silica ^b	Field Duplicate
KAFB-0508	GW508-203	7/27/2020	410-8885-1	BTEX, EDB, Metals, Silica ^b	—
GWTS-BFF-EFF1	GWTS-EFF1-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	MS/MSD
GWTS-BFF-GAC1	GWTS-GAC1-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	—
GWTS-BFF-INF1	GWTS-INF1-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF2	GWTS-EFF2-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF2	GWTS-EFF2DUP-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	Field Duplicate
GWTS-BFF-GAC2	GWTS-GAC2-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	—
GWTS-BFF-INF2	GWTS-INF2-100120	10/1/2020	410-15769-1	BTEX, EDB, Metals	—
GWTS-1A	GWTS-1A-101220	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	—
GWTS-1A	GWTS-1A-101220-FD	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	Field Duplicate
GWTS-2A	GWTS-2A-101220	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	—
GWTS-2A	GWTS-2A-101220-FD	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	Field Duplicate
GWTS-3A	GWTS-3A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-4A	GWTS-4A-101220	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	—
GWTS-5A	GWTS-5A-101220	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	—
GWTS-6A	GWTS-6A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-7A	GWTS-7A-101220	10/12/2020	410-17007-1, -2	BTEX, EDB, Metals	—
GWTS-8A	GWTS-8A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-9A	GWTS-9A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-10A	GWTS-10A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-11A	GWTS-11A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-12A	GWTS-12A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-13A	GWTS-13A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-14A	GWTS-14A-101220	10/12/2020	410-17007-2	EDB	—
GWTS-BFF-EFF2	GWTS-EFF2-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	MS/MSD
GWTS-BFF-GAC2	GWTS-GAC2-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	—
GWTS-BFF-INF2	GWTS-INF2-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF1	GWTS-EFF1-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF1	GWTS-EFF1DUP-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	Field Duplicate
GWTS-BFF-GAC1	GWTS-GAC1-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	—
GWTS-BFF-INF1	GWTS-INF1-111120	11/11/2020	410-20479-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF1	GWTS-EFF1-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	MS/MSD

Table 1
Sample Collection Summary, Q4 2020

Well Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter^a	Comments
GWTS-BFF-GAC1	GWTS-GAC1-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	—
GWTS-BFF-INF1	GWTS-INF1-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF2	GWTS-EFF2-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	—
GWTS-BFF-EFF2	GWTS-EFF2DUP-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	Field Duplicate
GWTS-BFF-GAC2	GWTS-GAC2-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	—
GWTS-BFF-INF2	GWTS-INF2-120320	12/3/2020	410-22885-1	BTEX, EDB, Metals	—
KAFB-106239	GW239-204-PreDis	12/21/2020	440-276448-1	Bromate, Chlorite, Perchlorate ^c	—
KAFB-106239	GW239-204-PostDis	12/28/2020	440-276775-1	Bromate, Chlorite, Perchlorate ^c	—
Field Blank	GWTS-FB01-100120	10/1/2020	410-15769-1	BTEX, EDB	—
Field Blank	GWTS-FB02-111120	11/11/2020	410-20479-1	BTEX, EDB	—
Field Blank	GWTS-FB01-120320	12/3/2020	410-22885-1	BTEX, EDB	—
Trip Blank	TB203-32	7/27/2020	410-8885-1	BTEX, EDB	—
Trip Blank	TB203-33	7/27/2020	410-8885-1	BTEX, EDB	—
Trip Blank	GWTS-TB01-100120	10/1/2020	410-15769-1	BTEX, EDB	—
Trip Blank	GWTS-TB01-101220	10/12/2020	410-17007-1, -2	BTEX, EDB	—
Trip Blank	GWTS-TB02-101220	10/12/2020	410-17007-1	BTEX	—
Trip Blank	GWTS-TB01-111120	11/11/2020	410-20479-1	BTEX, EDB	—
Trip Blank	GWTS-TB01-120320	12/3/2020	410-22885-1	BTEX, EDB	—

^aAnalytical methods include: Method SW8260C for VOCs/BTEX; Method SW8011 for EDB; Method SW6010C for dissolved iron and manganese.

^bAnalytical methods include: Method SW8260C for BTEX; Method SW8011 for EDB; Methods SW6010C/6020A for dissolved metals (aluminum, arsenic, barium, calcium, iron, potassium, manganese, magnesium, sodium, and strontium); Method SM4500-SIO2C for silica.

^c Analytical methods include: Method E300.1B for bromate and chlorite; Method E331.0 for perchlorate.

— = no comments

BTEX = benzene, toluene, ethylbenzene, xylenes

EDB = ethylene dibromide

ID = identification

MS = matrix spike

MSD = matrix spike duplicate

SVOCs = semi-volatile organic compounds

VOCs = volatile organic compounds

**Table 2
Data Qualification Flags and Reason Codes**

Data Qualifier Definitions for Data Validation

Qualifier	Definition
	No Qualifier indicates that the data are acceptable both qualitatively and quantitatively.
U	The analyte was analyzed for but was not detected above the detection limit. The value associated with the U-qualifier is the limit of detection.
J	The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample. Results are estimated, although the data are considered usable and may be used as appropriate to meet project objectives. Results are qualitatively acceptable and quantitatively uncertain.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Re-sampling and re-analysis may be necessary to confirm or deny the presence of the analyte. Results are rejected, and data are unusable for any purposes.
X	The sample results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project QC criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (includes project chemist).

Reason Codes for Data Validation

Reason Code	Description
CB/CCB	Calibration blank or continuing calibration blank outside of control limits
CCV	Calibration verification outside of control limits
EB	Equipment rinse blank contamination
FB	Field blank contamination
FD	Field duplicate sample results out of control criteria
HT	Holding time exceedance
ICS	Interference check sample
LCS	Laboratory control sample recovery out of control criteria
MB	Method blank contamination
MS/MSD	Matrix spike/ matrix spike duplicate recovery outside of control criteria
RPD	Relative percent difference outside of control limits
SD	Inductively Coupled Plasma serial dilution out of control criteria
SURR	Surrogate recovery outside of control limits
TB	Trip blank contamination

**Table 3
Qualified Sample Results, Q4 2020**

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
GWTS-1A	GWTS-1A-101220	410-17007-1	Grab	N	Iron	J	Serial Dilution
GWTS-1A	GWTS-1A-101220	410-17007-1	Grab	N	Manganese	J	MS/MSD - Percent recovery
GWTS-1A	GWTS-1A-101220-FD	410-17007-1	Grab	FD	Iron	J	Serial Dilution
GWTS-1A	GWTS-1A-101220-FD	410-17007-1	Grab	FD	Manganese	J	MS/MSD - Percent recovery
KAFB-0505	GW0505-203	410-8885-1	LF	N	Arsenic	UJ	MS/MSD - Percent recovery

FD = Field duplicate

ID = identification

LF = Low-flow sampling

MS/MSD = matrix spike/matrix spike duplicate

N = normal field sample

Qualifiers:

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

U = Qualifier denotes the analyte was analyzed for but was not detected above the detection limit.

Table 4
Field Quality Control Sample Results, Q4 2020

		Field Sample ID:	GWTS-FB01-100120			GWTS-FB01-120320			GWTS-FB02-111120			TB203-32			TB203-33			GWTS-TB01-100120			GWTS-TB01-111120					
		Sample Date:	10/1/2020			12/3/2020			11/11/2020			7/27/2020			7/27/2020			10/1/2020			11/11/2020					
		Sample Type:	FB			FB			FB			TB			TB			TB			TB					
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD			
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019			
VOCs	Method SW8260C (µg/L)	Benzene	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5			
		Ethylbenzene	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8			
		m- & p-Xylenes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
		o-Xylene	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
		Toluene	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	ND	U	2	ND	U	2.8	ND	U	3	ND	U	2	ND	U	2	ND	U	2	ND	U	2	ND	U	3

Table 4
Field Quality Control Sample Results, Q4 2020

		Field Sample ID:	GWTS-TB01-120320			GWTS-TB01-101220			GWTS-TB02-101220		
		Sample Date:	12/3/2020			10/12/2020			10/12/2020		
		Sample Type:	TB			TB			TB		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	ND	U	0.02	ND	U	0.014	—	—	—
VOCs	Method SW8260C (µg/L)	Benzene	ND	U	0.5	ND	U	0.4	ND	U	0.4
		Ethylbenzene	ND	U	0.8	ND	U	0.4	ND	U	0.4
		m- & p-Xylenes	—	—	—	ND	U	0.8	ND	U	0.8
		o-Xylene	—	—	—	ND	U	0.4	ND	U	0.4
		Toluene	ND	U	0.5	ND	U	0.4	ND	U	0.4
		Xylenes, total	ND	U	2.8	ND	U	0.8	ND	U	0.8

Table 4
Field Quality Control Sample Results, Q4 2020

µg/L = microgram per liter.

EDB = ethylene dibromide (1,2-dibromoethane).

FB = field blank.

ID = identification.

LOD = limit of detection.

ND = not detected above the detection limit.

TB = trip blank.

Val Qual = validation qualifier.

VOC = volatile organic compound.

Shading = detected concentrations above the detection limit.

Qualifiers:

Val Qual based on independent data validation.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

— = Compound not analyzed for.

**Table 5-1
Field Duplicate Sample Results for GWTS Groundwater, Q4 2020**

		Well Location ID:		GWTS-BFF-EFF1			GWTS-BFF-EFF1			GWTS-BFF-EFF2			GWTS-BFF-EFF2			GWTS-BFF-EFF2			GWTS-BFF-EFF2					
		Field Sample ID:		GWTS-EFF1-111120			GWTS-EFF1DUP-111120			GWTS-EFF2-100120			GWTS-EFF2DUP-100120			GWTS-EFF2-120320			GWTS-EFF2DUP-120320					
		Sample Date:		11/11/2020			11/11/2020			10/1/2020			10/1/2020			12/3/2020			12/3/2020					
		Sample Type:		REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate					
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	EPA RSL ^c	Project Screening Level ^d	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.075	0.05	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	5	5	4.5	5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	700	700	15	700	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1,000	1,100	1,000	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5	ND	U	0.5
		Xylenes, total	620	10,000	190	620	ND	U	3	ND	U	3	ND	U	2	ND	U	2	ND	U	2.8	ND	U	2.8
Dissolved	Method	Iron, dissolved	1.0	NS	NS	1.0	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1	ND	U	0.1
		Manganese, dissolved	0.2	NS	NS	0.2	ND	U	0.0052	ND	U	0.0052	ND	U	0.0052	ND	U	0.0052	ND	U	0.0052	ND	U	0.0052

^a NMWQCC numeric standards per the New Mexico Administrative Code Title 20.6.2.3101A, Standards for Groundwater of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC, 2018).

^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2018).

^c EPA Region 6 RSL for Tapwater (November 2020) for hazard index = 1.0 for noncarcinogens and a 10-5 cancer risk level for carcinogens.

^d The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL. If no NMWQCC numeric standard or MCL exists for any analyte, then the project screening level will be the EPA RSL.

µg/L = microgram per liter

AFB = Air Force Base

EDB = ethylene dibromide (1,2-dibromoethane)

EPA = U.S. Environmental Protection Agency

ID = identification

LOD = limit of detection

MCL = maximum contaminant level

mg/L = milligram per liter

ND = nondetect

NMAC = New Mexico Administrative Code

NMWQCC = New Mexico Water Quality Control Commission

NS = not specified

REG = normal field sample

RSL = regional screening level

Val Qual = validation qualifier

VOC = volatile organic compound

Shading = detected concentrations above the detection limit

Shading = reported concentrations exceed the project screening level

Val Quals based on independent data validation:

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

**Table 5-2
Field Duplicate Sample Results for DP-1839 Permit Wells, July 2020**

		Location ID:	ST105MW507R			ST105MW507R					
		EA Field Sample ID:	GW0507R-203			GW0507R-603					
		Sample Date:	7/27/2020			7/27/2020					
		Sample Type:	REG			Field Duplicate					
		Sample Depth (ft bgs):	505			505					
Parameter	Analytical Method	Analyte	NMAC NMWQCC ^a	EPA MCL ^b	Project Screening Level ^c	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/L)	1,2-Dibromoethane	0.1	0.05	0.05	ND	U	0.019	ND	U	0.019
VOCs	Method SW8260C (µg/L)	Benzene	10	5	5	ND	U	0.5	ND	U	0.5
		Ethylbenzene	750	700	700	ND	U	0.8	ND	U	0.8
		Toluene	1,000	1000	1000	1.7	--	0.5	1.7	--	0.5
		Xylenes, total	620	10000	620	ND	U	2	ND	U	2
Metals, dissolved	Methods SW6010C and SW6020A (mg/L)	Aluminum	5.0	NS	5.0	ND	U	0.16	ND	U	0.16
		Barium	2	2	2	0.063	--	0.0026	0.063	--	0.0026
		Calcium	NS	NS	NS	73	--	0.15	72	--	0.15
		Iron	1.0	NS	1.0	ND	U	0.1	ND	U	0.1
		Magnesium	NS	NS	NS	11	--	0.077	11	--	0.077
		Manganese	0.2	NS	0.2	ND	U	0.0052	ND	U	0.0052
		Potassium	NS	NS	NS	2.3	--	0.39	2.3	--	0.39
		Sodium	NS	NS	NS	29	--	0.52	28	--	0.52
		Arsenic	0.01	0.01	0.01	ND	U	0.0016	ND	U	0.0016
Strontium	NS	NS	NS	0.46	--	0.00082	0.46	--	0.00082		
Silica	Method SM4500 SIO2C (mg/L)	Silica	NS	NS	NS	27	--	0.9	27	--	0.9

^a NMWQCC numeric standards per the New Mexico Administrative Code Title 20.6.2.3101A, Standards for Groundwater of 10,000 mg/L Total Dissolved Solids Concentration or Less (NMAC 2018).

^b EPA National Primary Drinking Water Regulations, MCLs and Secondary MCLs, Title 40CFR Part 141, 143 (May 2018).

^c The project screening level was selected to satisfy the requirements of the Kirtland AFB Hazardous Waste Permit Number NM9570024423 as the lowest of (1) NMWQCC numeric standard or (2) EPA MCL. If no NMWQCC numeric standard or MCL exists for any analyte, then the project screening level will be the EPA RSL.

µg/L = microgram per liter

EDB = ethylene dibromide (1,2-dibromoethane)

EPA = U.S. Environmental Protection Agency

ft = foot/feet

ID = identification

LOD = limit of detection

MCL = maximum contaminant level

mg/L = milligram per liter

ND = nondetect

NMAC = New Mexico Administrative Code

NMWQCC = New Mexico Water Quality Control Commission

REG = normal field sample

RSL = regional screening level

Val Qual = validation qualifier

VOC = volatile organic compound

Shading = detected concentrations above the detection limit

Val Quals based on independent data validation.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

**Table 5-3
Field Duplicate Sample Results for GWTS Soil, Q4 2020**

		Well Location ID:	GWTS-1A			GWTS-1A			GWTS-2A			GWTS-2A		
		Field Sample ID:	GWTS-1A-101220			GWTS-1A-101220-FD			GWTS-2A-101220			GWTS-2A-101220-FD		
		Sample Date:	10/12/2020			10/12/2020			10/12/2020			10/12/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate		
Parameter	Analytical Method	Analyte	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD	Result	Val Qual	LOD
EDB	Method SW8011 (µg/kg)	1,2-Dibromoethane	ND	U	0.042	ND	U	0.042	ND	U	0.043	ND	U	0.043
VOCs	Method SW8260C (µg/kg)	Benzene	ND	U	0.4	ND	U	0.44	ND	U	0.43	ND	U	0.4
		Ethylbenzene	ND	U	0.8	ND	U	0.88	ND	U	0.86	ND	U	0.81
		m- & p-Xylenes	ND	U	3.2	ND	U	3.5	ND	U	3.4	ND	U	3.2
		o-Xylene	ND	U	0.8	ND	U	0.88	ND	U	0.86	ND	U	0.81
		Toluene	ND	U	0.8	ND	U	0.88	ND	U	0.86	ND	U	0.81
		Xylenes, total	ND	U	1	ND	U	1.1	ND	U	1.1	ND	U	1
Metals	Method SW6010C (mg/kg)	Iron	9,600	J	21	9,500	J	21	11,000	--	21	11,000	--	19
		Manganese	140	J	0.42	110	J	0.43	140	--	0.42	130	--	0.37

µg/kg = microgram per kilogram

EDB = ethylene dibromide (1,2-dibromoethane)

ID = identification

LOD = limit of detection

mg/kg= milligram per kilogram

ND = nondetect

REG = normal field sample

Val Qual = validation qualifier

VOC = volatile organic compound

Shading = detected concentrations above the detection limit

Val Quals based on independent data validation.

U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

-- = Validation qualifier not assigned.

Table 6
Technical Data Completeness, Q4 2020

Analytical Parameter	Field/Field Duplicate Sample Analytes	Quality Control Sample Analytes (TB and FB)	Qualified Analytes	Percent Technical Completeness^a
BTEX (SW8260C)	100	44	0	100
VOCs (SW8260C) ^b	64	12	0	100
Ethylene dibromide (SW8011)	41	10	0	100
Dissolved metals (SW6010C) ^c	74	0	4	100
Metals (SW6010C) ^d	18	0	0	100
Dissolved metals (SW6020A) ^e	8	0	1	100
Anions (E300.1) ^f	4	0	0	100
Perchlorate (E331.0)	2	0	0	100
Silica (SM4500SIO2C)	4	0	0	100

^a Percent technical completeness including analytes qualified as estimated data. No data were rejected.

^b VOCs (SW8260C) in soil = benzene, toluene, ethylbenzene, m- & p-Xylenes, o-Xylene, and xylenes

^c Dissolved metals (SW6010C) = dissolved iron, manganese for GWTS samples and aluminum, barium, calcium, iron, magnesium, manganese, potassium, and sodium for groundwater samples.

^d Metals (SW6010C) in soil = iron, manganese.

^e Dissolved metals (SW6020A) = dissolved arsenic and strontium for groundwater samples.

^f Anions (E300.1) = chlorite and bromate.

BTEX = benzene, toluene, ethylbenzene, xylenes

FB = field blank

TB = trip blank



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ANALYTICAL REPORT

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Laboratory Job ID: 410-8885-1
Client Project/Site: Kirtland AFB

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Laboratory Job ID: 410-8885-1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Kay Hower
 Principal Project Manager
 8/24/2020 3:12:21 PM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

General Chemistry

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Eurofins Lancaster Laboratories Env, LLC

Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Glossary (Continued)

Abbreviation **These commonly used abbreviations may or may not be present in this report.**

RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1



Job ID: 410-8885-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
 410-8885-1

Receipt

The samples were received on 7/28/2020 11:28 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3° C and 0.8° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

Method 6020A: ICSA/ICSAB was expired when analyzed. Standards were confirmed to recover by ICP.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0505-203

Lab Sample ID: 410-8885-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Toluene	2.1		1.0	0.50	0.20	ug/L	1		8260C DOD	Total/NA
Sodium	28	J1	1.0	0.52	0.25	mg/L	1		6010C	Dissolved
Potassium	2.5		0.52	0.39	0.21	mg/L	1		6010C	Dissolved
Barium	0.075		0.0052	0.0026	0.0010	mg/L	1		6010C	Dissolved
Calcium	73	J1	0.21	0.15	0.099	mg/L	1		6010C	Dissolved
Magnesium	13	J1	0.10	0.077	0.041	mg/L	1		6010C	Dissolved
Strontium	0.51	J1	0.0010	0.00082	0.00040	mg/L	1		6020A	Dissolved
Silica (SiO2)	26	D J1	1.0	0.90	0.50	mg/L	10		4500 SiO2C-2011	Total/NA

Client Sample ID: GW0507R-203

Lab Sample ID: 410-8885-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1.7		1.0	0.50	0.20	ug/L	1		8260C DOD	Total/NA
Sodium	29		1.0	0.52	0.25	mg/L	1		6010C	Dissolved
Potassium	2.3		0.52	0.39	0.21	mg/L	1		6010C	Dissolved
Barium	0.063		0.0052	0.0026	0.0010	mg/L	1		6010C	Dissolved
Calcium	73		0.21	0.15	0.099	mg/L	1		6010C	Dissolved
Magnesium	11		0.10	0.077	0.041	mg/L	1		6010C	Dissolved
Strontium	0.46		0.0010	0.00082	0.00040	mg/L	1		6020A	Dissolved
Silica (SiO2)	27	D	1.0	0.90	0.50	mg/L	10		4500 SiO2C-2011	Total/NA

Client Sample ID: GW0507R-603

Lab Sample ID: 410-8885-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1.7		1.0	0.50	0.20	ug/L	1		8260C DOD	Total/NA
Sodium	28		1.0	0.52	0.25	mg/L	1		6010C	Dissolved
Potassium	2.3		0.52	0.39	0.21	mg/L	1		6010C	Dissolved
Barium	0.063		0.0052	0.0026	0.0010	mg/L	1		6010C	Dissolved
Calcium	72		0.21	0.15	0.099	mg/L	1		6010C	Dissolved
Magnesium	11		0.10	0.077	0.041	mg/L	1		6010C	Dissolved
Strontium	0.46		0.0010	0.00082	0.00040	mg/L	1		6020A	Dissolved
Silica (SiO2)	27	D	1.0	0.90	0.50	mg/L	10		4500 SiO2C-2011	Total/NA

Client Sample ID: GW0508-203

Lab Sample ID: 410-8885-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Toluene	4.1		1.0	0.50	0.20	ug/L	1		8260C DOD	Total/NA
Sodium	25		1.0	0.52	0.25	mg/L	1		6010C	Dissolved
Potassium	2.0		0.52	0.39	0.21	mg/L	1		6010C	Dissolved
Barium	0.11		0.0052	0.0026	0.0010	mg/L	1		6010C	Dissolved
Calcium	46		0.21	0.15	0.099	mg/L	1		6010C	Dissolved
Magnesium	6.7		0.10	0.077	0.041	mg/L	1		6010C	Dissolved
Arsenic	0.0010	J	0.0021	0.0016	0.00070	mg/L	1		6020A	Dissolved
Strontium	0.33		0.0010	0.00082	0.00040	mg/L	1		6020A	Dissolved
Silica (SiO2)	30	D	1.0	0.90	0.50	mg/L	10		4500 SiO2C-2011	Total/NA

Client Sample ID: TB203-32

Lab Sample ID: 410-8885-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: TB203-33

Lab Sample ID: 410-8885-6

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0505-203

Lab Sample ID: 410-8885-1

Date Collected: 07/27/20 11:45

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 23:05	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/09/20 23:05	1
Toluene	2.1		1.0	0.50	0.20	ug/L		08/09/20 23:05	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/09/20 23:05	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	95		81 - 118			08/09/20 23:05	1		
4-Bromofluorobenzene (Surr)	100		85 - 114			08/09/20 23:05	1		
Dibromofluoromethane (Surr)	90		80 - 119			08/09/20 23:05	1		
Toluene-d8 (Surr)	100		89 - 112			08/09/20 23:05	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0096	ug/L		08/04/20 01:22	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	55		46 - 136		07/30/20 17:59	08/04/20 01:22	1		
1,1,2,2-Tetrachloroethane (2C)	48		46 - 136		07/30/20 17:59	08/04/20 01:22	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		08/03/20 18:14	1
Manganese	0.0052	U J1	0.010	0.0052	0.0031	mg/L		08/03/20 18:14	1
Sodium	28	J1	1.0	0.52	0.25	mg/L		08/03/20 18:14	1
Potassium	2.5		0.52	0.39	0.21	mg/L		08/03/20 18:14	1
Barium	0.075		0.0052	0.0026	0.0010	mg/L		08/03/20 18:14	1
Calcium	73	J1	0.21	0.15	0.099	mg/L		08/03/20 18:14	1
Magnesium	13	J1	0.10	0.077	0.041	mg/L		08/03/20 18:14	1
Aluminum	0.16	U	0.21	0.16	0.16	mg/L		08/03/20 18:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	0.0016	U J1	0.0021	0.0016	0.00070	mg/L		08/16/20 17:39	1
Strontium	0.51	J1	0.0010	0.00082	0.00040	mg/L		08/18/20 16:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Silica (SiO2)	26	D J1	1.0	0.90	0.50	mg/L		08/12/20 21:43	10

Client Sample ID: GW0507R-203

Lab Sample ID: 410-8885-2

Date Collected: 07/27/20 13:45

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/10/20 00:11	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/10/20 00:11	1
Toluene	1.7		1.0	0.50	0.20	ug/L		08/10/20 00:11	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/10/20 00:11	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	96		81 - 118			08/10/20 00:11	1		

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0507R-203

Lab Sample ID: 410-8885-2

Date Collected: 07/27/20 13:45

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		85 - 114		08/10/20 00:11	1
Dibromofluoromethane (Surr)	91		80 - 119		08/10/20 00:11	1
Toluene-d8 (Surr)	99		89 - 112		08/10/20 00:11	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0096	ug/L		08/04/20 02:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	50		46 - 136	07/30/20 17:59	08/04/20 02:13	1
1,1,2,2-Tetrachloroethane (2C)	48		46 - 136	07/30/20 17:59	08/04/20 02:13	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		08/03/20 18:34	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		08/03/20 18:34	1
Sodium	29		1.0	0.52	0.25	mg/L		08/03/20 18:34	1
Potassium	2.3		0.52	0.39	0.21	mg/L		08/03/20 18:34	1
Barium	0.063		0.0052	0.0026	0.0010	mg/L		08/03/20 18:34	1
Calcium	73		0.21	0.15	0.099	mg/L		08/03/20 18:34	1
Magnesium	11		0.10	0.077	0.041	mg/L		08/03/20 18:34	1
Aluminum	0.16	U	0.21	0.16	0.16	mg/L		08/03/20 18:34	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	0.0016	U	0.0021	0.0016	0.00070	mg/L		08/16/20 17:32	1
Strontium	0.46		0.0010	0.00082	0.00040	mg/L		08/18/20 16:11	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Silica (SiO2)	27	D	1.0	0.90	0.50	mg/L		08/12/20 21:47	10

Client Sample ID: GW0507R-603

Lab Sample ID: 410-8885-3

Date Collected: 07/27/20 13:45

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/10/20 00:33	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/10/20 00:33	1
Toluene	1.7		1.0	0.50	0.20	ug/L		08/10/20 00:33	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/10/20 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118		08/10/20 00:33	1
4-Bromofluorobenzene (Surr)	100		85 - 114		08/10/20 00:33	1
Dibromofluoromethane (Surr)	91		80 - 119		08/10/20 00:33	1
Toluene-d8 (Surr)	99		89 - 112		08/10/20 00:33	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0507R-603

Lab Sample ID: 410-8885-3

Date Collected: 07/27/20 13:45

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0096	ug/L		08/04/20 02:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	51		46 - 136				07/30/20 17:59	08/04/20 02:30	1
1,1,2,2-Tetrachloroethane (2C)	53		46 - 136				07/30/20 17:59	08/04/20 02:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		08/03/20 18:38	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		08/03/20 18:38	1
Sodium	28		1.0	0.52	0.25	mg/L		08/03/20 18:38	1
Potassium	2.3		0.52	0.39	0.21	mg/L		08/03/20 18:38	1
Barium	0.063		0.0052	0.0026	0.0010	mg/L		08/03/20 18:38	1
Calcium	72		0.21	0.15	0.099	mg/L		08/03/20 18:38	1
Magnesium	11		0.10	0.077	0.041	mg/L		08/03/20 18:38	1
Aluminum	0.16	U	0.21	0.16	0.16	mg/L		08/03/20 18:38	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	0.0016	U	0.0021	0.0016	0.00070	mg/L		08/16/20 17:34	1
Strontium	0.46		0.0010	0.00082	0.00040	mg/L		08/18/20 16:13	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Silica (SiO2)	27	D	1.0	0.90	0.50	mg/L		08/12/20 21:47	10

Client Sample ID: GW0508-203

Lab Sample ID: 410-8885-4

Date Collected: 07/27/20 09:25

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/10/20 00:55	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/10/20 00:55	1
Toluene	4.1		1.0	0.50	0.20	ug/L		08/10/20 00:55	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/10/20 00:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118					08/10/20 00:55	1
4-Bromofluorobenzene (Surr)	100		85 - 114					08/10/20 00:55	1
Dibromofluoromethane (Surr)	90		80 - 119					08/10/20 00:55	1
Toluene-d8 (Surr)	99		89 - 112					08/10/20 00:55	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0096	ug/L		08/04/20 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	50		46 - 136				07/30/20 17:59	08/04/20 02:47	1
1,1,2,2-Tetrachloroethane (2C)	49		46 - 136				07/30/20 17:59	08/04/20 02:47	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0508-203

Lab Sample ID: 410-8885-4

Date Collected: 07/27/20 09:25

Matrix: Water

Date Received: 07/28/20 11:28

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		08/03/20 18:48	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		08/03/20 18:48	1
Sodium	25		1.0	0.52	0.25	mg/L		08/03/20 18:48	1
Potassium	2.0		0.52	0.39	0.21	mg/L		08/03/20 18:48	1
Barium	0.11		0.0052	0.0026	0.0010	mg/L		08/03/20 18:48	1
Calcium	46		0.21	0.15	0.099	mg/L		08/03/20 18:48	1
Magnesium	6.7		0.10	0.077	0.041	mg/L		08/03/20 18:48	1
Aluminum	0.16	U	0.21	0.16	0.16	mg/L		08/03/20 18:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	0.0010	J	0.0021	0.0016	0.00070	mg/L		08/16/20 17:37	1
Strontium	0.33		0.0010	0.00082	0.00040	mg/L		08/18/20 16:16	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Silica (SiO2)	30	D	1.0	0.90	0.50	mg/L		08/12/20 21:48	10

Client Sample ID: TB203-32

Lab Sample ID: 410-8885-5

Date Collected: 07/27/20 15:30

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:36	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/09/20 21:36	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:36	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/09/20 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118		08/09/20 21:36	1
4-Bromofluorobenzene (Surr)	99		85 - 114		08/09/20 21:36	1
Dibromofluoromethane (Surr)	92		80 - 119		08/09/20 21:36	1
Toluene-d8 (Surr)	100		89 - 112		08/09/20 21:36	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0097	ug/L		08/04/20 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	48		46 - 136	07/30/20 17:59	08/04/20 03:04	1
1,1,2,2-Tetrachloroethane (2C)	49		46 - 136	07/30/20 17:59	08/04/20 03:04	1

Client Sample ID: TB203-33

Lab Sample ID: 410-8885-6

Date Collected: 07/27/20 15:30

Matrix: Water

Date Received: 07/28/20 11:28

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:58	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/09/20 21:58	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:58	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: TB203-33

Lab Sample ID: 410-8885-6

Date Collected: 07/27/20 15:30

Matrix: Water

Date Received: 07/28/20 11:28

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/09/20 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118		08/09/20 21:58	1
4-Bromofluorobenzene (Surr)	101		85 - 114		08/09/20 21:58	1
Dibromofluoromethane (Surr)	90		80 - 119		08/09/20 21:58	1
Toluene-d8 (Surr)	100		89 - 112		08/09/20 21:58	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0097	ug/L		08/04/20 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	50		46 - 136	07/30/20 17:59	08/04/20 03:21	1
1,1,2,2-Tetrachloroethane (2C)	50		46 - 136	07/30/20 17:59	08/04/20 03:21	1

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Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (81-118)	BFB (85-114)	DBFM (80-119)	TOL (89-112)
410-8885-1	GW0505-203	95	100	90	100
410-8885-1 MS	GW0505-203	97	100	90	100
410-8885-1 MSD	GW0505-203	96	100	90	100
410-8885-2	GW0507R-203	96	99	91	99
410-8885-3	GW0507R-603	97	100	91	99
410-8885-4	GW0508-203	97	100	90	99
410-8885-5	TB203-32	97	99	92	100
410-8885-6	TB203-33	97	101	90	100
LCS 410-31113/4	Lab Control Sample	96	101	91	99
LCSD 410-31113/5	Lab Control Sample Dup	98	100	91	100
MB 410-31113/7	Method Blank	96	100	91	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1122TCA1 (46-136)	1122TCA2 (46-136)
410-8885-1	GW0505-203	55	48
410-8885-1 MS	GW0505-203	61	52
410-8885-1 MSD	GW0505-203	60	50
410-8885-2	GW0507R-203	50	48
410-8885-3	GW0507R-603	51	53
410-8885-4	GW0508-203	50	49
410-8885-5	TB203-32	48	49
410-8885-6	TB203-33	50	50
LCS 410-28230/2-A	Lab Control Sample	49	51
LCSD 410-28230/3-A	Lab Control Sample Dup	49	52
MB 410-28230/1-A	Method Blank	49	49

Surrogate Legend

1122TCA = 1,1,2,2-Tetrachloroethane

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-31113/7
Matrix: Water
Analysis Batch: 31113

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:13	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		08/09/20 21:13	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		08/09/20 21:13	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		08/09/20 21:13	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		81 - 118		08/09/20 21:13	1
4-Bromofluorobenzene (Surr)	100		85 - 114		08/09/20 21:13	1
Dibromofluoromethane (Surr)	91		80 - 119		08/09/20 21:13	1
Toluene-d8 (Surr)	99		89 - 112		08/09/20 21:13	1

Lab Sample ID: LCS 410-31113/4
Matrix: Water
Analysis Batch: 31113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	20.0	20.9		ug/L		105	42 - 138
Ethylbenzene	20.0	21.1		ug/L		105	79 - 121
Toluene	20.0	21.4		ug/L		107	80 - 121
Xylenes, Total	60.0	63.5		ug/L		106	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		81 - 118
4-Bromofluorobenzene (Surr)	101		85 - 114
Dibromofluoromethane (Surr)	91		80 - 119
Toluene-d8 (Surr)	99		89 - 112

Lab Sample ID: LCSD 410-31113/5
Matrix: Water
Analysis Batch: 31113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Benzene	20.0	20.7		ug/L		103	42 - 138	1	20
Ethylbenzene	20.0	20.9		ug/L		105	79 - 121	1	20
Toluene	20.0	21.1		ug/L		106	80 - 121	1	20
Xylenes, Total	60.0	62.4		ug/L		104	79 - 121	2	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		81 - 118
4-Bromofluorobenzene (Surr)	100		85 - 114
Dibromofluoromethane (Surr)	91		80 - 119
Toluene-d8 (Surr)	100		89 - 112

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 410-8885-1 MS
Matrix: Water
Analysis Batch: 31113

Client Sample ID: GW0505-203
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzene	0.50	U	20.0	22.1		ug/L		110	42 - 138	
Ethylbenzene	0.80	U	20.0	22.6		ug/L		113	79 - 121	
Toluene	2.1		20.0	25.0		ug/L		114	80 - 121	
Xylenes, Total	2.0	U	60.0	67.4		ug/L		112	79 - 121	
Surrogate										
	MS	MS								
	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	97		81 - 118							
4-Bromofluorobenzene (Surr)	100		85 - 114							
Dibromofluoromethane (Surr)	90		80 - 119							
Toluene-d8 (Surr)	100		89 - 112							

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 31113

Client Sample ID: GW0505-203
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier								
Benzene	0.50	U	20.0	22.4		ug/L		112	42 - 138	2	20		
Ethylbenzene	0.80	U	20.0	23.1		ug/L		115	79 - 121	2	20		
Toluene	2.1		20.0	25.3		ug/L		116	80 - 121	1	20		
Xylenes, Total	2.0	U	60.0	68.9		ug/L		115	79 - 121	2	20		
Surrogate													
	MSD	MSD											
	%Recovery	Qualifier	Limits										
1,2-Dichloroethane-d4 (Surr)	96		81 - 118										
4-Bromofluorobenzene (Surr)	100		85 - 114										
Dibromofluoromethane (Surr)	90		80 - 119										
Toluene-d8 (Surr)	100		89 - 112										

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 410-28230/1-A
Matrix: Water
Analysis Batch: 29152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28230

Analyte	MB	MB	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
	Result	Qualifier								
Ethylene Dibromide (1C)	0.020	U M	0.030	0.020	0.010	ug/L		08/03/20 19:42	1	
Surrogate										
	MB	MB						Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier	Limits							
1,1,2,2-Tetrachloroethane (1C)	49		46 - 136					07/30/20 17:59	08/03/20 19:42	1
1,1,2,2-Tetrachloroethane (2C)	49		46 - 136					07/30/20 17:59	08/03/20 19:42	1

Lab Sample ID: LCS 410-28230/2-A
Matrix: Water
Analysis Batch: 29152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28230

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
Ethylene Dibromide (1C)	0.128	0.170		ug/L		132	60 - 140	

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QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCS 410-28230/2-A
Matrix: Water
Analysis Batch: 29152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28230

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	49		46 - 136
1,1,2,2-Tetrachloroethane (2C)	51		46 - 136

Lab Sample ID: LCSD 410-28230/3-A
Matrix: Water
Analysis Batch: 29152

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28230

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD Limit
							Limits	RPD	
Ethylene Dibromide (1C)	0.128	0.168		ug/L		131	60 - 140	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	49		46 - 136
1,1,2,2-Tetrachloroethane (2C)	52		46 - 136

Lab Sample ID: 410-8885-1 MS
Matrix: Water
Analysis Batch: 29152

Client Sample ID: GW0505-203
Prep Type: Total/NA
Prep Batch: 28230

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	RPD
Ethylene Dibromide (1C)	0.019	U M	0.123	0.154		ug/L		125	60 - 140	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	61		46 - 136
1,1,2,2-Tetrachloroethane (2C)	52		46 - 136

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 29152

Client Sample ID: GW0505-203
Prep Type: Total/NA
Prep Batch: 28230

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	
									Limits	RPD
Ethylene Dibromide (1C)	0.019	U M	0.122	0.151		ug/L		124	60 - 140	2

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	60		46 - 136
1,1,2,2-Tetrachloroethane (2C)	50		46 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-27394/1-A
Matrix: Water
Analysis Batch: 29192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27394

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed		Dil Fac
	Result	Qualifier						Time	Date	
Iron	0.10	U	0.21	0.10	0.041	mg/L		08/03/20	18:08	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		08/03/20	18:08	1
Sodium	0.52	U	1.0	0.52	0.25	mg/L		08/03/20	18:08	1
Potassium	0.39	U	0.52	0.39	0.21	mg/L		08/03/20	18:08	1
Barium	0.0026	U	0.0052	0.0026	0.0010	mg/L		08/03/20	18:08	1

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QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 410-27394/1-A
Matrix: Water
Analysis Batch: 29192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27394

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	0.15	U	0.21	0.15	0.099	mg/L		08/03/20 18:08	1
Magnesium	0.077	U	0.10	0.077	0.041	mg/L		08/03/20 18:08	1
Aluminum	0.16	U	0.21	0.16	0.16	mg/L		08/03/20 18:08	1

Lab Sample ID: LCS 410-27394/2-A
Matrix: Water
Analysis Batch: 29192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron	0.402	0.428		mg/L		106	87 - 115
Manganese	0.0200	0.0214		mg/L		107	90 - 114
Sodium	2.00	2.21		mg/L		110	87 - 115
Potassium	5.60	5.95		mg/L		106	86 - 114
Barium	0.0100	0.0106		mg/L		106	88 - 113
Calcium	0.400	0.426		mg/L		107	87 - 113
Magnesium	0.200	0.214		mg/L		107	85 - 113
Aluminum	0.401	0.437		mg/L		109	88 - 113

Lab Sample ID: 410-8885-1 MS
Matrix: Water
Analysis Batch: 29192

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 27394

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron	0.10	U	0.402	0.440		mg/L		109	87 - 115
Manganese	0.0052	U J1	0.0200	0.0233	J1	mg/L		117	90 - 114
Sodium	28	J1	2.00	30.3	4	mg/L		107	87 - 115
Potassium	2.5		5.60	8.66		mg/L		111	86 - 114
Barium	0.075		0.0100	0.0857	4	mg/L		104	88 - 113
Calcium	73	J1	0.400	73.7	4	mg/L		125	87 - 113
Magnesium	13	J1	0.200	12.9	4	mg/L		121	85 - 113
Aluminum	0.16	U	0.401	0.429		mg/L		107	86 - 115

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 29192

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 27394

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	
										RPD	Limit
Iron	0.10	U	0.402	0.438		mg/L		109	87 - 115	1	20
Manganese	0.0052	U J1	0.0200	0.0235	J1	mg/L		118	90 - 114	1	20
Sodium	28	J1	2.00	30.2	4	mg/L		102	87 - 115	0	20
Potassium	2.5		5.60	8.64		mg/L		110	86 - 114	0	20
Barium	0.075		0.0100	0.0854	4	mg/L		101	88 - 113	0	20
Calcium	73	J1	0.400	73.4	4	mg/L		67	87 - 113	0	20
Magnesium	13	J1	0.200	12.9	4	mg/L		96	85 - 113	0	20
Aluminum	0.16	U	0.401	0.437		mg/L		109	86 - 115	2	20

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QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 410-8885-1 DU
 Matrix: Water
 Analysis Batch: 29192

Client Sample ID: GW0505-203
 Prep Type: Dissolved
 Prep Batch: 27394

Analyte	Sample		DU		Unit	D	RPD	
	Result	Qualifier	Result	Qualifier			RPD	Limit
Iron	0.10	U	0.10	U	mg/L		NC	20
Manganese	0.0052	U J1	0.0052	U	mg/L		NC	20
Sodium	28	J1	28.2		mg/L		0.2	20
Potassium	2.5		2.45		mg/L		0.08	20
Barium	0.075		0.0756		mg/L		0.4	20
Calcium	73	J1	73.1		mg/L		0.1	20
Magnesium	13	J1	12.7		mg/L		0	20
Aluminum	0.16	U	0.16	U	mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 410-32162/1-A
 Matrix: Water
 Analysis Batch: 34012

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 32162

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	0.0016	U	0.0021	0.0016	0.00070	mg/L		08/16/20 17:03	1

Lab Sample ID: MB 410-32162/1-A
 Matrix: Water
 Analysis Batch: 34580

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 32162

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Strontium	0.00082	U	0.0010	0.00082	0.00040	mg/L		08/18/20 16:07	1

Lab Sample ID: LCS 410-32162/2-A
 Matrix: Water
 Analysis Batch: 34012

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 32162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.00989	0.0103		mg/L		104	84 - 116

Lab Sample ID: LCS 410-32162/2-A
 Matrix: Water
 Analysis Batch: 34580

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 32162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Strontium	0.0398	0.0448		mg/L		113	82 - 118

Lab Sample ID: 410-8885-1 MS
 Matrix: Water
 Analysis Batch: 34012

Client Sample ID: GW0505-203
 Prep Type: Dissolved
 Prep Batch: 32162

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	0.0016	U J1	0.00989	0.0017	U J1	mg/L		0	84 - 116

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 6020A - Metals (ICP/MS) (Continued)

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Lab Sample ID: 410-8885-1 MS
Matrix: Water
Analysis Batch: 34580

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 32162

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium	0.51	J1	0.0398	0.560	4	mg/L		131	82 - 118

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 34012

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 32162

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.0016	U J1	0.00989	0.00498	J1	mg/L		50	84 - 116	NC	20

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 34580

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 32162

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Strontium	0.51	J1	0.0398	0.559	4	mg/L		127	82 - 118	0	20

Lab Sample ID: 410-8885-1 DU
Matrix: Water
Analysis Batch: 34012

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 32162

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	0.0016	U J1	0.0016	U	mg/L		NC	20

Lab Sample ID: 410-8885-1 DU
Matrix: Water
Analysis Batch: 34580

Client Sample ID: GW0505-203
Prep Type: Dissolved
Prep Batch: 32162

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Strontium	0.51	J1	0.514		mg/L		1	20

Method: 4500 SiO2C-2011 - Silica, Molybdosilicate Method

Lab Sample ID: MB 410-32605/13
Matrix: Water
Analysis Batch: 32605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Silica (SiO2)	0.090	U	0.10	0.090	0.050	mg/L		08/12/20 21:18	1

Lab Sample ID: LCS 410-32605/12
Matrix: Water
Analysis Batch: 32605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silica (SiO2)	2.00	2.04		mg/L		102	90 - 110

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method: 4500 SiO2C-2011 - Silica, Molybdosilicate Method (Continued)

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Lab Sample ID: 410-8885-1 MS
Matrix: Water
Analysis Batch: 32605

Client Sample ID: GW0505-203
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silica (SiO2)	26	D J1	20.0	25.2	D J1	mg/L		-2	90 - 110

Lab Sample ID: 410-8885-1 MSD
Matrix: Water
Analysis Batch: 32605

Client Sample ID: GW0505-203
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silica (SiO2)	26	D J1	20.0	25.2	D J1	mg/L		-2	90 - 110	0	10

Lab Sample ID: 410-8885-1 DU
Matrix: Water
Analysis Batch: 32605

Client Sample ID: GW0505-203
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Silica (SiO2)	26	D J1	25.6	D	mg/L		0.2	10

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

GC/MS VOA

Analysis Batch: 31113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Total/NA	Water	8260C DOD	
410-8885-2	GW0507R-203	Total/NA	Water	8260C DOD	
410-8885-3	GW0507R-603	Total/NA	Water	8260C DOD	
410-8885-4	GW0508-203	Total/NA	Water	8260C DOD	
410-8885-5	TB203-32	Total/NA	Water	8260C DOD	
410-8885-6	TB203-33	Total/NA	Water	8260C DOD	
MB 410-31113/7	Method Blank	Total/NA	Water	8260C DOD	
LCS 410-31113/4	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 410-31113/5	Lab Control Sample Dup	Total/NA	Water	8260C DOD	
410-8885-1 MS	GW0505-203	Total/NA	Water	8260C DOD	
410-8885-1 MSD	GW0505-203	Total/NA	Water	8260C DOD	

GC Semi VOA

Prep Batch: 28230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Total/NA	Water	8011	
410-8885-2	GW0507R-203	Total/NA	Water	8011	
410-8885-3	GW0507R-603	Total/NA	Water	8011	
410-8885-4	GW0508-203	Total/NA	Water	8011	
410-8885-5	TB203-32	Total/NA	Water	8011	
410-8885-6	TB203-33	Total/NA	Water	8011	
MB 410-28230/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-28230/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 410-28230/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
410-8885-1 MS	GW0505-203	Total/NA	Water	8011	
410-8885-1 MSD	GW0505-203	Total/NA	Water	8011	

Analysis Batch: 29152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Total/NA	Water	8011	28230
410-8885-2	GW0507R-203	Total/NA	Water	8011	28230
410-8885-3	GW0507R-603	Total/NA	Water	8011	28230
410-8885-4	GW0508-203	Total/NA	Water	8011	28230
410-8885-5	TB203-32	Total/NA	Water	8011	28230
410-8885-6	TB203-33	Total/NA	Water	8011	28230
MB 410-28230/1-A	Method Blank	Total/NA	Water	8011	28230
LCS 410-28230/2-A	Lab Control Sample	Total/NA	Water	8011	28230
LCSD 410-28230/3-A	Lab Control Sample Dup	Total/NA	Water	8011	28230
410-8885-1 MS	GW0505-203	Total/NA	Water	8011	28230
410-8885-1 MSD	GW0505-203	Total/NA	Water	8011	28230

Metals

Prep Batch: 27394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-2	GW0507R-203	Dissolved	Water	Non-Digest Prep	
410-8885-3	GW0507R-603	Dissolved	Water	Non-Digest Prep	
410-8885-4	GW0508-203	Dissolved	Water	Non-Digest Prep	
MB 410-27394/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-27394/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Metals (Continued)

Prep Batch: 27394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1 MS	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-1 MSD	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-1 DU	GW0505-203	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 29192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Dissolved	Water	6010C	27394
410-8885-2	GW0507R-203	Dissolved	Water	6010C	27394
410-8885-3	GW0507R-603	Dissolved	Water	6010C	27394
410-8885-4	GW0508-203	Dissolved	Water	6010C	27394
MB 410-27394/1-A	Method Blank	Total/NA	Water	6010C	27394
LCS 410-27394/2-A	Lab Control Sample	Total/NA	Water	6010C	27394
410-8885-1 MS	GW0505-203	Dissolved	Water	6010C	27394
410-8885-1 MSD	GW0505-203	Dissolved	Water	6010C	27394
410-8885-1 DU	GW0505-203	Dissolved	Water	6010C	27394

Prep Batch: 32162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-2	GW0507R-203	Dissolved	Water	Non-Digest Prep	
410-8885-3	GW0507R-603	Dissolved	Water	Non-Digest Prep	
410-8885-4	GW0508-203	Dissolved	Water	Non-Digest Prep	
MB 410-32162/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-32162/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-8885-1 MS	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-1 MSD	GW0505-203	Dissolved	Water	Non-Digest Prep	
410-8885-1 DU	GW0505-203	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 34012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Dissolved	Water	6020A	32162
410-8885-2	GW0507R-203	Dissolved	Water	6020A	32162
410-8885-3	GW0507R-603	Dissolved	Water	6020A	32162
410-8885-4	GW0508-203	Dissolved	Water	6020A	32162
MB 410-32162/1-A	Method Blank	Total/NA	Water	6020A	32162
LCS 410-32162/2-A	Lab Control Sample	Total/NA	Water	6020A	32162
410-8885-1 MS	GW0505-203	Dissolved	Water	6020A	32162
410-8885-1 MSD	GW0505-203	Dissolved	Water	6020A	32162
410-8885-1 DU	GW0505-203	Dissolved	Water	6020A	32162

Analysis Batch: 34580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Dissolved	Water	6020A	32162
410-8885-2	GW0507R-203	Dissolved	Water	6020A	32162
410-8885-3	GW0507R-603	Dissolved	Water	6020A	32162
410-8885-4	GW0508-203	Dissolved	Water	6020A	32162
MB 410-32162/1-A	Method Blank	Total/NA	Water	6020A	32162
LCS 410-32162/2-A	Lab Control Sample	Total/NA	Water	6020A	32162
410-8885-1 MS	GW0505-203	Dissolved	Water	6020A	32162
410-8885-1 MSD	GW0505-203	Dissolved	Water	6020A	32162
410-8885-1 DU	GW0505-203	Dissolved	Water	6020A	32162

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

General Chemistry

Analysis Batch: 32605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8885-1	GW0505-203	Total/NA	Water	4500	
410-8885-2	GW0507R-203	Total/NA	Water	4500	
410-8885-3	GW0507R-603	Total/NA	Water	4500	
410-8885-4	GW0508-203	Total/NA	Water	4500	
MB 410-32605/13	Method Blank	Total/NA	Water	4500	
LCS 410-32605/12	Lab Control Sample	Total/NA	Water	4500	
410-8885-1 MS	GW0505-203	Total/NA	Water	4500	
410-8885-1 MSD	GW0505-203	Total/NA	Water	4500	
410-8885-1 DU	GW0505-203	Total/NA	Water	4500	

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Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0505-203**Lab Sample ID: 410-8885-1****Date Collected: 07/27/20 11:45****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/09/20 23:05	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 01:22	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			27394	07/29/20 05:13	UJL8	ELLE
Dissolved	Analysis	6010C		1	29192	08/03/20 18:14	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34012	08/16/20 17:39	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34580	08/18/20 16:18	S2GN	ELLE
Total/NA	Analysis	4500 SiO2C-2011		10	32605	08/12/20 21:43	QU5I	ELLE

Client Sample ID: GW0507R-203**Lab Sample ID: 410-8885-2****Date Collected: 07/27/20 13:45****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/10/20 00:11	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 02:13	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			27394	07/29/20 05:13	UJL8	ELLE
Dissolved	Analysis	6010C		1	29192	08/03/20 18:34	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34012	08/16/20 17:32	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34580	08/18/20 16:11	S2GN	ELLE
Total/NA	Analysis	4500 SiO2C-2011		10	32605	08/12/20 21:47	QU5I	ELLE

Client Sample ID: GW0507R-603**Lab Sample ID: 410-8885-3****Date Collected: 07/27/20 13:45****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/10/20 00:33	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 02:30	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			27394	07/29/20 05:13	UJL8	ELLE
Dissolved	Analysis	6010C		1	29192	08/03/20 18:38	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34012	08/16/20 17:34	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34580	08/18/20 16:13	S2GN	ELLE
Total/NA	Analysis	4500 SiO2C-2011		10	32605	08/12/20 21:47	QU5I	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Client Sample ID: GW0508-203**Lab Sample ID: 410-8885-4****Date Collected: 07/27/20 09:25****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/10/20 00:55	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 02:47	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			27394	07/29/20 05:13	UJL8	ELLE
Dissolved	Analysis	6010C		1	29192	08/03/20 18:48	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34012	08/16/20 17:37	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			32162	08/12/20 04:49	UJL8	ELLE
Dissolved	Analysis	6020A		1	34580	08/18/20 16:16	S2GN	ELLE
Total/NA	Analysis	4500 SiO2C-2011		10	32605	08/12/20 21:48	QU5I	ELLE

Client Sample ID: TB203-32**Lab Sample ID: 410-8885-5****Date Collected: 07/27/20 15:30****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/09/20 21:36	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 03:04	AC3T	ELLE

Client Sample ID: TB203-33**Lab Sample ID: 410-8885-6****Date Collected: 07/27/20 15:30****Matrix: Water****Date Received: 07/28/20 11:28**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	31113	08/09/20 21:58	NSK7	ELLE
Total/NA	Prep	8011			28230	07/30/20 17:59	K2IL	ELLE
Total/NA	Analysis	8011		1	29152	08/04/20 03:21	AC3T	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

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Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	1.01	11-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
4500 SiO2C-2011		Water	Silica (SiO2)

Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB

Job ID: 410-8885-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
6020A	Metals (ICP/MS)	SW846	ELLE
4500 SiO2C-2011	Silica, Molybdosilicate Method	SM	ELLE
5030C	Purge and Trap	SW846	ELLE
8011	Microextraction	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB

Job ID: 410-8885-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-8885-1	GW0505-203	Water	07/27/20 11:45	07/28/20 11:28	
410-8885-2	GW0507R-203	Water	07/27/20 13:45	07/28/20 11:28	
410-8885-3	GW0507R-603	Water	07/27/20 13:45	07/28/20 11:28	
410-8885-4	GW0508-203	Water	07/27/20 09:25	07/28/20 11:28	
410-8885-5	TB203-32	Water	07/27/20 15:30	07/28/20 11:28	
410-8885-6	TB203-33	Water	07/27/20 15:30	07/28/20 11:28	

Eurofins Lancaster Laboratories Env, LLC



410-8885 Chain of Custody

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EA		225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 594-7300 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD				COC NUMBER COC-0505-203						
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA		YEAR: 2020						
PROJECT SITE AND PHASE: ST106/SS110		LAB PO NUMBER: 14800		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		QUARTER: 3 (Jul-Sep)						
ANALYSIS REQUIRED (Specify number of bottles)														
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs	BTEX	BTEXN	EDB	Total (As, Pb, Ca, Na, Mg)	Disolved (Al, Ba, Ca, Fe, Mg, Mn, K, Na, As, Sr)	Silica (as SiO2)	Total Carbonate, and Bicarbonate (SM4500-SiO2C)	Alkalinity (SM2320B)	COMMENTS
1	GW0505-203	7-27-2020	1145	22	-	9	-	6	-	86	1	-	-	Please see Comments for requested MS/MSD analytes
2														
3														
4														
5														
6														
Please run MS/MSD on the following analytes only: BTEX, EDB, and dissolved Mn and Fe														
SAMPLER(S):		Pump SN: 1807B-752				TBA203-33								
RELINQUISHED BY: D. Schwelk		DATE: 7-27-2020		TIME: 1800		COURIER AND SHIPPING NUMBER: FedEx 8155 2830 0054 0065				RECEIVED BY: Kristin Zeigler				
Printed Name and Signature: D. Schwelk		DATE: 7-27-2020		TIME: 1800		Printed Name and Signature: Kristin Zeigler				DATE: 7/28/20				
Printed Name and Signature:		DATE:		TIME:		Printed Name and Signature:				DATE:				
Printed Name and Signature:		DATE:		TIME:		Printed Name and Signature:				DATE:				
Printed Name and Signature:		DATE:		TIME:		Printed Name and Signature: Kristin Zeigler				DATE: 7/28/20				

qcm

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		CHAIN-OF-CUSTODY RECORD		COC NUMBER		
225 Schling Circle Suite 403 Hunt Valley MD Tel No. (410) 504-7000 Fax No. (410) 771-1625				COC-0507R-203		
PROJECT NAME: Kirtland AFB Bulk Fuels Facility	PROJECT NUMBER: 62599DM01	LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA	YEAR: 2020	
				FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA	QUARTER: 3 (Jul-Sep)	
PROJECT SITE AND PHASE: ST106/SS110		LAB PO NUMBER: 14800	LAB CONTACT: Kay Howar KayHowar@eurofinsUS.com Eurofins 1 (717) 556-7258			
ANALYSIS REQUIRED (Specify number of bottles)						
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	COMMENTS	
					(SM2320B) Alkalinity (Total, Carbonate, and Bicarbonate)	
					(SM1500-SI02C) Silica (as SiO2)	
					(6020A/6010C) Dissolved (Al, Ba, Ca, Fe, Mg, Mn, K, Na, As, Sr)	
					(6020A/6010C) Total (As, Pb, Ca, K, Na, Mg)	
					EDB (6011)	
					(0260C) BTEX	
					(0260C) BTEXN	
					(0260C) VOCs	
1	GW0507R-203	7-27-2020	1345	8	3	2
2	GW0507R-603	7-27-2020	1345	8	3	2
3						
4						
5						
6						
<p>Pump SN: 1870 1807B-752</p> <p>SAMPLER(S): D. Schmeelk COURIER AND SHIPPING NUMBER: FedEx 8155 2830 0054 TBA203-32</p> <p>RELINQUISHED BY: D. Schmeelk DATE: 7-27-2020 TIME: 1800 RECEIVED BY: Kristin Zeigler DATE: 7/28/20 TIME: 1116</p> <p>Printed Name and Signature: D. Schmeelk Printed Name and Signature: Kristin Zeigler</p>						

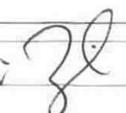
CPM

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		CHAIN-OF-CUSTODY RECORD		COC NUMBER COC-0508-203	
225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01	
LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA		YEAR: 2020	
PROJECT SITE AND PHASE: ST106/SS110		LAB PO NUMBER: 14800		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258	
		ANALYSIS REQUIRED (Specify number of bottles)			
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	COMMENTS
1	GW0508-203	7-27-2020	0925	8	
2					
3					
4					
5					
6					
SAMPLER(S): D. Schmeelk		RELINQUISHED BY: D. Schmeelk		COURIER AND SHIPPING NUMBER: FedEx 8155 2830 0054	
DATE: 7-27-2020		TIME: 1800		RECEIVED BY: Kristin Zeigler	
DATE: 7/28/20		TIME: 1116			

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		225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD				COC NUMBER COC-TB203-32					
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 62599DM01		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA		YEAR: 2020					
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 14800		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		QUARTER: 3					
ANALYSIS REQUIRED (Specify number of bottles)													
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(60100) EDB	(60200) BTEXN	(60300) BTEXC	(60400) VOCs	(60500) Total As, Pb, Cd, Cr, Ni, Mn, Mg	COMMENTS			
1	TB203-32	7-27-2020	1530	4	-	2	-	2					
2													
3													
4													
5													
Associated with: GW0507R-203 GW0507R-603 GW0508-203													
SAMPLER(S): D. Schmeelk				COURIER AND SHIPPING NUMBER: FedEx 8155 2830 0054									
RELINQUISHED BY:				DATE		TIME		RECEIVED BY:		DATE		TIME	
D. Schmeelk 				7-27-2020		1800							
Printed Name and Signature:				Printed Name and Signature:		Printed Name and Signature:		Printed Name and Signature:		Printed Name and Signature:		Printed Name and Signature:	
Printed Name and Signature:				Kristin Zeigler 		7/28/20		1116					

Q/N

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-8885-1

Login Number: 8885**List Source: Eurofins Lancaster Laboratories Env****List Number: 1****Creator: Colon Martinez, Jessenia C**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	



Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-15769-1

Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:

EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Authorized for release by:

10/16/2020 6:15:21 PM

Kay Hower, Principal Project Manager
(717)556-7364

kayhower@eurofinsus.com

Designee for

Darlene Bandy, Project Manager I
(303)736-0188

Darlene.Bandy@Eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Laboratory Job ID: 410-15769-1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Kay Hower
 Principal Project Manager
 10/16/2020 6:15:21 PM

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Laboratory Job ID: 410-15769-1



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Lancaster Laboratories Env, LLC

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Job ID: 410-15769-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-15769-1

Receipt

The samples were received on 10/2/2020 10:21 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method 8011: Surrogate recovery for the following samples were outside acceptance limits: GWTS-EFF2-100120 (410-15769-6) and GWTS-EFF2DUP-100120 (410-15769-7). The results have been reported per client request.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-EFF1-100120**Lab Sample ID: 410-15769-1**

No Detections.

Client Sample ID: GWTS-GAC1-100120**Lab Sample ID: 410-15769-2**

No Detections.

Client Sample ID: GWTS-INF1-100120**Lab Sample ID: 410-15769-3**

No Detections.

Client Sample ID: GWTS-FB01-100120**Lab Sample ID: 410-15769-4**

No Detections.

Client Sample ID: GWTS-TB01-100120**Lab Sample ID: 410-15769-5**

No Detections.

Client Sample ID: GWTS-EFF2-100120**Lab Sample ID: 410-15769-6**

No Detections.

Client Sample ID: GWTS-EFF2DUP-100120**Lab Sample ID: 410-15769-7**

No Detections.

Client Sample ID: GWTS-GAC2-100120**Lab Sample ID: 410-15769-8**

No Detections.

Client Sample ID: GWTS-INF2-100120**Lab Sample ID: 410-15769-9**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Ethylene Dibromide (1C)	0.024	J	0.029	0.019	0.0096	ug/L	1		8011	Total/NA
Manganese	0.023		0.010	0.0052	0.0031	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-EFF1-100120

Lab Sample ID: 410-15769-1

Date Collected: 10/01/20 07:20

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 11:39	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 11:39	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 11:39	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 11:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		81 - 118		10/09/20 11:39	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 11:39	1
Dibromofluoromethane (Surr)	107		80 - 119		10/09/20 11:39	1
Toluene-d8 (Surr)	95		89 - 112		10/09/20 11:39	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0095	ug/L		10/14/20 00:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	96		46 - 136	10/09/20 23:50	10/14/20 00:32	1
1,1,2,2-Tetrachloroethane (2C)	91		46 - 136	10/09/20 23:50	10/14/20 00:32	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 14:46	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 14:46	1

Client Sample ID: GWTS-GAC1-100120

Lab Sample ID: 410-15769-2

Date Collected: 10/01/20 07:40

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 12:45	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 12:45	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 12:45	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 12:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		81 - 118		10/09/20 12:45	1
4-Bromofluorobenzene (Surr)	94		85 - 114		10/09/20 12:45	1
Dibromofluoromethane (Surr)	107		80 - 119		10/09/20 12:45	1
Toluene-d8 (Surr)	95		89 - 112		10/09/20 12:45	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/14/20 01:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	103		46 - 136	10/09/20 23:50	10/14/20 01:22	1
1,1,2,2-Tetrachloroethane (2C)	97		46 - 136	10/09/20 23:50	10/14/20 01:22	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:17	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-GAC1-100120

Lab Sample ID: 410-15769-2

Date Collected: 10/01/20 07:40

Matrix: Water

Date Received: 10/02/20 10:21

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 15:17	1

Client Sample ID: GWTS-INF1-100120

Lab Sample ID: 410-15769-3

Date Collected: 10/01/20 07:50

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:07	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 13:07	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:07	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 13:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		81 - 118		10/09/20 13:07	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 13:07	1
Dibromofluoromethane (Surr)	105		80 - 119		10/09/20 13:07	1
Toluene-d8 (Surr)	94		89 - 112		10/09/20 13:07	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/14/20 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	101		46 - 136	10/09/20 23:50	10/14/20 01:39	1
1,1,2,2-Tetrachloroethane (2C)	96		46 - 136	10/09/20 23:50	10/14/20 01:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:24	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 15:24	1

Client Sample ID: GWTS-FB01-100120

Lab Sample ID: 410-15769-4

Date Collected: 10/01/20 07:20

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 10:55	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 10:55	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 10:55	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 10:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		81 - 118		10/09/20 10:55	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 10:55	1
Dibromofluoromethane (Surr)	106		80 - 119		10/09/20 10:55	1
Toluene-d8 (Surr)	94		89 - 112		10/09/20 10:55	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/14/20 01:56	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-FB01-100120

Lab Sample ID: 410-15769-4

Date Collected: 10/01/20 07:20

Matrix: Water

Date Received: 10/02/20 10:21

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	98		46 - 136	10/09/20 23:50	10/14/20 01:56	1
1,1,2,2-Tetrachloroethane (2C)	94		46 - 136	10/09/20 23:50	10/14/20 01:56	1

Client Sample ID: GWTS-TB01-100120

Lab Sample ID: 410-15769-5

Date Collected: 10/01/20 08:30

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 11:17	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 11:17	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 11:17	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 11:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		81 - 118		10/09/20 11:17	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 11:17	1
Dibromofluoromethane (Surr)	107		80 - 119		10/09/20 11:17	1
Toluene-d8 (Surr)	94		89 - 112		10/09/20 11:17	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/14/20 02:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	100		46 - 136	10/09/20 23:50	10/14/20 02:13	1
1,1,2,2-Tetrachloroethane (2C)	94		46 - 136	10/09/20 23:50	10/14/20 02:13	1

Client Sample ID: GWTS-EFF2-100120

Lab Sample ID: 410-15769-6

Date Collected: 10/01/20 08:00

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:29	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 13:29	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:29	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		81 - 118		10/09/20 13:29	1
4-Bromofluorobenzene (Surr)	94		85 - 114		10/09/20 13:29	1
Dibromofluoromethane (Surr)	106		80 - 119		10/09/20 13:29	1
Toluene-d8 (Surr)	95		89 - 112		10/09/20 13:29	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/07/20 02:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	49		46 - 136	10/05/20 23:35	10/07/20 02:11	1
1,1,2,2-Tetrachloroethane (2C)	39	Q	46 - 136	10/05/20 23:35	10/07/20 02:11	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-EFF2-100120

Lab Sample ID: 410-15769-6

Date Collected: 10/01/20 08:00

Matrix: Water

Date Received: 10/02/20 10:21

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:05	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 15:05	1

Client Sample ID: GWTS-EFF2DUP-100120

Lab Sample ID: 410-15769-7

Date Collected: 10/01/20 08:00

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:51	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 13:51	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 13:51	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		81 - 118		10/09/20 13:51	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 13:51	1
Dibromofluoromethane (Surr)	109		80 - 119		10/09/20 13:51	1
Toluene-d8 (Surr)	93		89 - 112		10/09/20 13:51	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		10/07/20 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	52		46 - 136	10/05/20 23:35	10/07/20 02:28	1
1,1,2,2-Tetrachloroethane (2C)	38	Q	46 - 136	10/05/20 23:35	10/07/20 02:28	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:08	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 15:08	1

Client Sample ID: GWTS-GAC2-100120

Lab Sample ID: 410-15769-8

Date Collected: 10/01/20 08:14

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 14:13	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 14:13	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 14:13	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		81 - 118		10/09/20 14:13	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 14:13	1
Dibromofluoromethane (Surr)	107		80 - 119		10/09/20 14:13	1
Toluene-d8 (Surr)	94		89 - 112		10/09/20 14:13	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-GAC2-100120

Lab Sample ID: 410-15769-8

Date Collected: 10/01/20 08:14

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (2C)	0.020	U M	0.029	0.020	0.0098	ug/L		10/14/20 02:29	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	97		46 - 136		10/09/20 23:50	10/14/20 02:29	1		
1,1,2,2-Tetrachloroethane (2C)	92		46 - 136		10/09/20 23:50	10/14/20 02:29	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:36	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 15:36	1

Client Sample ID: GWTS-INF2-100120

Lab Sample ID: 410-15769-9

Date Collected: 10/01/20 08:25

Matrix: Water

Date Received: 10/02/20 10:21

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 14:34	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 14:34	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 14:34	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 14:34	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	117		81 - 118			10/09/20 14:34	1		
4-Bromofluorobenzene (Surr)	94		85 - 114			10/09/20 14:34	1		
Dibromofluoromethane (Surr)	108		80 - 119			10/09/20 14:34	1		
Toluene-d8 (Surr)	94		89 - 112			10/09/20 14:34	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.024	J	0.029	0.019	0.0096	ug/L		10/14/20 02:46	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	101		46 - 136		10/09/20 23:50	10/14/20 02:46	1		
1,1,2,2-Tetrachloroethane (2C)	101		46 - 136		10/09/20 23:50	10/14/20 02:46	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 15:33	1
Manganese	0.023		0.010	0.0052	0.0031	mg/L		10/12/20 15:33	1

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Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (81-118)	BFB (85-114)	DBFM (80-119)	TOL (89-112)
410-15769-1	GWTS-EFF1-100120	116	93	107	95
410-15769-1 MS	GWTS-EFF1-100120	112	97	105	95
410-15769-1 MSD	GWTS-EFF1-100120	113	97	105	96
410-15769-2	GWTS-GAC1-100120	115	94	107	95
410-15769-3	GWTS-INF1-100120	114	93	105	94
410-15769-4	GWTS-FB01-100120	116	93	106	94
410-15769-5	GWTS-TB01-100120	115	93	107	94
410-15769-6	GWTS-EFF2-100120	115	94	106	95
410-15769-7	GWTS-EFF2DUP-100120	117	93	109	93
410-15769-8	GWTS-GAC2-100120	118	93	107	94
410-15769-9	GWTS-INF2-100120	117	94	108	94
LCS 410-52675/5	Lab Control Sample	113	97	105	96
MB 410-52675/7	Method Blank	115	93	107 M	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1122TCA1 (46-136)	1122TCA2 (46-136)
410-15769-1	GWTS-EFF1-100120	96	91
410-15769-1 MS	GWTS-EFF1-100120	96	89
410-15769-1 MSD	GWTS-EFF1-100120	100	94
410-15769-2	GWTS-GAC1-100120	103	97
410-15769-3	GWTS-INF1-100120	101	96
410-15769-4	GWTS-FB01-100120	98	94
410-15769-5	GWTS-TB01-100120	100	94
410-15769-6	GWTS-EFF2-100120	49	39 Q
410-15769-7	GWTS-EFF2DUP-100120	52	38 Q
410-15769-8	GWTS-GAC2-100120	97	92
410-15769-9	GWTS-INF2-100120	101	101
LCS 410-51123/2-A	Lab Control Sample	35 Q	33 Q
LCS 410-52945/2-A	Lab Control Sample	107	98
LCSD 410-51123/3-A	Lab Control Sample Dup	34 Q	33 Q
LCSD 410-52945/3-A	Lab Control Sample Dup	105	100
MB 410-51123/1-A	Method Blank	37 Q	37 Q
MB 410-52945/1-A	Method Blank	108	98

Surrogate Legend

1122TCA = 1,1,2,2-Tetrachloroethane

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-52675/7
Matrix: Water
Analysis Batch: 52675

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 10:33	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		10/09/20 10:33	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		10/09/20 10:33	1
Xylenes, Total	2.0	U	6.0	2.0	1.4	ug/L		10/09/20 10:33	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	115		81 - 118		10/09/20 10:33	1
4-Bromofluorobenzene (Surr)	93		85 - 114		10/09/20 10:33	1
Dibromofluoromethane (Surr)	107	M	80 - 119		10/09/20 10:33	1
Toluene-d8 (Surr)	94		89 - 112		10/09/20 10:33	1

Lab Sample ID: LCS 410-52675/5
Matrix: Water
Analysis Batch: 52675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	20.0	20.6		ug/L		103	42 - 138
Ethylbenzene	20.0	20.0		ug/L		100	79 - 121
Toluene	20.0	19.9		ug/L		100	80 - 121
Xylenes, Total	60.0	61.6		ug/L		103	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	113		81 - 118
4-Bromofluorobenzene (Surr)	97		85 - 114
Dibromofluoromethane (Surr)	105		80 - 119
Toluene-d8 (Surr)	96		89 - 112

Lab Sample ID: 410-15769-1 MS
Matrix: Water
Analysis Batch: 52675

Client Sample ID: GWTS-EFF1-100120
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Benzene	0.50	U	20.0	22.6		ug/L		113	42 - 138
Ethylbenzene	0.80	U	20.0	22.3		ug/L		111	79 - 121
Toluene	0.50	U	20.0	22.0		ug/L		110	80 - 121
Xylenes, Total	2.0	U	60.0	68.1		ug/L		114	79 - 121

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	112		81 - 118
4-Bromofluorobenzene (Surr)	97		85 - 114
Dibromofluoromethane (Surr)	105		80 - 119
Toluene-d8 (Surr)	95		89 - 112

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 410-15769-1 MSD
Matrix: Water
Analysis Batch: 52675

Client Sample ID: GWTS-EFF1-100120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.50	U	20.0	22.1		ug/L		110	42 - 138	2	20
Ethylbenzene	0.80	U	20.0	21.7		ug/L		109	79 - 121	3	20
Toluene	0.50	U	20.0	21.4		ug/L		107	80 - 121	2	20
Xylenes, Total	2.0	U	60.0	66.2		ug/L		110	79 - 121	3	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	113		81 - 118
4-Bromofluorobenzene (Surr)	97		85 - 114
Dibromofluoromethane (Surr)	105		80 - 119
Toluene-d8 (Surr)	96		89 - 112

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 410-51123/1-A
Matrix: Water
Analysis Batch: 51461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51123

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		10/06/20 19:24	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	37	Q	46 - 136	10/05/20 23:35	10/06/20 19:24	1
1,1,2,2-Tetrachloroethane (2C)	37	Q	46 - 136	10/05/20 23:35	10/06/20 19:24	1

Lab Sample ID: LCS 410-51123/2-A
Matrix: Water
Analysis Batch: 51461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51123

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide (1C)	0.128	0.125		ug/L		98	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,1,2,2-Tetrachloroethane (1C)	35	Q	46 - 136
1,1,2,2-Tetrachloroethane (2C)	33	Q	46 - 136

Lab Sample ID: LCSD 410-51123/3-A
Matrix: Water
Analysis Batch: 51461

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51123

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide (1C)	0.128	0.126		ug/L		98	60 - 140	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,1,2,2-Tetrachloroethane (1C)	34	Q	46 - 136
1,1,2,2-Tetrachloroethane (2C)	33	Q	46 - 136

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

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Lab Sample ID: MB 410-52945/1-A
Matrix: Water
Analysis Batch: 53963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52945

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
	Result	Qualifier								
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		10/13/20 22:18	1	
Surrogate	MB MB		Limits					Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier								
1,1,2,2-Tetrachloroethane (1C)	108		46 - 136					10/09/20 23:50	10/13/20 22:18	1
1,1,2,2-Tetrachloroethane (2C)	98		46 - 136					10/09/20 23:50	10/13/20 22:18	1

Lab Sample ID: LCS 410-52945/2-A
Matrix: Water
Analysis Batch: 53963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52945

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Ethylene Dibromide (1C)	0.128	0.113		ug/L		88	60 - 140
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
1,1,2,2-Tetrachloroethane (1C)	107		46 - 136				
1,1,2,2-Tetrachloroethane (2C)	98		46 - 136				

Lab Sample ID: LCSD 410-52945/3-A
Matrix: Water
Analysis Batch: 53963

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 52945

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Ethylene Dibromide (1C)	0.128	0.116		ug/L		90	60 - 140	2	20
Surrogate	LCSD LCSD		Limits						
	%Recovery	Qualifier							
1,1,2,2-Tetrachloroethane (1C)	105		46 - 136						
1,1,2,2-Tetrachloroethane (2C)	100		46 - 136						

Lab Sample ID: 410-15769-1 MS
Matrix: Water
Analysis Batch: 53963

Client Sample ID: GWTS-EFF1-100120
Prep Type: Total/NA
Prep Batch: 52945

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Ethylene Dibromide (1C)	0.019	U	0.124	0.105		ug/L		85	60 - 140
Surrogate	MS MS		Limits						
	%Recovery	Qualifier							
1,1,2,2-Tetrachloroethane (1C)	96		46 - 136						
1,1,2,2-Tetrachloroethane (2C)	89		46 - 136						

Lab Sample ID: 410-15769-1 MSD
Matrix: Water
Analysis Batch: 53963

Client Sample ID: GWTS-EFF1-100120
Prep Type: Total/NA
Prep Batch: 52945

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
Ethylene Dibromide (1C)	0.019	U	0.124	0.103		ug/L		84	60 - 140	1	20

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: 410-15769-1 MSD
 Matrix: Water
 Analysis Batch: 53963

Client Sample ID: GWTS-EFF1-100120
 Prep Type: Total/NA
 Prep Batch: 52945

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,1,2,2-Tetrachloroethane (1C)	100		46 - 136
1,1,2,2-Tetrachloroethane (2C)	94		46 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-52662/1-A
 Matrix: Water
 Analysis Batch: 53364

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 52662

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		10/12/20 14:40	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		10/12/20 14:40	1

Lab Sample ID: LCS 410-52662/2-A
 Matrix: Water
 Analysis Batch: 53364

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 52662

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.402	0.426		mg/L		106	87 - 115
Manganese	0.0200	0.0225		mg/L		113	90 - 114

Lab Sample ID: 410-15769-1 MS
 Matrix: Water
 Analysis Batch: 53364

Client Sample ID: GWTS-EFF1-100120
 Prep Type: Dissolved
 Prep Batch: 52662

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.10	U	0.402	0.435		mg/L		108	87 - 115
Manganese	0.0052	U	0.0200	0.0224		mg/L		112	90 - 114

Lab Sample ID: 410-15769-1 MSD
 Matrix: Water
 Analysis Batch: 53364

Client Sample ID: GWTS-EFF1-100120
 Prep Type: Dissolved
 Prep Batch: 52662

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.10	U	0.402	0.421		mg/L		105	87 - 115	3	20
Manganese	0.0052	U	0.0200	0.0220		mg/L		110	90 - 114	2	20

Lab Sample ID: 410-15769-1 DU
 Matrix: Water
 Analysis Batch: 53364

Client Sample ID: GWTS-EFF1-100120
 Prep Type: Dissolved
 Prep Batch: 52662

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	0.10	U	0.10	U	mg/L		NC	20
Manganese	0.0052	U	0.0052	U	mg/L		NC	20

Eurofins Lancaster Laboratories Env, LLC



QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

GC/MS VOA

Analysis Batch: 52675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-1	GWTS-EFF1-100120	Total/NA	Water	8260C DOD	
410-15769-2	GWTS-GAC1-100120	Total/NA	Water	8260C DOD	
410-15769-3	GWTS-INF1-100120	Total/NA	Water	8260C DOD	
410-15769-4	GWTS-FB01-100120	Total/NA	Water	8260C DOD	
410-15769-5	GWTS-TB01-100120	Total/NA	Water	8260C DOD	
410-15769-6	GWTS-EFF2-100120	Total/NA	Water	8260C DOD	
410-15769-7	GWTS-EFF2DUP-100120	Total/NA	Water	8260C DOD	
410-15769-8	GWTS-GAC2-100120	Total/NA	Water	8260C DOD	
410-15769-9	GWTS-INF2-100120	Total/NA	Water	8260C DOD	
MB 410-52675/7	Method Blank	Total/NA	Water	8260C DOD	
LCS 410-52675/5	Lab Control Sample	Total/NA	Water	8260C DOD	
410-15769-1 MS	GWTS-EFF1-100120	Total/NA	Water	8260C DOD	
410-15769-1 MSD	GWTS-EFF1-100120	Total/NA	Water	8260C DOD	

GC Semi VOA

Prep Batch: 51123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-6	GWTS-EFF2-100120	Total/NA	Water	8011	
410-15769-7	GWTS-EFF2DUP-100120	Total/NA	Water	8011	
MB 410-51123/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-51123/2-A	Lab Control Sample	Total/NA	Water	8011	
LCS 410-51123/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 51461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-6	GWTS-EFF2-100120	Total/NA	Water	8011	51123
410-15769-7	GWTS-EFF2DUP-100120	Total/NA	Water	8011	51123
MB 410-51123/1-A	Method Blank	Total/NA	Water	8011	51123
LCS 410-51123/2-A	Lab Control Sample	Total/NA	Water	8011	51123
LCS 410-51123/3-A	Lab Control Sample Dup	Total/NA	Water	8011	51123

Prep Batch: 52945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-1	GWTS-EFF1-100120	Total/NA	Water	8011	
410-15769-2	GWTS-GAC1-100120	Total/NA	Water	8011	
410-15769-3	GWTS-INF1-100120	Total/NA	Water	8011	
410-15769-4	GWTS-FB01-100120	Total/NA	Water	8011	
410-15769-5	GWTS-TB01-100120	Total/NA	Water	8011	
410-15769-8	GWTS-GAC2-100120	Total/NA	Water	8011	
410-15769-9	GWTS-INF2-100120	Total/NA	Water	8011	
MB 410-52945/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-52945/2-A	Lab Control Sample	Total/NA	Water	8011	
LCS 410-52945/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
410-15769-1 MS	GWTS-EFF1-100120	Total/NA	Water	8011	
410-15769-1 MSD	GWTS-EFF1-100120	Total/NA	Water	8011	

Analysis Batch: 53963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-1	GWTS-EFF1-100120	Total/NA	Water	8011	52945
410-15769-2	GWTS-GAC1-100120	Total/NA	Water	8011	52945

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

GC Semi VOA (Continued)

Analysis Batch: 53963 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-3	GWTS-INF1-100120	Total/NA	Water	8011	52945
410-15769-4	GWTS-FB01-100120	Total/NA	Water	8011	52945
410-15769-5	GWTS-TB01-100120	Total/NA	Water	8011	52945
410-15769-8	GWTS-GAC2-100120	Total/NA	Water	8011	52945
410-15769-9	GWTS-INF2-100120	Total/NA	Water	8011	52945
MB 410-52945/1-A	Method Blank	Total/NA	Water	8011	52945
LCS 410-52945/2-A	Lab Control Sample	Total/NA	Water	8011	52945
LCS 410-52945/3-A	Lab Control Sample Dup	Total/NA	Water	8011	52945
410-15769-1 MS	GWTS-EFF1-100120	Total/NA	Water	8011	52945
410-15769-1 MSD	GWTS-EFF1-100120	Total/NA	Water	8011	52945

Metals

Prep Batch: 52662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-1	GWTS-EFF1-100120	Dissolved	Water	Non-Digest Prep	
410-15769-2	GWTS-GAC1-100120	Dissolved	Water	Non-Digest Prep	
410-15769-3	GWTS-INF1-100120	Dissolved	Water	Non-Digest Prep	
410-15769-6	GWTS-EFF2-100120	Dissolved	Water	Non-Digest Prep	
410-15769-7	GWTS-EFF2DUP-100120	Dissolved	Water	Non-Digest Prep	
410-15769-8	GWTS-GAC2-100120	Dissolved	Water	Non-Digest Prep	
410-15769-9	GWTS-INF2-100120	Dissolved	Water	Non-Digest Prep	
MB 410-52662/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-52662/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-15769-1 MS	GWTS-EFF1-100120	Dissolved	Water	Non-Digest Prep	
410-15769-1 MSD	GWTS-EFF1-100120	Dissolved	Water	Non-Digest Prep	
410-15769-1 DU	GWTS-EFF1-100120	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 53364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-15769-1	GWTS-EFF1-100120	Dissolved	Water	6010C	52662
410-15769-2	GWTS-GAC1-100120	Dissolved	Water	6010C	52662
410-15769-3	GWTS-INF1-100120	Dissolved	Water	6010C	52662
410-15769-6	GWTS-EFF2-100120	Dissolved	Water	6010C	52662
410-15769-7	GWTS-EFF2DUP-100120	Dissolved	Water	6010C	52662
410-15769-8	GWTS-GAC2-100120	Dissolved	Water	6010C	52662
410-15769-9	GWTS-INF2-100120	Dissolved	Water	6010C	52662
MB 410-52662/1-A	Method Blank	Total/NA	Water	6010C	52662
LCS 410-52662/2-A	Lab Control Sample	Total/NA	Water	6010C	52662
410-15769-1 MS	GWTS-EFF1-100120	Dissolved	Water	6010C	52662
410-15769-1 MSD	GWTS-EFF1-100120	Dissolved	Water	6010C	52662
410-15769-1 DU	GWTS-EFF1-100120	Dissolved	Water	6010C	52662

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-EFF1-100120

Lab Sample ID: 410-15769-1

Date Collected: 10/01/20 07:20

Matrix: Water

Date Received: 10/02/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 11:39	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 00:32	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 14:46	UCIG	ELLE

Client Sample ID: GWTS-GAC1-100120

Lab Sample ID: 410-15769-2

Date Collected: 10/01/20 07:40

Matrix: Water

Date Received: 10/02/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 12:45	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 01:22	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:17	UCIG	ELLE

Client Sample ID: GWTS-INF1-100120

Lab Sample ID: 410-15769-3

Date Collected: 10/01/20 07:50

Matrix: Water

Date Received: 10/02/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 13:07	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 01:39	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:24	UCIG	ELLE

Client Sample ID: GWTS-FB01-100120

Lab Sample ID: 410-15769-4

Date Collected: 10/01/20 07:20

Matrix: Water

Date Received: 10/02/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 10:55	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 01:56	AC3T	ELLE

Client Sample ID: GWTS-TB01-100120

Lab Sample ID: 410-15769-5

Date Collected: 10/01/20 08:30

Matrix: Water

Date Received: 10/02/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 11:17	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 02:13	AC3T	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Client Sample ID: GWTS-EFF2-100120**Lab Sample ID: 410-15769-6****Date Collected: 10/01/20 08:00****Matrix: Water****Date Received: 10/02/20 10:21**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 13:29	NSK7	ELLE
Total/NA	Prep	8011			51123	10/05/20 23:35	K2IL	ELLE
Total/NA	Analysis	8011		1	51461	10/07/20 02:11	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:05	UCIG	ELLE

Client Sample ID: GWTS-EFF2DUP-100120**Lab Sample ID: 410-15769-7****Date Collected: 10/01/20 08:00****Matrix: Water****Date Received: 10/02/20 10:21**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 13:51	NSK7	ELLE
Total/NA	Prep	8011			51123	10/05/20 23:35	K2IL	ELLE
Total/NA	Analysis	8011		1	51461	10/07/20 02:28	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:08	UCIG	ELLE

Client Sample ID: GWTS-GAC2-100120**Lab Sample ID: 410-15769-8****Date Collected: 10/01/20 08:14****Matrix: Water****Date Received: 10/02/20 10:21**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 14:13	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 02:29	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:36	UCIG	ELLE

Client Sample ID: GWTS-INF2-100120**Lab Sample ID: 410-15769-9****Date Collected: 10/01/20 08:25****Matrix: Water****Date Received: 10/02/20 10:21**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	52675	10/09/20 14:34	NSK7	ELLE
Total/NA	Prep	8011			52945	10/09/20 23:50	UKQ8	ELLE
Total/NA	Analysis	8011		1	53963	10/14/20 02:46	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			52662	10/09/20 07:38	UAMX	ELLE
Dissolved	Analysis	6010C		1	53364	10/12/20 15:33	UCIG	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	1.01	11-30-20

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Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
8011	Microextraction	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-15769-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-15769-1	GWTS-EFF1-100120	Water	10/01/20 07:20	10/02/20 10:21	
410-15769-2	GWTS-GAC1-100120	Water	10/01/20 07:40	10/02/20 10:21	
410-15769-3	GWTS-INF1-100120	Water	10/01/20 07:50	10/02/20 10:21	
410-15769-4	GWTS-FB01-100120	Water	10/01/20 07:20	10/02/20 10:21	
410-15769-5	GWTS-TB01-100120	Water	10/01/20 08:30	10/02/20 10:21	
410-15769-6	GWTS-EFF2-100120	Water	10/01/20 08:00	10/02/20 10:21	
410-15769-7	GWTS-EFF2DUP-100120	Water	10/01/20 08:00	10/02/20 10:21	
410-15769-8	GWTS-GAC2-100120	Water	10/01/20 08:14	10/02/20 10:21	
410-15769-9	GWTS-INF2-100120	Water	10/01/20 08:25	10/02/20 10:21	

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Eurofins Lancaster Laboratories Env, LLC



410-15769 Chain of Custody

EA		225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1825		CHAIN-OF-CUSTODY RECORD										COC NUMBER COC-GWTS1-100120			
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601				FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA				YEAR: 2020		QUARTER: Q4			
PROJECT SITE AND PHASE: ST106/SS111				LAB PO NUMBER: 14800				LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258									
ANALYSIS REQUIRED (Specify number of bottles)													COMMENTS				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	(8290C) VOCs	(8290C) BTEX	(8290C) BTEXN	(8290C) EDB	(9011) Total As, Pb, Ca, K, Na, Mg	Dissolved Fe, Mn (6020A/6010C)	(6010C)	Chloride, bromide, sulfate (300.0)	(353.2) Nitrate-Nitrite	(SM4500NH3) Ammonia	(SM4500S2CF) Sulfide	(SM2320B) Alkalinity	COMMENTS
1	GWTS-EFF1-100120	10/01/2020	0720	18	--	9	--	6	--	3*	--	--	--	--	--	--	Additional Volume Provided for MS/MSD
2	GWTS-GAC1-100120	10/01/2020	0740	6	--	3	--	2	--	1*	--	--	--	--	--	--	
3	GWTS-INF1-100120	10/01/2020	0750	6	--	3	--	2	--	1*	--	--	--	--	--	--	
4	GWTS-FB01-100120	10/01/2020	0720	5	--	3	--	2	--	--	--	--	--	--	--	--	Collected simultaneously with GWTS-EFF1-100120
5	GWTS-TB01-100120	10/01/2020	0830	4	--	2	--	2	--	--	--	--	--	--	--	--	
6																	
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																	
SAMPLER(S): J Livingston								COURIER AND SHIPPING NUMBER: Fedex: 8155 2830 0087									
RELINQUISHED BY:				DATE	TIME	RECEIVED BY:				DATE	TIME						
Printed Name and Signature: J Livingston				10/01/2020	1000	Printed Name and Signature:											
Printed Name and Signature:						Printed Name and Signature:											
Printed Name and Signature:						Printed Name and Signature:											
Printed Name and Signature:						Printed Name and Signature: Nicole Reiff				10/2/20	1021						

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<div style="display: inline-block; vertical-align: middle; font-size: 8px;"> 225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625 </div>		CHAIN-OF-CUSTODY RECORD				COC NUMBER COC-GWTS2-100120										
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA Pam Moss: pmoss@eaest.com EA		YEAR: 2020 QUARTER: Q4									
PROJECT SITE AND PHASE: ST10B/SS111		LAB PO NUMBER: 14800	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258													
ANALYSIS REQUIRED (Specify number of bottles)																
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCs	(2626C)	(2626C) BTEX	(2626C) BTXN	(2626C) EDB	Total As, Pb, Cd, K, Na, Mg (2020A, 2010C)	Dissolved Fe, Mn (2011)	Chloride, bromide, sulfide (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3) Sulfide	Alkalinity (SM220B)	COMMENTS
1	GWTS-EFF2-100120 ⁺	10/01/2020	0800	6	--	3	--	2 ⁺	--	1*	--	--	--	--	--	
2	GWTS-EFF2DUP-100120 ⁺	10/01/2020	0800	6	--	3	--	2 ⁺	--	1*	--	--	--	--	--	
3	GWTS-GAC2-100120	10/01/2020	0814	6	--	3	--	2	--	1*	--	--	--	--	--	
4	GWTS-INF2-100120	10/01/2020	0825	6	--	3	--	2	--	1*	--	--	--	--	--	
5																
6																
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered. + Give GWTS-EFF2-100120 and GWTS-EFF2DUP-100120 EDB samples a 5 day rush turn around.																
SAMPLER(S): J Livingston				COURIER AND SHIPPING NUMBER: Fedex: 8155 2830 0087												
RELINQUISHED BY:				DATE		TIME		RECEIVED BY:				DATE		TIME		
Printed Name and Signature: J Livingston				10/01/2020		1000		Printed Name and Signature:								
Printed Name and Signature:								Printed Name and Signature:								
Printed Name and Signature:								Printed Name and Signature:								
Printed Name and Signature:								Printed Name and Signature: Nicole Ritt				10/01/20		1021		

TWZ

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-15769-1

Login Number: 15769**List Source: Eurofins Lancaster Laboratories Env****List Number: 1****Creator: Foreman, Leah M**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (≤ 6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (≤ 6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



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Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-17007-1

Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:

EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
10/28/2020 4:53:42 PM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com



LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Darlene Bandy
Project Manager I
10/28/2020 4:53:42 PM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Lancaster Laboratories Env, LLC

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Job ID: 410-17007-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-17007-1

Comments

No additional comments.

Receipt

The samples were received on 10/13/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 3.1° C.

Receipt Exceptions

The samples in job 410-17007-1 were shipped directly to Eurofins TestAmerica Denver by the client. The inter-company COC (ICOC) was generated only because, since the samples were logged by Eurofins Lancaster Laboratories Environment, they needed to be "shipped" in the LIMS in order for ETA Denver to receive them.

GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

As requested by the client, two of the samples were also logged as field duplicates. Sample GWTS-1A-101220 (410-17007-1) was also logged as sample GWTS-1A-101220-FD (410-17007-17). Sample GWTS-2A-101220 (410-17007-2) was also logged as sample GWTS-2A-101220-FD (410-17007-18).

Containers for these samples were received 10/13/2020: GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15) and GWTS-TB02-101220 (410-17007-16)

One cooler was delayed by FedEx, and was received at the laboratory on 10/14/2020. It is noted that this cooler was received within temperature requirements. Due to the delay in sample receipt, the turnaround time began on 10/14/2020.

The client needed the 8011 data as soon as possible; therefore, the 8011 and % Moisture methods were split off into job series 410-17007-2, with a faster turnaround time. All other methods on the chain of custody are reported under SDG 410-17007-1. GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	9600	J1	85	21	8.8	mg/Kg	1	☼	6010C	Total/NA
Manganese	140	J1	4.8	0.42	0.11	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	11000		84	21	8.6	mg/Kg	1	☼	6010C	Total/NA
Manganese	140		4.7	0.42	0.10	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7500		82	21	8.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	110		4.6	0.41	0.10	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7800		71	18	7.3	mg/Kg	1	☼	6010C	Total/NA
Manganese	99		4.0	0.35	0.088	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	7200		72	18	7.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	91		4.1	0.36	0.090	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

No Detections.

Client Sample ID: GWTS-TB02-101220

Lab Sample ID: 410-17007-16

No Detections.

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	9500	J1	86	21	8.8	mg/Kg	1	☼	6010C	Total/NA
Manganese	110	J1	4.8	0.43	0.11	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Iron	11000		74	19	7.7	mg/Kg	1	☼	6010C	Total/NA
Manganese	130		4.2	0.37	0.093	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.2

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg	☼	10/26/20 10:30	1
Ethylbenzene	0.80	U	5.0	0.80	0.30	ug/Kg	☼	10/26/20 10:30	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg	☼	10/26/20 10:30	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg	☼	10/26/20 10:30	1
o-Xylene	0.80	U	5.0	0.80	0.26	ug/Kg	☼	10/26/20 10:30	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg	☼	10/26/20 10:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		85 - 116	10/26/20 07:20	10/26/20 10:30	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 10:30	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 10:30	1
Dibromofluoromethane (Surr)	100		78 - 119	10/26/20 07:20	10/26/20 10:30	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	9600	J1	85	21	8.8	mg/Kg	☼	10/16/20 11:41	1
Manganese	140	J1	4.8	0.42	0.11	mg/Kg	☼	10/16/20 11:41	1

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 89.3

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.43	U	5.3	0.43	0.16	ug/Kg	☼	10/26/20 10:52	1
Ethylbenzene	0.86	U	5.3	0.86	0.33	ug/Kg	☼	10/26/20 10:52	1
Toluene	0.86	U	5.3	0.86	0.24	ug/Kg	☼	10/26/20 10:52	1
m-Xylene & p-Xylene	3.4	U	3.4	3.4	1.1	ug/Kg	☼	10/26/20 10:52	1
o-Xylene	0.86	U	5.3	0.86	0.28	ug/Kg	☼	10/26/20 10:52	1
Xylenes, Total	1.1	U	11	1.1	0.65	ug/Kg	☼	10/26/20 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		85 - 116	10/26/20 07:20	10/26/20 10:52	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 10:52	1
4-Bromofluorobenzene (Surr)	99		79 - 119	10/26/20 07:20	10/26/20 10:52	1
Dibromofluoromethane (Surr)	102		78 - 119	10/26/20 07:20	10/26/20 10:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		84	21	8.6	mg/Kg	☼	10/16/20 12:11	1
Manganese	140		4.7	0.42	0.10	mg/Kg	☼	10/16/20 12:11	1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.44	U	5.4	0.44	0.16	ug/Kg	☼	10/26/20 11:15	1
Ethylbenzene	0.87	U	5.4	0.87	0.33	ug/Kg	☼	10/26/20 11:15	1
Toluene	0.87	U	5.4	0.87	0.25	ug/Kg	☼	10/26/20 11:15	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
m-Xylene & p-Xylene	3.5	U	3.5	3.5	1.1	ug/Kg	⊛	10/26/20 11:15	1
o-Xylene	0.87	U	5.4	0.87	0.29	ug/Kg	⊛	10/26/20 11:15	1
Xylenes, Total	1.1	U	11	1.1	0.66	ug/Kg	⊛	10/26/20 11:15	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)	100		85 - 116		10/26/20 07:20	10/26/20 11:15	1		
1,2-Dichloroethane-d4 (Surr)	103		71 - 136		10/26/20 07:20	10/26/20 11:15	1		
4-Bromofluorobenzene (Surr)	101		79 - 119		10/26/20 07:20	10/26/20 11:15	1		
Dibromofluoromethane (Surr)	100		78 - 119		10/26/20 07:20	10/26/20 11:15	1		

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7500		82	21	8.5	mg/Kg	⊛	10/16/20 12:15	1
Manganese	110		4.6	0.41	0.10	mg/Kg	⊛	10/16/20 12:15	1

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg	⊛	10/26/20 11:37	1
Ethylbenzene	0.80	U	5.0	0.80	0.31	ug/Kg	⊛	10/26/20 11:37	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg	⊛	10/26/20 11:37	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg	⊛	10/26/20 11:37	1
o-Xylene	0.80	U	5.0	0.80	0.27	ug/Kg	⊛	10/26/20 11:37	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg	⊛	10/26/20 11:37	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)	98		85 - 116		10/26/20 07:20	10/26/20 11:37	1		
1,2-Dichloroethane-d4 (Surr)	103		71 - 136		10/26/20 07:20	10/26/20 11:37	1		
4-Bromofluorobenzene (Surr)	100		79 - 119		10/26/20 07:20	10/26/20 11:37	1		
Dibromofluoromethane (Surr)	101		78 - 119		10/26/20 07:20	10/26/20 11:37	1		

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7800		71	18	7.3	mg/Kg	⊛	10/16/20 12:18	1
Manganese	99		4.0	0.35	0.088	mg/Kg	⊛	10/16/20 12:18	1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.41	U	5.2	0.41	0.16	ug/Kg	⊛	10/26/20 11:59	1
Ethylbenzene	0.83	U	5.2	0.83	0.32	ug/Kg	⊛	10/26/20 11:59	1
Toluene	0.83	U	5.2	0.83	0.24	ug/Kg	⊛	10/26/20 11:59	1
m-Xylene & p-Xylene	3.3	U	3.3	3.3	1.1	ug/Kg	⊛	10/26/20 11:59	1
o-Xylene	0.83	U	5.2	0.83	0.28	ug/Kg	⊛	10/26/20 11:59	1
Xylenes, Total	1.0	U	10	1.0	0.63	ug/Kg	⊛	10/26/20 11:59	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 11:59	1
1,2-Dichloroethane-d4 (Surr)	105		71 - 136	10/26/20 07:20	10/26/20 11:59	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 11:59	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 11:59	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7200		72	18	7.5	mg/Kg	☼	10/16/20 12:21	1
Manganese	91		4.1	0.36	0.090	mg/Kg	☼	10/16/20 12:21	1

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:57	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:57	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 10:57	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 10:57	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 10:57	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		89 - 112		10/22/20 10:57	1
1,2-Dichloroethane-d4 (Surr)	93		81 - 118		10/22/20 10:57	1
4-Bromofluorobenzene (Surr)	105		85 - 114		10/22/20 10:57	1
Dibromofluoromethane (Surr)	99		80 - 119		10/22/20 10:57	1

Client Sample ID: GWTS-TB02-101220

Lab Sample ID: 410-17007-16

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 11:19	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 11:19	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 11:19	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 11:19	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 11:19	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 11:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		89 - 112		10/22/20 11:19	1
1,2-Dichloroethane-d4 (Surr)	106		81 - 118		10/22/20 11:19	1
4-Bromofluorobenzene (Surr)	105		85 - 114		10/22/20 11:19	1
Dibromofluoromethane (Surr)	101		80 - 119		10/22/20 11:19	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.44	U	5.5	0.44	0.17	ug/Kg	✳	10/26/20 12:22	1
Ethylbenzene	0.88	U	5.5	0.88	0.34	ug/Kg	✳	10/26/20 12:22	1
Toluene	0.88	U	5.5	0.88	0.25	ug/Kg	✳	10/26/20 12:22	1
m-Xylene & p-Xylene	3.5	U	3.5	3.5	1.1	ug/Kg	✳	10/26/20 12:22	1
o-Xylene	0.88	U	5.5	0.88	0.29	ug/Kg	✳	10/26/20 12:22	1
Xylenes, Total	1.1	U	11	1.1	0.67	ug/Kg	✳	10/26/20 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 12:22	1
1,2-Dichloroethane-d4 (Surr)	103		71 - 136	10/26/20 07:20	10/26/20 12:22	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 12:22	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 12:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	9500	J1	86	21	8.8	mg/Kg	✳	10/21/20 12:58	1
Manganese	110	J1	4.8	0.43	0.11	mg/Kg	✳	10/21/20 12:58	1

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.40	U	5.1	0.40	0.15	ug/Kg	✳	10/26/20 12:44	1
Ethylbenzene	0.81	U	5.1	0.81	0.31	ug/Kg	✳	10/26/20 12:44	1
Toluene	0.81	U	5.1	0.81	0.23	ug/Kg	✳	10/26/20 12:44	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.1	ug/Kg	✳	10/26/20 12:44	1
o-Xylene	0.81	U	5.1	0.81	0.27	ug/Kg	✳	10/26/20 12:44	1
Xylenes, Total	1.0	U	10	1.0	0.62	ug/Kg	✳	10/26/20 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		85 - 116	10/26/20 07:20	10/26/20 12:44	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	10/26/20 07:20	10/26/20 12:44	1
4-Bromofluorobenzene (Surr)	99		79 - 119	10/26/20 07:20	10/26/20 12:44	1
Dibromofluoromethane (Surr)	101		78 - 119	10/26/20 07:20	10/26/20 12:44	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		74	19	7.7	mg/Kg	✳	10/21/20 13:17	1
Manganese	130		4.2	0.37	0.093	mg/Kg	✳	10/21/20 13:17	1

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Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (85-116)	DCA (71-136)	BFB (79-119)	DBFM (78-119)
410-17007-1	GWTS-1A-101220	99	104	100	100
410-17007-2	GWTS-2A-101220	97	104	99	102
410-17007-4	GWTS-4A-101220	100	103	101	100
410-17007-5	GWTS-5A-101220	98	103	100	101
410-17007-7	GWTS-7A-101220	98	105	100	101
410-17007-17	GWTS-1A-101220-FD	98	103	100	101
410-17007-18	GWTS-2A-101220-FD	98	104	99	101
LCS 280-514059/1-A	Lab Control Sample	100	97	98	100
LCSD 280-514059/2-A	Lab Control Sample Dup	97	97	98	99
MB 280-514059/3-A	Method Blank	97	101	100	100

Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (89-112)	DCA (81-118)	BFB (85-114)	DBFM (80-119)
410-17007-8	GWTS-TB01-101220	99	93	105	99
410-17007-16	GWTS-TB02-101220	101	106	105	101
LCS 280-513584/4	Lab Control Sample	99	92	99	99
MB 280-513584/9	Method Blank	99	104	96	98

Surrogate Legend

TOL = Toluene-d8 (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-513584/9
Matrix: Water
Analysis Batch: 513584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:36	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		10/22/20 10:36	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		10/22/20 10:36	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.15	ug/L		10/22/20 10:36	1
o-Xylene	0.40	U	1.0	0.40	0.19	ug/L		10/22/20 10:36	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		10/22/20 10:36	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	99		89 - 112		10/22/20 10:36	1
1,2-Dichloroethane-d4 (Surr)	104		81 - 118		10/22/20 10:36	1
4-Bromofluorobenzene (Surr)	96		85 - 114		10/22/20 10:36	1
Dibromofluoromethane (Surr)	98		80 - 119		10/22/20 10:36	1

Lab Sample ID: LCS 280-513584/4
Matrix: Water
Analysis Batch: 513584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	25.0	26.8		ug/L		107	79 - 120
Ethylbenzene	25.0	27.4		ug/L		109	79 - 121
Toluene	25.0	26.6		ug/L		106	80 - 121
m-Xylene & p-Xylene	25.0	27.1		ug/L		108	80 - 121
o-Xylene	25.0	28.1		ug/L		113	78 - 122
Xylenes, Total	50.0	55.2		ug/L		110	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		89 - 112
1,2-Dichloroethane-d4 (Surr)	92		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	99		80 - 119

Lab Sample ID: MB 280-514059/3-A
Matrix: Solid
Analysis Batch: 514060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 514059

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.40	U	5.0	0.40	0.15	ug/Kg		10/26/20 09:00	1
Ethylbenzene	0.80	U	5.0	0.80	0.31	ug/Kg		10/26/20 09:00	1
Toluene	0.80	U	5.0	0.80	0.23	ug/Kg		10/26/20 09:00	1
m-Xylene & p-Xylene	3.2	U	3.2	3.2	1.0	ug/Kg		10/26/20 09:00	1
o-Xylene	0.80	U	5.0	0.80	0.27	ug/Kg		10/26/20 09:00	1
Xylenes, Total	1.0	U	10	1.0	0.61	ug/Kg		10/26/20 09:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	97		85 - 116	10/26/20 07:20	10/26/20 09:00	1
1,2-Dichloroethane-d4 (Surr)	101		71 - 136	10/26/20 07:20	10/26/20 09:00	1
4-Bromofluorobenzene (Surr)	100		79 - 119	10/26/20 07:20	10/26/20 09:00	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-514059/3-A
 Matrix: Solid
 Analysis Batch: 514060

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 514059

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	100		78 - 119	10/26/20 07:20	10/26/20 09:00	1

Lab Sample ID: LCS 280-514059/1-A
 Matrix: Solid
 Analysis Batch: 514060

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 514059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
Ethylbenzene	50.0	50.1		ug/Kg		100	76 - 122	
Toluene	50.0	48.6		ug/Kg		97	77 - 121	
m-Xylene & p-Xylene	50.0	52.0		ug/Kg		104	77 - 124	
o-Xylene	50.0	49.3		ug/Kg		99	77 - 123	
Xylenes, Total	100	101		ug/Kg		101	78 - 124	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		85 - 116
1,2-Dichloroethane-d4 (Surr)	97		71 - 136
4-Bromofluorobenzene (Surr)	98		79 - 119
Dibromofluoromethane (Surr)	100		78 - 119

Lab Sample ID: LCSD 280-514059/2-A
 Matrix: Solid
 Analysis Batch: 514060

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 514059

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethylbenzene	50.0	54.7		ug/Kg		109	76 - 122	9	20
Toluene	50.0	53.8		ug/Kg		108	77 - 121	10	20
m-Xylene & p-Xylene	50.0	56.2		ug/Kg		112	77 - 124	8	20
o-Xylene	50.0	53.6		ug/Kg		107	77 - 123	8	20
Xylenes, Total	100	110		ug/Kg		110	78 - 124	8	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	97		85 - 116
1,2-Dichloroethane-d4 (Surr)	97		71 - 136
4-Bromofluorobenzene (Surr)	98		79 - 119
Dibromofluoromethane (Surr)	99		78 - 119

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-512651/1-A
 Matrix: Solid
 Analysis Batch: 512939

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 512651

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Iron	20	U	80	20	8.3	mg/Kg		10/16/20 11:34	1
Manganese	0.40	U	4.5	0.40	0.10	mg/Kg		10/16/20 11:34	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method: 6010C - Metals (ICP) (Continued)

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- 15

Lab Sample ID: LCS 280-512651/2-A
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512651

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Lower	Upper
Iron	1000	970		mg/Kg		97	81	118
Manganese	100	95.2		mg/Kg		95	84	114

Lab Sample ID: 410-17007-1 MS
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: GWTS-1A-101220
Prep Type: Total/NA
Prep Batch: 512651

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
									Lower	Upper
Iron	9600	J1	815	9970	4	mg/Kg	☼	51	81	118
Manganese	140	J1	81.5	184	J1	mg/Kg	☼	59	84	114

Lab Sample ID: 410-17007-1 MSD
Matrix: Solid
Analysis Batch: 512939

Client Sample ID: GWTS-1A-101220
Prep Type: Total/NA
Prep Batch: 512651

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
									Lower	Upper	RPD	Limit
Iron	9600	J1	864	9640	4	mg/Kg	☼	9	81	118	3	20
Manganese	140	J1	86.4	185	J1	mg/Kg	☼	56	84	114	1	20

Lab Sample ID: MB 280-513218/1-A
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513218

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Iron	20	U	80	20	8.3	mg/Kg		10/21/20 12:51	1
Manganese	0.40	U	4.5	0.40	0.10	mg/Kg		10/21/20 12:51	1

Lab Sample ID: LCS 280-513218/2-A
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Lower	Upper
Iron	1000	955		mg/Kg		96	81	118
Manganese	100	91.1		mg/Kg		91	84	114

Lab Sample ID: 410-17007-17 MS
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: GWTS-1A-101220-FD
Prep Type: Total/NA
Prep Batch: 513218

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
									Lower	Upper
Iron	9500	J1	985	9350	4	mg/Kg	☼	-16	81	118
Manganese	110	J1	98.5	178	J1	mg/Kg	☼	72	84	114

Lab Sample ID: 410-17007-17 MSD
Matrix: Solid
Analysis Batch: 513521

Client Sample ID: GWTS-1A-101220-FD
Prep Type: Total/NA
Prep Batch: 513218

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
									Lower	Upper	RPD	Limit
Iron	9500	J1	1030	9930	4	mg/Kg	☼	42	81	118	6	20
Manganese	110	J1	103	187	J1	mg/Kg	☼	77	84	114	5	20

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

GC/MS VOA

Analysis Batch: 513584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8260C DOD	
410-17007-16	GWTS-TB02-101220	Total/NA	Water	8260C DOD	
MB 280-513584/9	Method Blank	Total/NA	Water	8260C DOD	
LCS 280-513584/4	Lab Control Sample	Total/NA	Water	8260C DOD	

Prep Batch: 514059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	5030B	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	5030B	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	5030B	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	5030B	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	5030B	
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	5030B	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	5030B	
MB 280-514059/3-A	Method Blank	Total/NA	Solid	5030B	
LCS 280-514059/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-514059/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 514060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8260C DOD	514059
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8260C DOD	514059
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8260C DOD	514059
MB 280-514059/3-A	Method Blank	Total/NA	Solid	8260C DOD	514059
LCS 280-514059/1-A	Lab Control Sample	Total/NA	Solid	8260C DOD	514059
LCSD 280-514059/2-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	514059

Metals

Prep Batch: 512651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	3050B	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	3050B	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	3050B	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	3050B	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	3050B	
MB 280-512651/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-512651/2-A	Lab Control Sample	Total/NA	Solid	3050B	
410-17007-1 MS	GWTS-1A-101220	Total/NA	Solid	3050B	
410-17007-1 MSD	GWTS-1A-101220	Total/NA	Solid	3050B	

Analysis Batch: 512939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	6010C	512651
410-17007-2	GWTS-2A-101220	Total/NA	Solid	6010C	512651
410-17007-4	GWTS-4A-101220	Total/NA	Solid	6010C	512651
410-17007-5	GWTS-5A-101220	Total/NA	Solid	6010C	512651

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Metals (Continued)

Analysis Batch: 512939 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-7	GWTS-7A-101220	Total/NA	Solid	6010C	512651
MB 280-512651/1-A	Method Blank	Total/NA	Solid	6010C	512651
LCS 280-512651/2-A	Lab Control Sample	Total/NA	Solid	6010C	512651
410-17007-1 MS	GWTS-1A-101220	Total/NA	Solid	6010C	512651
410-17007-1 MSD	GWTS-1A-101220	Total/NA	Solid	6010C	512651

Prep Batch: 513218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	3050B	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	3050B	
MB 280-513218/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-513218/2-A	Lab Control Sample	Total/NA	Solid	3050B	
410-17007-17 MS	GWTS-1A-101220-FD	Total/NA	Solid	3050B	
410-17007-17 MSD	GWTS-1A-101220-FD	Total/NA	Solid	3050B	

Analysis Batch: 513521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	6010C	513218
MB 280-513218/1-A	Method Blank	Total/NA	Solid	6010C	513218
LCS 280-513218/2-A	Lab Control Sample	Total/NA	Solid	6010C	513218
410-17007-17 MS	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218
410-17007-17 MSD	GWTS-1A-101220-FD	Total/NA	Solid	6010C	513218

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-1A-101220**Lab Sample ID: 410-17007-1****Date Collected: 10/12/20 09:00****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 90.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 10:30	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 11:41	MRJ	TAL DEN

Client Sample ID: GWTS-2A-101220**Lab Sample ID: 410-17007-2****Date Collected: 10/12/20 09:03****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 89.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 10:52	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:11	MRJ	TAL DEN

Client Sample ID: GWTS-4A-101220**Lab Sample ID: 410-17007-4****Date Collected: 10/12/20 09:09****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 90.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:15	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:15	MRJ	TAL DEN

Client Sample ID: GWTS-5A-101220**Lab Sample ID: 410-17007-5****Date Collected: 10/12/20 09:11****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 88.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:37	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:18	MRJ	TAL DEN

Client Sample ID: GWTS-7A-101220**Lab Sample ID: 410-17007-7****Date Collected: 10/12/20 09:17****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 95.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 11:59	GPM	TAL DEN
Total/NA	Prep	3050B			512651	10/15/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	512939	10/16/20 12:21	MRJ	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	513584	10/22/20 10:57	JLS	TAL DEN

Client Sample ID: GWTS-TB02-101220

Lab Sample ID: 410-17007-16

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	513584	10/22/20 11:19	JLS	TAL DEN

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 12:22	GPM	TAL DEN
Total/NA	Prep	3050B			513218	10/20/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	513521	10/21/20 12:58	LMT	TAL DEN

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			514059	10/26/20 07:20	GPM	TAL DEN
Total/NA	Analysis	8260C DOD		1	514060	10/26/20 12:44	GPM	TAL DEN
Total/NA	Prep	3050B			513218	10/20/20 15:40	EC	TAL DEN
Total/NA	Analysis	6010C		1	513521	10/21/20 13:17	LMT	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Eurofins Lancaster Laboratories Env, LLC

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Laboratory: Eurofins TestAmerica, Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
3050B	Preparation, Metals	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-17007-1	GWTS-1A-101220	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-2	GWTS-2A-101220	Solid	10/12/20 09:03	10/13/20 09:15	
410-17007-4	GWTS-4A-101220	Solid	10/12/20 09:09	10/13/20 09:15	
410-17007-5	GWTS-5A-101220	Solid	10/12/20 09:11	10/13/20 09:15	
410-17007-7	GWTS-7A-101220	Solid	10/12/20 09:17	10/13/20 09:15	
410-17007-8	GWTS-TB01-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-16	GWTS-TB02-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-17	GWTS-1A-101220-FD	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-18	GWTS-2A-101220-FD	Solid	10/12/20 09:03	10/13/20 09:15	

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Eurofins Lancaster Laboratories Env, LLC



410-17007 Chain of Custody

CHAIN-OF-CUSTODY RECORD

<p>225 Schilling Circle Suite 400 Hunt Valley, MD Tel No. (410) 584-7020 Fax No. (410) 771-1625</p>	<p>PROJECT NUMBER: 6360401</p>	<p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002</p>	<p>LAB CONTACT: Kay Hower Eurofins 1 (717) 566-7258</p>	<p>COC NUMBER COC-GWTS1-101220</p>
<p>PROJECT NAME: Kirtland AFB Bulk Fuels Facility</p>	<p>PROJECT SITE AND PHASE: ST-106/SS-111</p>	<p>LAB PO NUMBER: 21295</p>	<p>YEAR: 2020</p>	<p>QUARTER: Q4</p>
<p>ANALYSIS REQUIRED (Specify number of bottles)</p>				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-1A-101220	10/12/2020	0900	(SM2320B) Alkalinity
2	GWTS-2A-101220	10/12/2020	0903	(SM4500S2CF) Sulfide
3	GWTS-3A-101220	10/12/2020	0906	(SM4500NH3) Ammonia
4	GWTS-4A-101220	10/12/2020	0909	(353.2) Nitrate-Nitrite
5	GWTS-5A-101220	10/12/2020	0911	(300.0) Chloride, bromide, sulfate
6	GWTS-6A-101220	10/12/2020	0914	(8010C)+8260C Dissolved Fe, Mn+BTEX
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg
				(8011) EDB/EDB Soil
				(8260C) BTEXN
				(8260C) BTEX
				(8260C) VOCs
				Total Number of Bottles

Please give all samples a 5-Day rush turn around

3.4 ICH 11-0.3 RP 10/14/20

SAMPLER(S): J Livingston	RECEIVED BY: Fedex:	DATE: 10/14/20	TIME: 0945
Printed Name and Signature: J Livingston	Printed Name and Signature:	DATE: 10/12/2020	TIME: 1500
Printed Name and Signature:	Printed Name and Signature:		
Printed Name and Signature:	Printed Name and Signature:		
Printed Name and Signature:	Printed Name and Signature:		

EA		CHAIN-OF-CUSTODY RECORD		COC NUMBER COC-GWTS2-101220
PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401 225 Solving Circle, Suite 400 Hunt Valley, MD Tel No. (410) 584-7020 Fax No. (410) 771-1625		LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Arvada, CO 80002		YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111 LAB/PO NUMBER: 21295		LAB CONTACT: Kay Hower KayHower@eurofinaUS.com Eurofins 1 (717) 566-7258		
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-7A-101220	10/12/2020	0917	(SM2320B) Alkalinity
2	GWTS-TB01-101220	10/12/2020	1300	(SM4500S2CF) Sulfide
3				(SM4500NH3) Ammonia
4				(353.2) Nitrate-Nitrite
5				(300.0) Chloride, bromide, sulfate
6				(6010C)+8260C Dissolved Fe, Mn+BTEX
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg
				(8011) EDB/EDB Soil
				(8260C) BTEXN
				(8260C) BTEX
				(8260C) VOCs
				Total Number of Bottles
ANALYSIS REQUIRED (Specify number of bottles)				
Please give all samples a 5-Day rush turn around				
SAMPLER(S): J Livingston RELINQUISHED BY:		DATE: 10/12/2020 TIME: 1500	COURIER AND SHIPPING NUMBER: Fedex: RECEIVED BY:	
Printed Name and Signature: J Livingston		DATE: 10/14/20 TIME: 0945	Printed Name and Signature:	
Printed Name and Signature:			Printed Name and Signature:	
Printed Name and Signature:			Printed Name and Signature:	
Printed Name and Signature:			Printed Name and Signature:	

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CHAIN-OF-CUSTODY RECORD

<p>225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1825</p>	<p>PROJECT NUMBER: 6360401</p> <p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002</p>	<p>FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA</p> <p>LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258</p>	<p>COC NUMBER COC-GWTS3-101220</p> <p>YEAR: 2020</p> <p>QUARTER: Q4</p>	
<p>PROJECT SITE AND PHASE: ST106/SS111</p>		<p>LAB PO NUMBER: 21295</p>		
<p>ANALYSIS REQUIRED (Specify number of bottles)</p>				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-8A-101220	10/12/2020	0920	--
2	GWTS-9A-101220	10/12/2020	0923	--
3	GWTS-10A-101220	10/12/2020	0926	--
4	GWTS-11A-101220	10/12/2020	0929	--
5	GWTS-12A-101220	10/12/2020	0932	--
6	GWTS-13A-101220	10/12/2020	0935	--
<p>410-17007 Chain of Custody</p>				

Please give all samples a 5-Day rush turn around

<p>SAMPLER(S): <i>J Livingston</i></p> <p>Printed Name and Signature: <i>J Livingston</i></p>	<p>RELINQUISHED BY: <i>J Livingston</i></p> <p>Printed Name and Signature: <i>J Livingston</i></p>	<p>DATE: 10/12/2020</p>	<p>TIME: 1500</p>	<p>RECEIVED BY: <i>Taylor Gage Taylor</i></p> <p>Printed Name and Signature: <i>Taylor Gage Taylor</i></p>	<p>DATE: 10/13/20</p>	<p>TIME: 0915</p>
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CHAIN-OF-CUSTODY RECORD

 <p>225 Schilling Circle, Suite 400 Hunt Valley, MD 21084 Tel No: (410) 584-7000 Fax No: (410) 771-1625</p>	<p>PROJECT NUMBER: 6360401</p>	<p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Avada, CO 80002</p>	<p>FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@east.com EA Amarda Smith: asmith@east.com EA FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@east.com EA</p>	<p>COC NUMBER COC-GWTS4-101220</p> <p>YEAR: 2020</p> <p>QUARTER: Q4</p>
<p>PROJECT SITE AND PHASE: ST106/SS111</p>		<p>LAB CONTACT: Kay Hower KayHower@eurofinaUS.com Eurofins 1 (717) 556-7258</p>		
ANALYSIS REQUIRED (Specify number of bottles)				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-14A-101220	10/12/2020	0938	(SM2320B) Alkalinity
2	GWTS-TB02-101220	10/12/2020	1300	(SM4500S2CF) Sulfide
3				(SM4500NH3) Ammonia
4				(353.2) Nitrate-Nitrite
5				(300.0) Chloride, bromide, sulfate
6				(6010C) Dissolved Fe, Mn
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg
				(8011) EDB/EDB Soil
				(8260C) BTEXN
				(8260C) BTEX
				(8260C) VOCs
				Total Number of Bottles

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	COURIER AND SHIPPING NUMBER: Fedex:	DATE	TIME
RELINQUISHED BY:	RECEIVED BY:	DATE	TIME
J Livingston <i>[Signature]</i>	Scott Hall <i>[Signature]</i>	10/12/2020	1500
Printed Name and Signature:	Printed Name and Signature:		
J Livingston	Scott Hall	10/13/20	0915
Printed Name and Signature:	Printed Name and Signature:		

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Do Not Lift Using This Tag

ORIGIN ID:ONMA (505) 224-9013
EA ENGINEERING
320 GOLD AVE SW
ALBUQUERQUE, NM 87102
UNITED STATES US

SHIP DATE: 12OCT20
ACTWGT: 51.75 LB
CAD: 6995204/SSFE2121
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO ATTN: DARLENE BANDY
EUROFINS TESTAMERICA
4955 YARROW ST

ARVADA CO 80002

650

4 10:30 E
8287
10.13

(303) 736-0100
INU: PD:

REF: FZ



410-17007 Waybill



FedEx Express



J202020071401 BY

1 of 2

TRK# 0201 3977 5166 8287

MASTER

XH LAAA

TUE - 13 OCT 10:30A
PRIORITY OVERNIGHT

AHS
80002

CO-US DEN



56112/4E7E/AT66

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ORIGIN ID:DNMA (505) 224-9013
 EA ENGINEERING
 320 GOLD RIVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

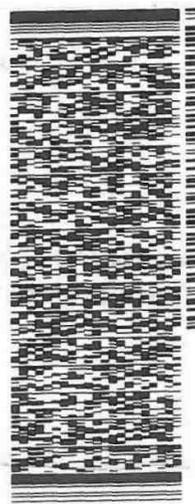
TO
 ATTN: DARLENE BANDY
 EUROFINIS TESTAMERICA
 4955 YARROW ST

SHR: 51.75 LB
 ACTWGT: 51.75 LB
 CAD: 6995204/59FE2121
 DIMS: 24X14X14 IN
 BILL THIRD PARTY

ARVADA CO 80002

(303) 736-0100
 REF: PO1

DEPT1



2 of 2
 MPS# 3977 5166 8298
 O263
 Mstr# 3977 5166 8287

TUE - 13 OCT 10:30A
 PRIORITY OVERNIGHT
 O201
 AHS
 80002
 CO-US DEN



JRN TO STATION FOR
 FEET DATA ENTRY

10/28/2020

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410-17007 Waybill

ORIGIN ID:OMHA (S05) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 RICHMOND, VA 23102
 UNITED STATES US

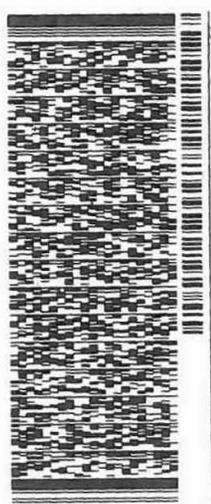
10 ATTN: DARLENE BANDY
 EUROFINS TESTAMERICA
 4955 YARROW ST

ARVADA CO 80002

(303) 738-0100
 (0263) 3977 5166 8298
 Met# 3977 5166 8287

REF: 0201

DEPT:



1J20202007140107

2 of 2
 MFS/ 3977 5166 8298
 (0263) 3977 5166 8298
 Met# 3977 5166 8287

TUE - 13 OCT 10:30A
 PRIORITY OVERNIGHT
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 CO-US DEN

SHIP DATE: 12OCT20
 ACTING: SIA 23 SEP2121
 RNO: 8992419 IN
 DINS: 24A19X19 IN
 BILL THIRD PARTY

568J2/A27E/B76G



CHAIN-OF-CUSTODY RECORD

 PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1825	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond lamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA	COC NUMBER COC-GWTS3-101220 YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111 LAB PO NUMBER: 21295	LAB CONTACT: Kay Howler KayHowler@eurofinsUS.com Eurofins 1 (717) 566-7258		

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)													COMMENTS
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	(6020A/6010C) Total As,Pb,Ca,K,Na,Mg	(6010C) Dissolved Fe, Mn	(300.0) Chloride, bromide, sulfate	(353.2) Nitrate-Nitrite	(SM4500NH3) Ammonia	(SM4500S2CF) Sulfide	(SM2320B) Alkalinity			
1	GWTS-8A-101220	10/12/2020	0920	--	--	--	1	--	--	--	--	--	--	--	--		
2	GWTS-9A-101220	10/12/2020	0923	--	--	--	1	--	--	--	--	--	--	--	--		
3	GWTS-10A-101220	10/12/2020	0926	--	--	--	1	--	--	--	--	--	--	--	--		
4	GWTS-11A-101220	10/12/2020	0929	--	--	--	1	--	--	--	--	--	--	--	--		
5	GWTS-12A-101220	10/12/2020	0932	--	--	--	1	--	--	--	--	--	--	--	--		
6	GWTS-13A-101220	10/12/2020	0935	--	--	--	1	--	--	--	--	--	--	--	--		


 410-17007 Chain of Custody

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston RELINQUISHED BY:	DATE: 10/12/2020	TIME: 1500	COURIER AND SHIPPING NUMBER: Fedex: 114C -0.3 JPH/1 SH 10/13/20	RECEIVED BY:	DATE: 10/13/20	TIME: 0915
Printed Name and Signature: J Livingston			Printed Name and Signature: Taylor Gage Taylor			
Printed Name and Signature:			Printed Name and Signature:			
Printed Name and Signature:			Printed Name and Signature:			



CHAIN-OF-CUSTODY RECORD

 225 Schilling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625	PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA Pam Moss: pmoss@eaest.com EA	COC NUMBER COC-GWTS4-101220 YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinaUS.com Eurofins 1 (717) 556-7258		

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)						COMMENTS			
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB/EDB Soil (8011)	(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	(6010C) Dissolved Fe, Mn		Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)
1	GWTS-14A-101220	10/12/2020	0938	1	--	--	1	--	--	--	--	--	
2	GWTS-TB02-101220	10/12/2020	1300	2	--	--	2	--	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston Relinquished By: J Livingston	COURIER AND SHIPPING NUMBER: Fedex	RECEIVED BY: Scott Hall	DATE: 10/13/20
DATE: 10/12/2020 TIME: 1500			

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410-17007 Chain of Custody

CHAIN-OF-CUSTODY RECORD

225 Schilling Circle Suite 400 Hunt Valley MD Tel No. (410) 584-7020 Fax No. (410) 771-1625	PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	COC NUMBER COC-GWTS1-101220
PROJECT NAME: Kirtland AFB Bulk Fuels Facility	LAB PO NUMBER: 21295	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA prcess@eaest.com EA	YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST-106/SS-111	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)												COMMENTS
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8011) EDB/EDB Soil	(6020A/6010C) Total As, Pb, Ca, K, Na, Mg	(8010C)+8260C Dissolved Fe, Mn+BTEX	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Ammonia (SM4500NH3)	Sulfide (SM4500S2CF)	Alkalinity (SM2320B)		
1	GWTS-1A-101220	10/12/2020	0900	2	--	--	1	--	1	--	--	--	--	--	--	
2	GWTS-2A-101220	10/12/2020	0903	2	--	--	1	--	1	--	--	--	--	--	--	
3	GWTS-3A-101220	10/12/2020	0906	1	--	--	1	--	1	--	--	--	--	--	--	
4	GWTS-4A-101220	10/12/2020	0909	2	--	--	1	--	1	--	--	--	--	--	--	
5	GWTS-5A-101220	10/12/2020	0911	2	--	--	1	--	1	--	--	--	--	--	--	
6	GWTS-6A-101220	10/12/2020	0914	1	--	--	1	--	1	--	--	--	--	--	--	

Please give all samples a 5-Day rush turn around

3.4 ICH 11-0.3 R3 10/14/20

SAMPLER(S): J Livingston		COURIER AND SHIPPING NUMBER: Fedex:	
RELINQUISHED BY: J Livingston	DATE: 10/12/2020	RECEIVED BY: [Signature]	DATE: 10/14/20
Printed Name and Signature: J Livingston	TIME: 1500	Printed Name and Signature: [Signature]	TIME: 0945
RELINQUISHED BY: [Signature]	DATE: [Blank]	RECEIVED BY: [Signature]	DATE: [Blank]
Printed Name and Signature: [Blank]	TIME: [Blank]	Printed Name and Signature: [Blank]	TIME: [Blank]
RELINQUISHED BY: [Signature]	DATE: [Blank]	RECEIVED BY: [Signature]	DATE: [Blank]
Printed Name and Signature: [Blank]	TIME: [Blank]	Printed Name and Signature: [Blank]	TIME: [Blank]

EA		CHAIN-OF-CUSTODY RECORD		COC NUMBER COC-GWTS2-101220
PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401 PROJECT SITE AND PHASE: ST106/SS111		LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Arvada, CO 80002		YEAR: 2020 QUARTER: Q4
225 Solving Circle, Suite 400 Hunt Valley, MD Tel No. (410) 584-7020 Fax No. (410) 771-1625		FAX AND MAIL REPORTS(ED) TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA		
LAB CONTACT: Kay Hower KayHower@eurofinaUS.com Eurofins 1 (717) 566-7258				
ANALYSIS REQUIRED (Specify number of bottles)				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-7A-101220	10/12/2020	0917	(SM2320B) Alkalinity -- --
2	GWTS-TB01-101220	10/12/2020	1300	(SM4500S2CF) Sulfide -- --
3				(SM4500NH3) Ammonia -- --
4				(353.2) Nitrate-Nitrite -- --
5				(300.0) Chloride, bromide, sulfate -- --
6				(6010C)+8260C Dissolved Fe, Mn+BTEX -- --
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg -- --
				(8011) EDB/EDB Soil 1 -- 2
				(8260C) BTEXN -- --
				(8260C) BTEX -- --
				(8260C) VOCs -- --
				Total Number of Bottles 2 4

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston		COURIER AND SHIPPING NUMBER: Fedex:	
RELINQUISHED BY:	RECEIVED BY:	DATE	TIME
J Livingston	J Livingston	10/12/2020	1500
Printed Name and Signature	Printed Name and Signature	10/14/20	0945
J Livingston			
Printed Name and Signature			

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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 2****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/13/20 08:22 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 3****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/13/20 08:23 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Source: Eurofins TestAmerica, Denver****List Number: 4****List Creation: 10/14/20 08:01 PM****Creator: Pottruff, Reed W**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 5****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-1

Login Number: 17007**List Number: 6****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/16/20 12:51 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing
America

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ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-17007-2
Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:
EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
10/28/2020 11:09:33 AM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com



LINKS

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Ask The Expert

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Laboratory Job ID: 410-17007-2

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Darlene Bandy
 Project Manager I
 10/28/2020 11:09:33 AM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Lancaster Laboratories Env, LLC

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Job ID: 410-17007-2

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-17007-2

Comments

No additional comments.

Receipt

The samples were received on 10/13/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 3.1° C.

Receipt Exceptions

The samples in job 410-17007-1 were shipped directly to Eurofins TestAmerica Denver by the client. The inter-company COC (ICOC) was generated only because, since the samples were logged by Eurofins Lancaster Laboratories Environment, they needed to be "shipped" in the LIMS in order for ETA Denver to receive them.

GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

As requested by the client, two of the samples were also logged as field duplicates. Sample GWTS-1A-101220 (410-17007-1) was also logged as sample GWTS-1A-101220-FD (410-17007-17). Sample GWTS-2A-101220 (410-17007-2) was also logged as sample GWTS-2A-101220-FD (410-17007-18).

One cooler was delayed by FedEx, and was received at the laboratory on 10/14/2020. It is noted that this cooler was received within temperature requirements. Due to the delay in sample receipt, the turnaround time began on 10/14/2020.

Containers for these samples were received 10/13/2020: GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15) and GWTS-TB02-101220 (410-17007-16)

The client needed the 8011 data as soon as possible; therefore, the 8011 and % Moisture methods were split off into job series 410-17007-2, with a faster turnaround time. All other methods on the chain of custody are reported under SDG 410-17007-1. GWTS-1A-101220 (410-17007-1), GWTS-2A-101220 (410-17007-2), GWTS-3A-101220 (410-17007-3), GWTS-4A-101220 (410-17007-4), GWTS-5A-101220 (410-17007-5), GWTS-6A-101220 (410-17007-6), GWTS-7A-101220 (410-17007-7), GWTS-TB01-101220 (410-17007-8), GWTS-8A-101220 (410-17007-9), GWTS-9A-101220 (410-17007-10), GWTS-10A-101220 (410-17007-11), GWTS-11A-101220 (410-17007-12), GWTS-12A-101220 (410-17007-13), GWTS-13A-101220 (410-17007-14), GWTS-14A-101220 (410-17007-15), GWTS-TB02-101220 (410-17007-16), GWTS-1A-101220-FD (410-17007-17) and GWTS-2A-101220-FD (410-17007-18)

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-1A-101220	Lab Sample ID: 410-17007-1	1
<input type="checkbox"/> No Detections.		2
Client Sample ID: GWTS-2A-101220	Lab Sample ID: 410-17007-2	3
<input type="checkbox"/> No Detections.		4
Client Sample ID: GWTS-3A-101220	Lab Sample ID: 410-17007-3	5
<input type="checkbox"/> No Detections.		6
Client Sample ID: GWTS-4A-101220	Lab Sample ID: 410-17007-4	7
<input type="checkbox"/> No Detections.		8
Client Sample ID: GWTS-5A-101220	Lab Sample ID: 410-17007-5	9
<input type="checkbox"/> No Detections.		10
Client Sample ID: GWTS-6A-101220	Lab Sample ID: 410-17007-6	11
<input type="checkbox"/> No Detections.		12
Client Sample ID: GWTS-7A-101220	Lab Sample ID: 410-17007-7	13
<input type="checkbox"/> No Detections.		14
Client Sample ID: GWTS-TB01-101220	Lab Sample ID: 410-17007-8	15
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-8A-101220	Lab Sample ID: 410-17007-9	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-9A-101220	Lab Sample ID: 410-17007-10	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-10A-101220	Lab Sample ID: 410-17007-11	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-11A-101220	Lab Sample ID: 410-17007-12	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-12A-101220	Lab Sample ID: 410-17007-13	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-13A-101220	Lab Sample ID: 410-17007-14	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-14A-101220	Lab Sample ID: 410-17007-15	
<input type="checkbox"/> No Detections.		
Client Sample ID: GWTS-1A-101220-FD	Lab Sample ID: 410-17007-17	
<input type="checkbox"/> No Detections.		

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-1A-101220

Lab Sample ID: 410-17007-1

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.017	ug/Kg	☼	10/15/20 18:36	1	
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	95		55 - 130					10/15/20 10:02	10/15/20 18:36	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	9.8		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	90.2		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-2A-101220

Lab Sample ID: 410-17007-2

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 89.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 18:57	1	
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	92		55 - 130					10/15/20 10:02	10/15/20 18:57	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	10.7		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	89.3		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-3A-101220

Lab Sample ID: 410-17007-3

Date Collected: 10/12/20 09:06

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 19:19	1	
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	95		55 - 130					10/15/20 10:02	10/15/20 19:19	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	95.8		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac	
Ethylene Dibromide (1C)	0.042	U M	0.11	0.042	0.017	ug/Kg	☼	10/15/20 19:40	1	
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (1C)	99		55 - 130					10/15/20 10:02	10/15/20 19:40	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	10.0		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	90.0		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 20:02	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>		<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130			10/15/20 10:02		10/15/20 20:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	11.2		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	88.8		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-6A-101220

Lab Sample ID: 410-17007-6

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 87.9

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/15/20 20:23	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>		<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	87		55 - 130			10/15/20 10:02		10/15/20 20:23	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	12.1		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	87.9		0.1	0.05	0.1	%		10/22/20 14:03	1

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	☼	10/15/20 20:45	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>		<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130			10/15/20 10:02		10/15/20 20:45	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.5		0.1	0.05	0.1	%		10/22/20 14:03	1
Percent Solids	95.5		0.1	0.05	0.1	%		10/22/20 14:03	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-TB01-101220

Lab Sample ID: 410-17007-8

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.014	U	0.020	0.014	0.0036	ug/L		10/16/20 15:42	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	103		70 - 130		10/16/20 09:54	10/16/20 15:42	1		

Client Sample ID: GWTS-8A-101220

Lab Sample ID: 410-17007-9

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.6

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	✱	10/15/20 21:56	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	88	M	55 - 130		10/15/20 10:02	10/15/20 21:56	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.4		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	95.6		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-9A-101220

Lab Sample ID: 410-17007-10

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.10	0.040	0.016	ug/Kg	✱	10/15/20 22:18	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	75	M	55 - 130		10/15/20 10:02	10/15/20 22:18	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	95.8		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-10A-101220

Lab Sample ID: 410-17007-11

Date Collected: 10/12/20 09:26

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 91.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.016	ug/Kg	✱	10/15/20 22:39	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	85		55 - 130		10/15/20 10:02	10/15/20 22:39	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	8.7		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	91.3		0.1	0.05	0.1	%		10/22/20 22:11	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-11A-101220

Lab Sample ID: 410-17007-12

Date Collected: 10/12/20 09:29

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.4

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.039	U	0.10	0.039	0.015	ug/Kg	☼	10/15/20 23:01	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	92		55 - 130		10/15/20 10:02	10/15/20 23:01	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	2.6		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	97.4		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-12A-101220

Lab Sample ID: 410-17007-13

Date Collected: 10/12/20 09:32

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.11	0.040	0.016	ug/Kg	☼	10/15/20 23:22	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	89		55 - 130		10/15/20 10:02	10/15/20 23:22	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	5.8		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	94.2		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-13A-101220

Lab Sample ID: 410-17007-14

Date Collected: 10/12/20 09:35

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.3

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.040	U	0.11	0.040	0.016	ug/Kg	☼	10/15/20 23:44	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	86		55 - 130		10/15/20 10:02	10/15/20 23:44	1		

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	5.7		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	94.3		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-14A-101220

Lab Sample ID: 410-17007-15

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.039	U	0.10	0.039	0.015	ug/Kg	☼	10/16/20 00:05	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dibromopropane (1C)	85		55 - 130		10/15/20 10:02	10/16/20 00:05	1		

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-14A-101220

Lab Sample ID: 410-17007-15

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	2.8		0.1	0.05	0.1	%		10/22/20 22:11	1
Percent Solids	97.2		0.1	0.05	0.1	%		10/22/20 22:11	1

Client Sample ID: GWTS-1A-101220-FD

Lab Sample ID: 410-17007-17

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.042	U	0.11	0.042	0.016	ug/Kg	☼	10/16/20 00:27	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>		<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	87		55 - 130			10/15/20 14:02		10/16/20 00:27	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	9.3		0.1	0.05	0.1	%		10/26/20 09:03	1
Percent Solids	90.7		0.1	0.05	0.1	%		10/26/20 09:03	1

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.043	U	0.11	0.043	0.017	ug/Kg	☼	10/16/20 00:48	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>		<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (1C)	91		55 - 130			10/15/20 14:02		10/16/20 00:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture	11.1		0.1	0.05	0.1	%		10/26/20 09:03	1
Percent Solids	88.9		0.1	0.05	0.1	%		10/26/20 09:03	1

Eurofins Lancaster Laboratories Env, LLC

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DBP1 (55-130)			
410-17007-1	GWTS-1A-101220	95			
410-17007-2	GWTS-2A-101220	92			
410-17007-3	GWTS-3A-101220	95			
410-17007-4	GWTS-4A-101220	99			
410-17007-5	GWTS-5A-101220	91			
410-17007-6	GWTS-6A-101220	87			
410-17007-7	GWTS-7A-101220	91			
410-17007-9	GWTS-8A-101220	88 M			
410-17007-10	GWTS-9A-101220	75 M			
410-17007-11	GWTS-10A-101220	85			
410-17007-12	GWTS-11A-101220	92			
410-17007-13	GWTS-12A-101220	89			
410-17007-14	GWTS-13A-101220	86			
410-17007-15	GWTS-14A-101220	85			
410-17007-17	GWTS-1A-101220-FD	87			
410-17007-18	GWTS-2A-101220-FD	91			
LCS 280-512725/2-A	Lab Control Sample	90			
LCSD 280-512725/3-A	Lab Control Sample Dup	96			
MB 280-512725/1-A	Method Blank	86			

Surrogate Legend

12DBP = 1,2-Dibromopropane

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DBP1 (70-130)			
410-17007-8	GWTS-TB01-101220	103			
LCS 280-512894/2-A	Lab Control Sample	97			
LCSD 280-512894/3-A	Lab Control Sample Dup	99			
MB 280-512894/1-A	Method Blank	96			

Surrogate Legend

12DBP = 1,2-Dibromopropane

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 280-512725/1-A
Matrix: Solid
Analysis Batch: 512765

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512725

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide (1C)	0.038	U	0.10	0.038	0.015	ug/Kg		10/15/20 17:31	1
Surrogate	%Recovery	Qualifier	Limits	Prepared		Analyzed		Dil Fac	
1,2-Dibromopropane (1C)	86		55 - 130	10/15/20 10:02	10/15/20 17:31			1	

Lab Sample ID: LCS 280-512725/2-A
Matrix: Solid
Analysis Batch: 512765

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dibromopropane (1C)	90		55 - 130				

Lab Sample ID: LCSD 280-512725/3-A
Matrix: Solid
Analysis Batch: 512765

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512725

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dibromopropane (1C)	96		55 - 130						

Lab Sample ID: MB 280-512894/1-A
Matrix: Water
Analysis Batch: 512921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512894

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide (1C)	0.014	U M	0.020	0.014	0.0037	ug/L		10/16/20 13:53	1
Surrogate	%Recovery	Qualifier	Limits	Prepared		Analyzed		Dil Fac	
1,2-Dibromopropane (1C)	96		70 - 130	10/16/20 09:54	10/16/20 13:53			1	

Lab Sample ID: LCS 280-512894/2-A
Matrix: Water
Analysis Batch: 512921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512894

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dibromopropane (1C)	97		70 - 130				

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCSD 280-512894/3-A
 Matrix: Water
 Analysis Batch: 512921

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 512894

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide (1C)	0.250	0.231	M	ug/L		92	70 - 130	6	30
Surrogate		LCSD %Recovery	LCSD Qualifier						Limits
1,2-Dibromopropane (1C)		99							70 - 130

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Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

GC Semi VOA

Prep Batch: 512725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8011	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8011	
410-17007-3	GWTS-3A-101220	Total/NA	Solid	8011	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8011	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8011	
410-17007-6	GWTS-6A-101220	Total/NA	Solid	8011	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8011	
410-17007-9	GWTS-8A-101220	Total/NA	Solid	8011	
410-17007-10	GWTS-9A-101220	Total/NA	Solid	8011	
410-17007-11	GWTS-10A-101220	Total/NA	Solid	8011	
410-17007-12	GWTS-11A-101220	Total/NA	Solid	8011	
410-17007-13	GWTS-12A-101220	Total/NA	Solid	8011	
410-17007-14	GWTS-13A-101220	Total/NA	Solid	8011	
410-17007-15	GWTS-14A-101220	Total/NA	Solid	8011	
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8011	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8011	
MB 280-512725/1-A	Method Blank	Total/NA	Solid	8011	
LCS 280-512725/2-A	Lab Control Sample	Total/NA	Solid	8011	
LCSD 280-512725/3-A	Lab Control Sample Dup	Total/NA	Solid	8011	

Analysis Batch: 512765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	8011	512725
410-17007-2	GWTS-2A-101220	Total/NA	Solid	8011	512725
410-17007-3	GWTS-3A-101220	Total/NA	Solid	8011	512725
410-17007-4	GWTS-4A-101220	Total/NA	Solid	8011	512725
410-17007-5	GWTS-5A-101220	Total/NA	Solid	8011	512725
410-17007-6	GWTS-6A-101220	Total/NA	Solid	8011	512725
410-17007-7	GWTS-7A-101220	Total/NA	Solid	8011	512725
410-17007-9	GWTS-8A-101220	Total/NA	Solid	8011	512725
410-17007-10	GWTS-9A-101220	Total/NA	Solid	8011	512725
410-17007-11	GWTS-10A-101220	Total/NA	Solid	8011	512725
410-17007-12	GWTS-11A-101220	Total/NA	Solid	8011	512725
410-17007-13	GWTS-12A-101220	Total/NA	Solid	8011	512725
410-17007-14	GWTS-13A-101220	Total/NA	Solid	8011	512725
410-17007-15	GWTS-14A-101220	Total/NA	Solid	8011	512725
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	8011	512725
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	8011	512725
MB 280-512725/1-A	Method Blank	Total/NA	Solid	8011	512725
LCS 280-512725/2-A	Lab Control Sample	Total/NA	Solid	8011	512725
LCSD 280-512725/3-A	Lab Control Sample Dup	Total/NA	Solid	8011	512725

Prep Batch: 512894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8011	
MB 280-512894/1-A	Method Blank	Total/NA	Water	8011	
LCS 280-512894/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 280-512894/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

GC Semi VOA

Analysis Batch: 512921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-8	GWTS-TB01-101220	Total/NA	Water	8011	512894
MB 280-512894/1-A	Method Blank	Total/NA	Water	8011	512894
LCS 280-512894/2-A	Lab Control Sample	Total/NA	Water	8011	512894
LCSD 280-512894/3-A	Lab Control Sample Dup	Total/NA	Water	8011	512894

General Chemistry

Analysis Batch: 513665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-1	GWTS-1A-101220	Total/NA	Solid	Moisture	
410-17007-2	GWTS-2A-101220	Total/NA	Solid	Moisture	
410-17007-3	GWTS-3A-101220	Total/NA	Solid	Moisture	
410-17007-4	GWTS-4A-101220	Total/NA	Solid	Moisture	
410-17007-5	GWTS-5A-101220	Total/NA	Solid	Moisture	
410-17007-6	GWTS-6A-101220	Total/NA	Solid	Moisture	
410-17007-7	GWTS-7A-101220	Total/NA	Solid	Moisture	

Analysis Batch: 513774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-9	GWTS-8A-101220	Total/NA	Solid	Moisture	
410-17007-10	GWTS-9A-101220	Total/NA	Solid	Moisture	
410-17007-11	GWTS-10A-101220	Total/NA	Solid	Moisture	
410-17007-12	GWTS-11A-101220	Total/NA	Solid	Moisture	
410-17007-13	GWTS-12A-101220	Total/NA	Solid	Moisture	
410-17007-14	GWTS-13A-101220	Total/NA	Solid	Moisture	
410-17007-15	GWTS-14A-101220	Total/NA	Solid	Moisture	

Analysis Batch: 514083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-17007-17	GWTS-1A-101220-FD	Total/NA	Solid	Moisture	
410-17007-18	GWTS-2A-101220-FD	Total/NA	Solid	Moisture	

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

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Client Sample ID: GWTS-1A-101220 **Lab Sample ID: 410-17007-1**
Date Collected: 10/12/20 09:00 **Matrix: Solid**
Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-1A-101220 **Lab Sample ID: 410-17007-1**
Date Collected: 10/12/20 09:00 **Matrix: Solid**
Date Received: 10/13/20 09:15 **Percent Solids: 90.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 18:36	JSM	TAL DEN

Client Sample ID: GWTS-2A-101220 **Lab Sample ID: 410-17007-2**
Date Collected: 10/12/20 09:03 **Matrix: Solid**
Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-2A-101220 **Lab Sample ID: 410-17007-2**
Date Collected: 10/12/20 09:03 **Matrix: Solid**
Date Received: 10/13/20 09:15 **Percent Solids: 89.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 18:57	JSM	TAL DEN

Client Sample ID: GWTS-3A-101220 **Lab Sample ID: 410-17007-3**
Date Collected: 10/12/20 09:06 **Matrix: Solid**
Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-3A-101220 **Lab Sample ID: 410-17007-3**
Date Collected: 10/12/20 09:06 **Matrix: Solid**
Date Received: 10/13/20 09:15 **Percent Solids: 95.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 19:19	JSM	TAL DEN

Client Sample ID: GWTS-4A-101220 **Lab Sample ID: 410-17007-4**
Date Collected: 10/12/20 09:09 **Matrix: Solid**
Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

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Client Sample ID: GWTS-4A-101220

Lab Sample ID: 410-17007-4

Date Collected: 10/12/20 09:09

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 19:40	JSM	TAL DEN

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-5A-101220

Lab Sample ID: 410-17007-5

Date Collected: 10/12/20 09:11

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:02	JSM	TAL DEN

Client Sample ID: GWTS-6A-101220

Lab Sample ID: 410-17007-6

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Client Sample ID: GWTS-6A-101220

Lab Sample ID: 410-17007-6

Date Collected: 10/12/20 09:14

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:23	JSM	TAL DEN

Client Sample ID: GWTS-7A-101220

Lab Sample ID: 410-17007-7

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513665	10/22/20 14:03	SPG	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-7A-101220**Lab Sample ID: 410-17007-7**

Date Collected: 10/12/20 09:17

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 20:45	JSM	TAL DEN

Client Sample ID: GWTS-TB01-101220**Lab Sample ID: 410-17007-8**

Date Collected: 10/12/20 13:00

Matrix: Water

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512894	10/16/20 09:54	JSM	TAL DEN
Total/NA	Analysis	8011		1	512921	10/16/20 15:42	JSM	TAL DEN

Client Sample ID: GWTS-8A-101220**Lab Sample ID: 410-17007-9**

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-8A-101220**Lab Sample ID: 410-17007-9**

Date Collected: 10/12/20 09:20

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 21:56	JSM	TAL DEN

Client Sample ID: GWTS-9A-101220**Lab Sample ID: 410-17007-10**

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-9A-101220**Lab Sample ID: 410-17007-10**

Date Collected: 10/12/20 09:23

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 22:18	JSM	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-10A-101220**Lab Sample ID: 410-17007-11****Date Collected: 10/12/20 09:26****Matrix: Solid****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-10A-101220**Lab Sample ID: 410-17007-11****Date Collected: 10/12/20 09:26****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 91.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 22:39	JSM	TAL DEN

Client Sample ID: GWTS-11A-101220**Lab Sample ID: 410-17007-12****Date Collected: 10/12/20 09:29****Matrix: Solid****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-11A-101220**Lab Sample ID: 410-17007-12****Date Collected: 10/12/20 09:29****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 97.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:01	JSM	TAL DEN

Client Sample ID: GWTS-12A-101220**Lab Sample ID: 410-17007-13****Date Collected: 10/12/20 09:32****Matrix: Solid****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-12A-101220**Lab Sample ID: 410-17007-13****Date Collected: 10/12/20 09:32****Matrix: Solid****Date Received: 10/13/20 09:15****Percent Solids: 94.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:22	JSM	TAL DEN

Client Sample ID: GWTS-13A-101220**Lab Sample ID: 410-17007-14****Date Collected: 10/12/20 09:35****Matrix: Solid****Date Received: 10/13/20 09:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-13A-101220**Lab Sample ID: 410-17007-14**

Date Collected: 10/12/20 09:35

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/15/20 23:44	JSM	TAL DEN

Client Sample ID: GWTS-14A-101220**Lab Sample ID: 410-17007-15**

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	513774	10/22/20 22:11	IEU	TAL DEN

Client Sample ID: GWTS-14A-101220**Lab Sample ID: 410-17007-15**

Date Collected: 10/12/20 09:38

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 10:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:05	JSM	TAL DEN

Client Sample ID: GWTS-1A-101220-FD**Lab Sample ID: 410-17007-17**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	514083	10/26/20 09:03	IEU	TAL DEN

Client Sample ID: GWTS-1A-101220-FD**Lab Sample ID: 410-17007-17**

Date Collected: 10/12/20 09:00

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 14:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:27	JSM	TAL DEN

Client Sample ID: GWTS-2A-101220-FD**Lab Sample ID: 410-17007-18**

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	514083	10/26/20 09:03	IEU	TAL DEN

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Client Sample ID: GWTS-2A-101220-FD

Lab Sample ID: 410-17007-18

Date Collected: 10/12/20 09:03

Matrix: Solid

Date Received: 10/13/20 09:15

Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			512725	10/15/20 14:02	JSM	TAL DEN
Total/NA	Analysis	8011		1	512765	10/16/20 00:48	JSM	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

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Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Solids

Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Method	Method Description	Protocol	Laboratory
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN
8011	Microextraction	SW846	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-17007-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-17007-1	GWTS-1A-101220	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-2	GWTS-2A-101220	Solid	10/12/20 09:03	10/13/20 09:15	
410-17007-3	GWTS-3A-101220	Solid	10/12/20 09:06	10/13/20 09:15	
410-17007-4	GWTS-4A-101220	Solid	10/12/20 09:09	10/13/20 09:15	
410-17007-5	GWTS-5A-101220	Solid	10/12/20 09:11	10/13/20 09:15	
410-17007-6	GWTS-6A-101220	Solid	10/12/20 09:14	10/13/20 09:15	
410-17007-7	GWTS-7A-101220	Solid	10/12/20 09:17	10/13/20 09:15	
410-17007-8	GWTS-TB01-101220	Water	10/12/20 13:00	10/13/20 09:15	
410-17007-9	GWTS-8A-101220	Solid	10/12/20 09:20	10/13/20 09:15	
410-17007-10	GWTS-9A-101220	Solid	10/12/20 09:23	10/13/20 09:15	
410-17007-11	GWTS-10A-101220	Solid	10/12/20 09:26	10/13/20 09:15	
410-17007-12	GWTS-11A-101220	Solid	10/12/20 09:29	10/13/20 09:15	
410-17007-13	GWTS-12A-101220	Solid	10/12/20 09:32	10/13/20 09:15	
410-17007-14	GWTS-13A-101220	Solid	10/12/20 09:35	10/13/20 09:15	
410-17007-15	GWTS-14A-101220	Solid	10/12/20 09:38	10/13/20 09:15	
410-17007-17	GWTS-1A-101220-FD	Solid	10/12/20 09:00	10/13/20 09:15	
410-17007-18	GWTS-2A-101220-FD	Solid	10/12/20 09:03	10/13/20 09:15	

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Eurofins Lancaster Laboratories Env, LLC



410-17007 Chain of Custody

EA 225 Schilling Circle Suite 400 Hunt Valley, MD Tel No. (410) 584-7020 Fax No. (410) 771-1625

PROJECT NAME: Kirtland AFB Bulk Fuels Facility
PROJECT NUMBER: 6360401

LABORATORY NAME AND CONTACT: Eurofins TestAmerica
 4955 Yarrow Street
 Arvada, CO 80002

LAB PO NUMBER: 21295

PROJECT SITE AND PHASE: ST-106/SS-111

LAB CONTACT: Kay Hower
 KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258

COC NUMBER: COC-GWTS1-101220
YEAR: 2020
QUARTER: Q4

FAX AND MAIL REPORTS/IEDD TO: Tara Lamond: tlamond@eaest.com EA
 Amanda Smith: asmith@eaest.com EA
 Pam Moss: pmoss@eaest.com EA

CHAIN-OF-CUSTODY RECORD

ANALYSIS REQUIRED (Specify number of bottles)

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-1A-101220	10/12/2020	0900	(SM2320B) Alkalinity
2	GWTS-2A-101220	10/12/2020	0903	(SM4500S2CF) Sulfide
3	GWTS-3A-101220	10/12/2020	0906	(SM4500NH3) Ammonia
4	GWTS-4A-101220	10/12/2020	0909	(353.2) Nitrate-Nitrite
5	GWTS-5A-101220	10/12/2020	0911	(300.0) Chloride, bromide, sulfate
6	GWTS-6A-101220	10/12/2020	0914	(8010C)+8260C Dissolved Fe, Mn+BTEX
				(6020A/6010C) Total As, Pb, Ca, K, Na, Mg
				(8011) EDB/EDB Soil
				(8260C) BTEXN
				(8260C) BTEX
				(8260C) VOCs
				Total Number of Bottles

Please give all samples a 5-Day rush turn around

3.4 ICH 11-0.3 RP 10/14/20

SAMPLER(S): J Livingston

RELINQUISHED BY: J Livingston
 Printed Name and Signature: J Livingston
 DATE: 10/12/2020 TIME: 1500

RECEIVED BY: J Livingston
 Printed Name and Signature: J Livingston
 DATE: 10/14/20 TIME: 0945

COURIER AND SHIPPING NUMBER: Fedex

CHAIN-OF-CUSTODY RECORD

<p>225 Solving Circle, Suite 400 Hunt Valley, MD Tel No. (410) 584-7000 Fax No. (410) 771-1625</p>	<p>PROJECT NUMBER: 6360401</p> <p>LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Arvada, CO 80002</p>	<p>LAB CONTACT: Kay Hower Eurofins 1 (717) 566-7258</p>	<p>COC NUMBER COC-GWTS2-101220</p> <p>YEAR: 2020</p> <p>QUARTER: Q4</p>
<p>PROJECT NAME: Kirtland AFB Bulk Fuels Facility</p> <p>PROJECT SITE AND PHASE: ST106/SS111</p>	<p>FAX AND MAIL REPORTS(ED) TO: Tara Lamond: tlamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA</p>	<p>FAX AND MAIL REPORTS(ED) TO: Kay Hower: KayHower@eurofinaUS.com Eurofins</p>	<p>LAB CONTACT: Kay Hower</p>

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)										COMMENTS		
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB/EDB Soil	(8011) Total As, Pb, Ca, K, Na, Mg	(6020A/6010C) Dissolved Fe, Mn+BTEX	(6010C)+8260C Chloride, bromide, sulfate	(300.0) Nitrate-Nitrite	(353.2) Ammonia	(SM4500NH3) Sulfide		(SM4500S2CF) Alkalinity	(SM2320B)
1	GWTS-7A-101220	10/12/2020	0917	--	--	1	--	--	--	--	--	--	--	--	--	
2	GWTS-TB01-101220	10/12/2020	1300	--	2	--	2	--	--	--	--	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S): <i>J Livingston</i>	COURIER AND SHIPPING NUMBER: Fedex:	DATE	TIME	RECEIVED BY:	DATE	TIME
Printed Name and Signature: <i>J Livingston</i>	Printed Name and Signature: <i>J Livingston</i>	10/12/2020	1500	10/14/20	0945	
RELINQUISHED BY: <i>J Livingston</i>	Printed Name and Signature:					
Printed Name and Signature:	Printed Name and Signature:					
	Printed Name and Signature:					

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CHAIN-OF-CUSTODY RECORD

 PROJECT NAME: Kirtland AFB Bulk Fuels Facility PROJECT NUMBER: 6360401 PROJECT SITE AND PHASE: ST106/SS111	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4955 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/IEDD TO: Tara Lamond lamond@east.com EA Amanda Smith: asmith@east.com EA Pam Moss: pmoss@east.com EA	COC NUMBER COC-GWTS3-101220 YEAR: 2020 QUARTER: Q4	
LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 566-7258		LAB PO NUMBER: 21295		
ANALYSIS REQUIRED (Specify number of bottles)				
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	COMMENTS
1	GWTS-8A-101220	10/12/2020	0920	--
2	GWTS-9A-101220	10/12/2020	0923	--
3	GWTS-10A-101220	10/12/2020	0926	--
4	GWTS-11A-101220	10/12/2020	0929	--
5	GWTS-12A-101220	10/12/2020	0932	--
6	GWTS-13A-101220	10/12/2020	0935	--
Total Number of Bottles: 1				
(8260C) VOCs: --				
(8260C) BTEX: --				
(8260C) BTEXN: --				
(8011) EDB/EDB Soil: 1				
(6020A/6010C) Total As,Pb,Ca,K,Na,Mg: --				
(6010C) Dissolved Fe, Mn: --				
(300.0) Chloride, bromide, sulfate: --				
(353.2) Nitrate-Nitrite: --				
(SM4500NH3) Ammonia: --				
(SM4500S2CF) Sulfide: --				
(SM2320B) Alkalinity: --				


 410-17007 Chain of Custody

Please give all samples a 5-Day rush turn around

SAMPLER(S): J Livingston	COURIER AND SHIPPING NUMBER: Fedex: 114C -0.3 JPH/1 SH 10/13/20	RECEIVED BY:	DATE: 10/13/20	TIME: 0915
RELINQUISHED BY: J Livingston	DATE: 10/12/2020	TIME: 1500		
Printed Name and Signature: J Livingston				
Printed Name and Signature:				
Printed Name and Signature:				
Printed Name and Signature:				



CHAIN-OF-CUSTODY RECORD

	225 Schilling Circle, Suite 400 Hunt Valley, MD 21084 Tel No: (410) 584-7000 Fax No: (410) 771-1625	PROJECT NUMBER: 6360401	COC NUMBER: COC-GWTS4-101220
PROJECT NAME: Kirtland AFB Bulk Fuels Facility	LABORATORY NAME AND CONTACT: Eurofins TestAmerica 4855 Yarrow Street Arvada, CO 80002	FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA Pam Moss: pmoss@eaest.com EA	YEAR: 2020 QUARTER: Q4
PROJECT SITE AND PHASE: ST106/SS111	LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinaUS.com Eurofins 1 (717) 556-7258	

ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	ANALYSIS REQUIRED (Specify number of bottles)						COMMENTS		
				(8260C) VOCs	(8260C) BTEX	(8260C) BTEXN	(8260C) EDB/EDB Soil	(8011) Total As, Pb, Ca, K, Na, Mg	(6010C) Dissolved Fe, Mn		(300.0) Nitrate-Nitrite	(353.2) Ammonia
1	GWTS-14A-101220	10/12/2020	0938	1	--	--	1	--	--	--	--	
2	GWTS-TB02-101220	10/12/2020	1300	2	--	--	2	--	--	--	--	
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Please give all samples a 5-Day rush turn around

SAMPLER(S):	RELINQUISHED BY:	DATE	TIME	COURIER AND SHIPPING NUMBER:	RECEIVED BY:	DATE	TIME
J Livingston	J Livingston	10/12/2020	1500	Fedex:	Scott Hall	10/13/20	0915

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Do Not Lift Using This Tag

ORIGIN ID:ONMA (505) 224-9013
EA ENGINEERING
320 GOLD AVE SW
ALBUQUERQUE, NM 87102
UNITED STATES US

SHIP DATE: 12OCT20
ACTWGT: 51.75 LB
CAD: 6995204/SSFE2121
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO **ATTN: DARLENE BANDY**
EUROFINS TESTAMERICA
4955 YARROW ST

ARVADA CO 80002

650

4
10:30
E
8287
10.13

(303) 736-0100
INVT
PD:

REF: FZ



410-17007 Waybill



FedEx
Express



J202020071401 BY

1 of 2

TRK# 0201 **3977 5166 8287**

MASTER

XH LAAA

TUE - 13 OCT 10:30A
PRIORITY OVERNIGHT

AHS
80002

CO-US **DEN**



56112/4272/4765

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ORIGIN ID:DNMA (505) 224-9013
 EA ENGINEERING
 320 GOLD RIVE SW
 ALBUQUERQUE, NM 87102
 UNITED STATES US

TO
 ATTN: DARLENE BANDY
 EUROFINIS TESTAMERICA
 4955 YARROW ST

SHR: 51.75 LB
 ACTWGT: 51.75 LB
 CAD: 6995204/59FE2121
 DIMS: 24X14X14 IN
 BILL THIRD PARTY

ARVADA CO 80002

(303) 736-0100 REF:
 1101 DEPT 1
 PO1



2 of 2
 MPS# 3977 5166 8298
 (0263)
 Mstr# 3977 5166 8287

TUE - 13 OCT 10:30A
 PRIORITY OVERNIGHT
 (0201)
 XH LAAA
 CO-US DEN
 80002



JRN TO STATION FOR
 PRST DATA ENTRY

10/28/2020

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410-17007 Waybill

ORIGIN ID:OMHA (S05) 224-9013
 EA ENGINEERING
 320 GOLD AVE SW
 RICHMOND, VA 23102
 UNITED STATES US

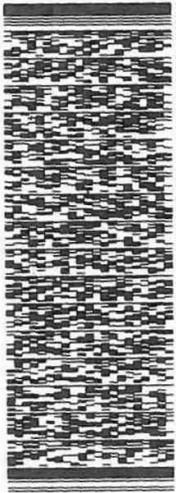
SHIP DATE: 12OCT20
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 BILL THIRD PARTY

10 ATTN: DARLENE BANDY
 EUROFINS TESTAMERICA
 4955 YARROW ST

ARVADA CO 80002

(303) 738-0100 REF: 1001

DEPT:



120202007140100

2 of 2
 MPS# 3977 5166 8298
 Met# 3977 5166 8287
 XH LAAA
 CO-US DEN
 TUE - 13 OCT 10:30A
 PRIORITY OVERNIGHT
 AHS 80002



568J2/A27E/B76G

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 2****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/13/20 08:22 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 3****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/13/20 08:23 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 4****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 5****Creator: Pottruff, Reed W****List Source: Eurofins TestAmerica, Denver****List Creation: 10/14/20 08:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-17007-2

Login Number: 17007**List Number: 6****Creator: O'Hara, Jake F****List Source: Eurofins TestAmerica, Denver****List Creation: 10/16/20 12:51 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



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Environment Testing
America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-20479-1

Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:

EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
12/8/2020 9:56:03 AM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com



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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Darlene Bandy
Project Manager I
12/8/2020 9:56:03 AM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Lancaster Laboratories Env, LLC

Case Narrative

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1



Job ID: 410-20479-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-20479-1

Receipt

The samples were received on 11/12/2020 10:37 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 410-69272 recovered above the upper control limit for 1,1,2,2-Tetrachloroethane (surr). The surrogate recoveries in the samples were within or above control limits, with non-detects for the target analyte.

Method 8011: Surrogate recovery for the following samples were outside the upper control limit: GWTS-EFF1-111120 (410-20479-1), GWTS-EFF1DUP-111120 (410-20479-2) and GWTS-INF1-111120 (410-20479-4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-EFF1-111120**Lab Sample ID: 410-20479-1**

No Detections.

Client Sample ID: GWTS-EFF1DUP-111120**Lab Sample ID: 410-20479-2**

No Detections.

Client Sample ID: GWTS-GAC1-111120**Lab Sample ID: 410-20479-3**

No Detections.

Client Sample ID: GWTS-INF1-111120**Lab Sample ID: 410-20479-4**

No Detections.

Client Sample ID: GWTS-TB01-111120**Lab Sample ID: 410-20479-5**

No Detections.

Client Sample ID: GWTS-EFF2-111120**Lab Sample ID: 410-20479-6**

No Detections.

Client Sample ID: GWTS-GAC2-111120**Lab Sample ID: 410-20479-7**

No Detections.

Client Sample ID: GWTS-INF2-111120**Lab Sample ID: 410-20479-8**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil	Fac	D	Method	Prep Type
Ethylene Dibromide (1C)	0.024	J	0.029	0.019	0.0097	ug/L	1			8011	Total/NA
Manganese	0.0057	J	0.010	0.0052	0.0031	mg/L	1			6010C	Dissolved

Client Sample ID: GWTS-FB02-111120**Lab Sample ID: 410-20479-9**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-EFF1-111120

Lab Sample ID: 410-20479-1

Date Collected: 11/11/20 08:47

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 15:26	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 15:26	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 15:26	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 15:26	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	106		81 - 118			11/19/20 15:26	1		
4-Bromofluorobenzene (Surr)	94		85 - 114			11/19/20 15:26	1		
Dibromofluoromethane (Surr)	102		80 - 119			11/19/20 15:26	1		
Toluene-d8 (Surr)	98		89 - 112			11/19/20 15:26	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0097	ug/L		11/23/20 22:01	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	140	Q	46 - 136		11/14/20 01:43	11/23/20 22:01	1		
1,1,2,2-Tetrachloroethane (2C)	116	Q	46 - 136		11/14/20 01:43	11/23/20 22:01	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 12:56	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		11/25/20 11:29	1

Client Sample ID: GWTS-EFF1DUP-111120

Lab Sample ID: 410-20479-2

Date Collected: 11/11/20 08:47

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 15:48	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 15:48	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 15:48	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 15:48	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	108		81 - 118			11/19/20 15:48	1		
4-Bromofluorobenzene (Surr)	94		85 - 114			11/19/20 15:48	1		
Dibromofluoromethane (Surr)	101		80 - 119			11/19/20 15:48	1		
Toluene-d8 (Surr)	97		89 - 112			11/19/20 15:48	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0097	ug/L		11/23/20 22:18	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	137	Q	46 - 136		11/14/20 01:43	11/23/20 22:18	1		
1,1,2,2-Tetrachloroethane (2C)	117	Q	46 - 136		11/14/20 01:43	11/23/20 22:18	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 13:00	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-EFF1DUP-111120

Lab Sample ID: 410-20479-2

Date Collected: 11/11/20 08:47

Matrix: Water

Date Received: 11/12/20 10:37

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	0.0052	U Q	0.010	0.0052	0.0031	mg/L		11/24/20 11:08	1

Client Sample ID: GWTS-GAC1-111120

Lab Sample ID: 410-20479-3

Date Collected: 11/11/20 08:58

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:10	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 16:10	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:10	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		81 - 118		11/19/20 16:10	1
4-Bromofluorobenzene (Surr)	95		85 - 114		11/19/20 16:10	1
Dibromofluoromethane (Surr)	101		80 - 119		11/19/20 16:10	1
Toluene-d8 (Surr)	98		89 - 112		11/19/20 16:10	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		11/23/20 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	134	Q	46 - 136	11/14/20 01:43	11/23/20 22:34	1
1,1,2,2-Tetrachloroethane (2C)	118	Q	46 - 136	11/14/20 01:43	11/23/20 22:34	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 13:09	1
Manganese	0.0052	U Q	0.010	0.0052	0.0031	mg/L		11/24/20 11:17	1

Client Sample ID: GWTS-INF1-111120

Lab Sample ID: 410-20479-4

Date Collected: 11/11/20 09:07

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:32	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 16:32	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:32	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		81 - 118		11/19/20 16:32	1
4-Bromofluorobenzene (Surr)	94		85 - 114		11/19/20 16:32	1
Dibromofluoromethane (Surr)	103		80 - 119		11/19/20 16:32	1
Toluene-d8 (Surr)	97		89 - 112		11/19/20 16:32	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		11/23/20 22:51	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-INF1-111120

Lab Sample ID: 410-20479-4

Date Collected: 11/11/20 09:07

Matrix: Water

Date Received: 11/12/20 10:37

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	138	Q	46 - 136	11/14/20 01:43	11/23/20 22:51	1
1,1,2,2-Tetrachloroethane (2C)	120	Q	46 - 136	11/14/20 01:43	11/23/20 22:51	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 13:12	1
Manganese	0.0052	U Q	0.010	0.0052	0.0031	mg/L		11/24/20 11:20	1

Client Sample ID: GWTS-TB01-111120

Lab Sample ID: 410-20479-5

Date Collected: 11/11/20 09:15

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 12:30	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 12:30	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 12:30	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 12:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		81 - 118		11/19/20 12:30	1
4-Bromofluorobenzene (Surr)	94		85 - 114		11/19/20 12:30	1
Dibromofluoromethane (Surr)	104		80 - 119		11/19/20 12:30	1
Toluene-d8 (Surr)	97		89 - 112		11/19/20 12:30	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.028	0.019	0.0095	ug/L		11/23/20 23:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	117	Q	46 - 136	11/14/20 01:43	11/23/20 23:41	1
1,1,2,2-Tetrachloroethane (2C)	116	Q	46 - 136	11/14/20 01:43	11/23/20 23:41	1

Client Sample ID: GWTS-EFF2-111120

Lab Sample ID: 410-20479-6

Date Collected: 11/11/20 08:05

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 13:14	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 13:14	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 13:14	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 13:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		81 - 118		11/19/20 13:14	1
4-Bromofluorobenzene (Surr)	92		85 - 114		11/19/20 13:14	1
Dibromofluoromethane (Surr)	105		80 - 119		11/19/20 13:14	1
Toluene-d8 (Surr)	97		89 - 112		11/19/20 13:14	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-EFF2-111120

Lab Sample ID: 410-20479-6

Date Collected: 11/11/20 08:05

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		11/23/20 23:58	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	134	Q	46 - 136		11/14/20 01:43	11/23/20 23:58	1		
1,1,2,2-Tetrachloroethane (2C)	116	Q	46 - 136		11/14/20 01:43	11/23/20 23:58	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/18/20 17:27	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		11/18/20 17:27	1

Client Sample ID: GWTS-GAC2-111120

Lab Sample ID: 410-20479-7

Date Collected: 11/11/20 08:25

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:54	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 16:54	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 16:54	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 16:54	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	107		81 - 118			11/19/20 16:54	1		
4-Bromofluorobenzene (Surr)	94		85 - 114			11/19/20 16:54	1		
Dibromofluoromethane (Surr)	103		80 - 119			11/19/20 16:54	1		
Toluene-d8 (Surr)	97		89 - 112			11/19/20 16:54	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U M	0.029	0.019	0.0096	ug/L		11/24/20 00:48	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	128	Q	46 - 136		11/14/20 01:43	11/24/20 00:48	1		
1,1,2,2-Tetrachloroethane (2C)	120	Q	46 - 136		11/14/20 01:43	11/24/20 00:48	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 13:19	1
Manganese	0.0052	U Q	0.010	0.0052	0.0031	mg/L		11/24/20 11:27	1

Client Sample ID: GWTS-INF2-111120

Lab Sample ID: 410-20479-8

Date Collected: 11/11/20 08:32

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 17:16	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 17:16	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 17:16	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 17:16	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-INF2-111120

Lab Sample ID: 410-20479-8

Date Collected: 11/11/20 08:32

Matrix: Water

Date Received: 11/12/20 10:37

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		81 - 118		11/19/20 17:16	1
4-Bromofluorobenzene (Surr)	96		85 - 114		11/19/20 17:16	1
Dibromofluoromethane (Surr)	104		80 - 119		11/19/20 17:16	1
Toluene-d8 (Surr)	96		89 - 112		11/19/20 17:16	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.024	J	0.029	0.019	0.0097	ug/L		11/24/20 01:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	131	Q	46 - 136	11/14/20 01:43	11/24/20 01:05	1
1,1,2,2-Tetrachloroethane (2C)	114	Q	46 - 136	11/14/20 01:43	11/24/20 01:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/21/20 13:22	1
Manganese	0.0057	J	0.010	0.0052	0.0031	mg/L		11/25/20 11:47	1

Client Sample ID: GWTS-FB02-111120

Lab Sample ID: 410-20479-9

Date Collected: 11/11/20 08:05

Matrix: Water

Date Received: 11/12/20 10:37

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 12:08	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 12:08	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 12:08	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		81 - 118		11/19/20 12:08	1
4-Bromofluorobenzene (Surr)	94		85 - 114		11/19/20 12:08	1
Dibromofluoromethane (Surr)	103		80 - 119		11/19/20 12:08	1
Toluene-d8 (Surr)	98		89 - 112		11/19/20 12:08	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		11/24/20 01:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	127	M Q	46 - 136	11/14/20 01:43	11/24/20 01:22	1
1,1,2,2-Tetrachloroethane (2C)	116	M Q	46 - 136	11/14/20 01:43	11/24/20 01:22	1

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Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (81-118)	BFB (85-114)	DBFM (80-119)	TOL (89-112)
410-20479-1	GWTS-EFF1-111120	106	94	102	98
410-20479-2	GWTS-EFF1DUP-111120	108	94	101	97
410-20479-3	GWTS-GAC1-111120	107	95	101	98
410-20479-4	GWTS-INF1-111120	107	94	103	97
410-20479-5	GWTS-TB01-111120	108	94	104	97
410-20479-6	GWTS-EFF2-111120	109	92	105	97
410-20479-6 MS	GWTS-EFF2-111120	107	98	102	98
410-20479-6 MSD	GWTS-EFF2-111120	106	98	101	98
410-20479-7	GWTS-GAC2-111120	107	94	103	97
410-20479-8	GWTS-INF2-111120	108	96	104	96
410-20479-9	GWTS-FB02-111120	106	94	103	98
LCS 410-67961/5	Lab Control Sample	107	98	102	98
MB 410-67961/7	Method Blank	108	94	102	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1122TCA1 (46-136)	1122TCA2 (46-136)
410-20479-1	GWTS-EFF1-111120	140 Q	116 Q
410-20479-2	GWTS-EFF1DUP-111120	137 Q	117 Q
410-20479-3	GWTS-GAC1-111120	134 Q	118 Q
410-20479-4	GWTS-INF1-111120	138 Q	120 Q
410-20479-5	GWTS-TB01-111120	117 Q	116 Q
410-20479-6	GWTS-EFF2-111120	134 Q	116 Q
410-20479-6 MS	GWTS-EFF2-111120	139 Q	116
410-20479-6 MSD	GWTS-EFF2-111120	133	112
410-20479-7	GWTS-GAC2-111120	128 Q	120 Q
410-20479-8	GWTS-INF2-111120	131 Q	114 Q
410-20479-9	GWTS-FB02-111120	127 M Q	116 M Q
LCS 410-65969/2-A	Lab Control Sample	109	113
LCS 410-65969/3-A	Lab Control Sample Dup	105	112
MB 410-65969/1-A	Method Blank	103	111

Surrogate Legend

1122TCA = 1,1,2,2-Tetrachloroethane

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-67961/7
Matrix: Water
Analysis Batch: 67961

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 11:19	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		11/19/20 11:19	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		11/19/20 11:19	1
Xylenes, Total	3.0	U	6.0	3.0	1.4	ug/L		11/19/20 11:19	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		81 - 118		11/19/20 11:19	1
4-Bromofluorobenzene (Surr)	94		85 - 114		11/19/20 11:19	1
Dibromofluoromethane (Surr)	102		80 - 119		11/19/20 11:19	1
Toluene-d8 (Surr)	97		89 - 112		11/19/20 11:19	1

Lab Sample ID: LCS 410-67961/5
Matrix: Water
Analysis Batch: 67961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	20.0	18.6		ug/L		93	42 - 138
Ethylbenzene	20.0	19.0		ug/L		95	79 - 121
Toluene	20.0	18.8		ug/L		94	80 - 121
Xylenes, Total	60.0	58.7		ug/L		98	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		81 - 118
4-Bromofluorobenzene (Surr)	98		85 - 114
Dibromofluoromethane (Surr)	102		80 - 119
Toluene-d8 (Surr)	98		89 - 112

Lab Sample ID: 410-20479-6 MS
Matrix: Water
Analysis Batch: 67961

Client Sample ID: GWTS-EFF2-111120
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Benzene	0.50	U	20.0	21.0		ug/L		105	42 - 138
Ethylbenzene	0.80	U	20.0	21.4		ug/L		107	79 - 121
Toluene	0.50	U	20.0	21.0		ug/L		105	80 - 121
Xylenes, Total	3.0	U	60.0	66.1		ug/L		110	79 - 121

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	107		81 - 118
4-Bromofluorobenzene (Surr)	98		85 - 114
Dibromofluoromethane (Surr)	102		80 - 119
Toluene-d8 (Surr)	98		89 - 112

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 410-20479-6 MSD
Matrix: Water
Analysis Batch: 67961

Client Sample ID: GWTS-EFF2-111120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.50	U	20.0	20.6		ug/L		103	42 - 138	2	20
Ethylbenzene	0.80	U	20.0	21.4		ug/L		107	79 - 121	0	20
Toluene	0.50	U	20.0	20.9		ug/L		105	80 - 121	0	20
Xylenes, Total	3.0	U	60.0	65.4		ug/L		109	79 - 121	1	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	106		81 - 118
4-Bromofluorobenzene (Surr)	98		85 - 114
Dibromofluoromethane (Surr)	101		80 - 119
Toluene-d8 (Surr)	98		89 - 112

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 410-65969/1-A
Matrix: Water
Analysis Batch: 68799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65969

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		11/20/20 17:49	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	103		46 - 136	11/14/20 01:43	11/20/20 17:49	1
1,1,2,2-Tetrachloroethane (2C)	111		46 - 136	11/14/20 01:43	11/20/20 17:49	1

Lab Sample ID: LCS 410-65969/2-A
Matrix: Water
Analysis Batch: 68799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide (1C)	0.128	0.133		ug/L		104	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,1,2,2-Tetrachloroethane (1C)	109		46 - 136
1,1,2,2-Tetrachloroethane (2C)	113		46 - 136

Lab Sample ID: LCSD 410-65969/3-A
Matrix: Water
Analysis Batch: 68799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65969

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide (1C)	0.128	0.128		ug/L		100	60 - 140	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,1,2,2-Tetrachloroethane (1C)	105		46 - 136
1,1,2,2-Tetrachloroethane (2C)	112		46 - 136

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: 410-20479-6 MS
 Matrix: Water
 Analysis Batch: 69272

Client Sample ID: GWTS-EFF2-111120
 Prep Type: Total/NA
 Prep Batch: 65969

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide (1C)	0.019	U	0.122	0.167		ug/L		137	60 - 140
Surrogate	%Recovery	Qualifier	Limits						
1,1,2,2-Tetrachloroethane (1C)	139	Q	46 - 136						
1,1,2,2-Tetrachloroethane (2C)	116		46 - 136						

Lab Sample ID: 410-20479-6 MSD
 Matrix: Water
 Analysis Batch: 69272

Client Sample ID: GWTS-EFF2-111120
 Prep Type: Total/NA
 Prep Batch: 65969

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide (1C)	0.019	U	0.123	0.139		ug/L		113	60 - 140	18	20
Surrogate	%Recovery	Qualifier	Limits								
1,1,2,2-Tetrachloroethane (1C)	133		46 - 136								
1,1,2,2-Tetrachloroethane (2C)	112		46 - 136								

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-65631/1-A
 Matrix: Water
 Analysis Batch: 67734

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 65631

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/18/20 17:20	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		11/18/20 17:20	1

Lab Sample ID: LCS 410-65631/2-A
 Matrix: Water
 Analysis Batch: 67734

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 65631

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.402	0.448		mg/L		111	87 - 115
Manganese	0.0200	0.0212		mg/L		106	90 - 114

Lab Sample ID: MB 410-66362/1-A
 Matrix: Water
 Analysis Batch: 70003

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 66362

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		11/24/20 10:00	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		11/24/20 10:00	1

Lab Sample ID: LCS 410-66362/2-A
 Matrix: Water
 Analysis Batch: 70003

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 66362

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.402	0.403		mg/L		100	87 - 115

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 6010C - Metals (ICP) (Continued)

- 1
- 2
- 3
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- 10
- 11
- 12
- 13
- 14
- 15

Lab Sample ID: LCS 410-66362/2-A
Matrix: Water
Analysis Batch: 70003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66362

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.0200	0.0253	Q	mg/L		127	90 - 114

Lab Sample ID: MB 410-70092/1-A
Matrix: Water
Analysis Batch: 70488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 70092

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		11/25/20 10:26	1

Lab Sample ID: LCS 410-70092/2-A
Matrix: Water
Analysis Batch: 70488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 70092

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.0200	0.0220		mg/L		110	90 - 114

Lab Sample ID: 410-20479-6 MS
Matrix: Water
Analysis Batch: 67734

Client Sample ID: GWTS-EFF2-111120
Prep Type: Dissolved
Prep Batch: 65631

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.10	U	0.402	0.483	J1	mg/L		120	87 - 115
Manganese	0.0052	U	0.0200	0.0221		mg/L		111	90 - 114

Lab Sample ID: 410-20479-6 MSD
Matrix: Water
Analysis Batch: 67734

Client Sample ID: GWTS-EFF2-111120
Prep Type: Dissolved
Prep Batch: 65631

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Iron	0.10	U	0.402	0.462		mg/L		115	87 - 115	4	20
Manganese	0.0052	U	0.0200	0.0217		mg/L		108	90 - 114	2	20

Lab Sample ID: 410-20479-6 DU
Matrix: Water
Analysis Batch: 67734

Client Sample ID: GWTS-EFF2-111120
Prep Type: Dissolved
Prep Batch: 65631

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Iron	0.10	U	0.10	U	mg/L		NC	20
Manganese	0.0052	U	0.0052	U	mg/L		NC	20

Lab Sample ID: 410-20479-1 MS
Matrix: Water
Analysis Batch: 70488

Client Sample ID: GWTS-EFF1-111120
Prep Type: Dissolved
Prep Batch: 70092

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.0052	U	0.0200	0.0211		mg/L		106	90 - 114

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method: 6010C - Metals (ICP) (Continued)

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Lab Sample ID: 410-20479-1 MSD
Matrix: Water
Analysis Batch: 70488

Client Sample ID: GWTS-EFF1-111120
Prep Type: Dissolved
Prep Batch: 70092

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.0052	U	0.0200	0.0209		mg/L		105	90 - 114	1	20

Lab Sample ID: 410-20479-1 DU
Matrix: Water
Analysis Batch: 70488

Client Sample ID: GWTS-EFF1-111120
Prep Type: Dissolved
Prep Batch: 70092

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	0.0052	U	0.0052	U	mg/L		NC	20

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

GC/MS VOA

Analysis Batch: 67961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Total/NA	Water	8260C DOD	
410-20479-2	GWTS-EFF1DUP-111120	Total/NA	Water	8260C DOD	
410-20479-3	GWTS-GAC1-111120	Total/NA	Water	8260C DOD	
410-20479-4	GWTS-INF1-111120	Total/NA	Water	8260C DOD	
410-20479-5	GWTS-TB01-111120	Total/NA	Water	8260C DOD	
410-20479-6	GWTS-EFF2-111120	Total/NA	Water	8260C DOD	
410-20479-7	GWTS-GAC2-111120	Total/NA	Water	8260C DOD	
410-20479-8	GWTS-INF2-111120	Total/NA	Water	8260C DOD	
410-20479-9	GWTS-FB02-111120	Total/NA	Water	8260C DOD	
MB 410-67961/7	Method Blank	Total/NA	Water	8260C DOD	
LCS 410-67961/5	Lab Control Sample	Total/NA	Water	8260C DOD	
410-20479-6 MS	GWTS-EFF2-111120	Total/NA	Water	8260C DOD	
410-20479-6 MSD	GWTS-EFF2-111120	Total/NA	Water	8260C DOD	

GC Semi VOA

Prep Batch: 65969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Total/NA	Water	8011	
410-20479-2	GWTS-EFF1DUP-111120	Total/NA	Water	8011	
410-20479-3	GWTS-GAC1-111120	Total/NA	Water	8011	
410-20479-4	GWTS-INF1-111120	Total/NA	Water	8011	
410-20479-5	GWTS-TB01-111120	Total/NA	Water	8011	
410-20479-6	GWTS-EFF2-111120	Total/NA	Water	8011	
410-20479-7	GWTS-GAC2-111120	Total/NA	Water	8011	
410-20479-8	GWTS-INF2-111120	Total/NA	Water	8011	
410-20479-9	GWTS-FB02-111120	Total/NA	Water	8011	
MB 410-65969/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-65969/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 410-65969/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
410-20479-6 MS	GWTS-EFF2-111120	Total/NA	Water	8011	
410-20479-6 MSD	GWTS-EFF2-111120	Total/NA	Water	8011	

Analysis Batch: 68799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-65969/1-A	Method Blank	Total/NA	Water	8011	65969
LCS 410-65969/2-A	Lab Control Sample	Total/NA	Water	8011	65969
LCSD 410-65969/3-A	Lab Control Sample Dup	Total/NA	Water	8011	65969

Analysis Batch: 69272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Total/NA	Water	8011	65969
410-20479-2	GWTS-EFF1DUP-111120	Total/NA	Water	8011	65969
410-20479-3	GWTS-GAC1-111120	Total/NA	Water	8011	65969
410-20479-4	GWTS-INF1-111120	Total/NA	Water	8011	65969
410-20479-5	GWTS-TB01-111120	Total/NA	Water	8011	65969
410-20479-6	GWTS-EFF2-111120	Total/NA	Water	8011	65969
410-20479-7	GWTS-GAC2-111120	Total/NA	Water	8011	65969
410-20479-8	GWTS-INF2-111120	Total/NA	Water	8011	65969
410-20479-9	GWTS-FB02-111120	Total/NA	Water	8011	65969
410-20479-6 MS	GWTS-EFF2-111120	Total/NA	Water	8011	65969

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QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

GC Semi VOA (Continued)

Analysis Batch: 69272 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-6 MSD	GWTS-EFF2-111120	Total/NA	Water	8011	65969

Metals

Prep Batch: 65631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-6	GWTS-EFF2-111120	Dissolved	Water	Non-Digest Prep	
MB 410-65631/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-65631/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-20479-6 MS	GWTS-EFF2-111120	Dissolved	Water	Non-Digest Prep	
410-20479-6 MSD	GWTS-EFF2-111120	Dissolved	Water	Non-Digest Prep	
410-20479-6 DU	GWTS-EFF2-111120	Dissolved	Water	Non-Digest Prep	

Prep Batch: 66362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-2	GWTS-EFF1DUP-111120	Dissolved	Water	Non-Digest Prep	
410-20479-3	GWTS-GAC1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-4	GWTS-INF1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-7	GWTS-GAC2-111120	Dissolved	Water	Non-Digest Prep	
410-20479-8	GWTS-INF2-111120	Dissolved	Water	Non-Digest Prep	
MB 410-66362/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-66362/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 67734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-6	GWTS-EFF2-111120	Dissolved	Water	6010C	65631
MB 410-65631/1-A	Method Blank	Total/NA	Water	6010C	65631
LCS 410-65631/2-A	Lab Control Sample	Total/NA	Water	6010C	65631
410-20479-6 MS	GWTS-EFF2-111120	Dissolved	Water	6010C	65631
410-20479-6 MSD	GWTS-EFF2-111120	Dissolved	Water	6010C	65631
410-20479-6 DU	GWTS-EFF2-111120	Dissolved	Water	6010C	65631

Analysis Batch: 69012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Dissolved	Water	6010C	66362
410-20479-2	GWTS-EFF1DUP-111120	Dissolved	Water	6010C	66362
410-20479-3	GWTS-GAC1-111120	Dissolved	Water	6010C	66362
410-20479-4	GWTS-INF1-111120	Dissolved	Water	6010C	66362
410-20479-7	GWTS-GAC2-111120	Dissolved	Water	6010C	66362
410-20479-8	GWTS-INF2-111120	Dissolved	Water	6010C	66362

Analysis Batch: 70003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-2	GWTS-EFF1DUP-111120	Dissolved	Water	6010C	66362
410-20479-3	GWTS-GAC1-111120	Dissolved	Water	6010C	66362
410-20479-4	GWTS-INF1-111120	Dissolved	Water	6010C	66362
410-20479-7	GWTS-GAC2-111120	Dissolved	Water	6010C	66362
MB 410-66362/1-A	Method Blank	Total/NA	Water	6010C	66362
LCS 410-66362/2-A	Lab Control Sample	Total/NA	Water	6010C	66362

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Metals

Prep Batch: 70092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-8	GWTS-INF2-111120	Dissolved	Water	Non-Digest Prep	
MB 410-70092/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-70092/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-20479-1 MS	GWTS-EFF1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-1 MSD	GWTS-EFF1-111120	Dissolved	Water	Non-Digest Prep	
410-20479-1 DU	GWTS-EFF1-111120	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 70488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-20479-1	GWTS-EFF1-111120	Dissolved	Water	6010C	70092
410-20479-8	GWTS-INF2-111120	Dissolved	Water	6010C	70092
MB 410-70092/1-A	Method Blank	Total/NA	Water	6010C	70092
LCS 410-70092/2-A	Lab Control Sample	Total/NA	Water	6010C	70092
410-20479-1 MS	GWTS-EFF1-111120	Dissolved	Water	6010C	70092
410-20479-1 MSD	GWTS-EFF1-111120	Dissolved	Water	6010C	70092
410-20479-1 DU	GWTS-EFF1-111120	Dissolved	Water	6010C	70092

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-EFF1-111120**Lab Sample ID: 410-20479-1**

Date Collected: 11/11/20 08:47

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 15:26	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 22:01	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 12:56	MDP5	ELLE
Dissolved	Prep	Non-Digest Prep			70092	11/24/20 16:25	UJLA	ELLE
Dissolved	Analysis	6010C		1	70488	11/25/20 11:29	ULJC	ELLE

Client Sample ID: GWTS-EFF1DUP-111120**Lab Sample ID: 410-20479-2**

Date Collected: 11/11/20 08:47

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 15:48	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 22:18	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 13:00	MDP5	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	70003	11/24/20 11:08	ULJC	ELLE

Client Sample ID: GWTS-GAC1-111120**Lab Sample ID: 410-20479-3**

Date Collected: 11/11/20 08:58

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 16:10	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 22:34	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 13:09	MDP5	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	70003	11/24/20 11:17	ULJC	ELLE

Client Sample ID: GWTS-INF1-111120**Lab Sample ID: 410-20479-4**

Date Collected: 11/11/20 09:07

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 16:32	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 22:51	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 13:12	MDP5	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-INF1-111120**Lab Sample ID: 410-20479-4****Date Collected: 11/11/20 09:07****Matrix: Water****Date Received: 11/12/20 10:37**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	70003	11/24/20 11:20	ULJC	ELLE

Client Sample ID: GWTS-TB01-111120**Lab Sample ID: 410-20479-5****Date Collected: 11/11/20 09:15****Matrix: Water****Date Received: 11/12/20 10:37**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 12:30	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 23:41	AC3T	ELLE

Client Sample ID: GWTS-EFF2-111120**Lab Sample ID: 410-20479-6****Date Collected: 11/11/20 08:05****Matrix: Water****Date Received: 11/12/20 10:37**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 13:14	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/23/20 23:58	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			65631	11/13/20 08:27	UJL8	ELLE
Dissolved	Analysis	6010C		1	67734	11/18/20 17:27	UCIG	ELLE

Client Sample ID: GWTS-GAC2-111120**Lab Sample ID: 410-20479-7****Date Collected: 11/11/20 08:25****Matrix: Water****Date Received: 11/12/20 10:37**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 16:54	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/24/20 00:48	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 13:19	MDP5	ELLE
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	70003	11/24/20 11:27	ULJC	ELLE

Client Sample ID: GWTS-INF2-111120**Lab Sample ID: 410-20479-8****Date Collected: 11/11/20 08:32****Matrix: Water****Date Received: 11/12/20 10:37**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 17:16	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/24/20 01:05	AC3T	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Client Sample ID: GWTS-INF2-111120

Lab Sample ID: 410-20479-8

Date Collected: 11/11/20 08:32

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	Non-Digest Prep			66362	11/16/20 08:58	UJLA	ELLE
Dissolved	Analysis	6010C		1	69012	11/21/20 13:22	MDP5	ELLE
Dissolved	Prep	Non-Digest Prep			70092	11/24/20 16:25	UJLA	ELLE
Dissolved	Analysis	6010C		1	70488	11/25/20 11:47	ULJC	ELLE

Client Sample ID: GWTS-FB02-111120

Lab Sample ID: 410-20479-9

Date Collected: 11/11/20 08:05

Matrix: Water

Date Received: 11/12/20 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	67961	11/19/20 12:08	USEJ	ELLE
Total/NA	Prep	8011			65969	11/14/20 01:43	UKQ8	ELLE
Total/NA	Analysis	8011		1	69272	11/24/20 01:22	AC3T	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	1.01	11-29-20

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Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
8011	Microextraction	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-20479-1



Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-20479-1	GWTS-EFF1-111120	Water	11/11/20 08:47	11/12/20 10:37	
410-20479-2	GWTS-EFF1DUP-111120	Water	11/11/20 08:47	11/12/20 10:37	
410-20479-3	GWTS-GAC1-111120	Water	11/11/20 08:58	11/12/20 10:37	
410-20479-4	GWTS-INF1-111120	Water	11/11/20 09:07	11/12/20 10:37	
410-20479-5	GWTS-TB01-111120	Water	11/11/20 09:15	11/12/20 10:37	
410-20479-6	GWTS-EFF2-111120	Water	11/11/20 08:05	11/12/20 10:37	
410-20479-7	GWTS-GAC2-111120	Water	11/11/20 08:25	11/12/20 10:37	
410-20479-8	GWTS-INF2-111120	Water	11/11/20 08:32	11/12/20 10:37	
410-20479-9	GWTS-FB02-111120	Water	11/11/20 08:05	11/12/20 10:37	

Eurofins Lancaster Laboratories Env, LLC

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410-20479 Chain of Custody

225 Solberg Circle Suite 400 Hunt Valley MD Tel No. (410) 584-7000 Fax No. (410) 771-1625		<h3>CHAIN-OF-CUSTODY RECORD</h3>				COC NUMBER COC-GWTS1-111120																	
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		YEAR: 2020 QUARTER: Q4															
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258																			
ANALYSIS REQUIRED (Specify number of bottles)																							
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCS	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	(0200C)	COMMENTS				
1	GWTS-EFF1-111120	11/11/2020	0805	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--					
2	GWTS-EFF1DUP-111120	11/11/2020	0805	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--					
3	GWTS-GAC1-111120	11/11/2020	0858	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--					
4	GWTS-INF1-111120	11/11/2020	0907	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--					
5	GWTS-TB01-111120	11/11/2020	0915	4	--	2	--	2	--	--	--	--	--	--	--	--	--	--					
6																							
COMMENTS: *Dissolved Fe, Mn allquot was field filtered.																							
SAMPLER(S): J Livingston				COURIER AND SHIPPING NUMBER: Fedex: 8161 4705 2731																			
RELINQUISHED BY:				DATE:				TIME:				RECEIVED BY:				DATE:				TIME:			
Printed Name and Signature: J Livingston				DATE: 11/11/2020				TIME: 1030				Printed Name and Signature:				DATE:				TIME:			
Printed Name and Signature:				DATE:				TIME:				Printed Name and Signature:				DATE:				TIME:			
Printed Name and Signature:				DATE:				TIME:				Printed Name and Signature:				DATE:				TIME:			
Printed Name and Signature:				DATE:				TIME:				Printed Name and Signature: Nicole Reiff				DATE: 11/12/20				TIME: 1837			

nr

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-20479-1

Login Number: 20479**List Source: Eurofins Lancaster Laboratories Env****List Number: 1****Creator: Reiff, Nicole L**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



Environment Testing
America

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ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-22885-1
Client Project/Site: Kirtland AFB Bulk Fuels Facility

For:
EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, Texas 75067

Attn: Pamela J Moss

Darlene Bandy

Authorized for release by:
12/29/2020 10:28:19 AM

Darlene Bandy, Project Manager I
(303)736-0188
Darlene.Bandy@Eurofinset.com

LINKS

Review your project results through
TotalAccess

Have a Question?
Ask The Expert

Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Laboratory Job ID: 410-22885-1

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Darlene Bandy
 Project Manager I
 12/29/2020 10:28:19 AM



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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Lancaster Laboratories Env, LLC

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1



Job ID: 410-22885-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-22885-1

Receipt

The samples were received on 12/4/2020 11:48 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-EFF1-120320**Lab Sample ID: 410-22885-1**

No Detections.

Client Sample ID: GWTS-GAC1-120320**Lab Sample ID: 410-22885-2**

No Detections.

Client Sample ID: GWTS-INF1-120320**Lab Sample ID: 410-22885-3**

No Detections.

Client Sample ID: GWTS-FB01-120320**Lab Sample ID: 410-22885-4**

No Detections.

Client Sample ID: GWTS-TB01-120320**Lab Sample ID: 410-22885-5**

No Detections.

Client Sample ID: GWTS-EFF2-120320**Lab Sample ID: 410-22885-6**

No Detections.

Client Sample ID: GWTS-EFF2DUP-120320**Lab Sample ID: 410-22885-7**

No Detections.

Client Sample ID: GWTS-GAC2-120320**Lab Sample ID: 410-22885-8**

No Detections.

Client Sample ID: GWTS-INF2-120320**Lab Sample ID: 410-22885-9**

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Ethylene Dibromide (1C)	0.018	J	0.029	0.019	0.0096	ug/L	1		8011	Total/NA
Manganese	0.0039	J	0.010	0.0052	0.0031	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-EFF1-120320

Lab Sample ID: 410-22885-1

Date Collected: 12/03/20 08:20

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 00:17	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 00:17	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 00:17	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 00:17	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	100		81 - 118			12/09/20 00:17	1		
4-Bromofluorobenzene (Surr)	98		85 - 114			12/09/20 00:17	1		
Dibromofluoromethane (Surr)	100		80 - 119			12/09/20 00:17	1		
Toluene-d8 (Surr)	100		89 - 112			12/09/20 00:17	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		12/15/20 00:02	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	79		46 - 136		12/10/20 23:36	12/15/20 00:02	1		
1,1,2,2-Tetrachloroethane (2C)	92		46 - 136		12/10/20 23:36	12/15/20 00:02	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 08:45	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 08:45	1

Client Sample ID: GWTS-GAC1-120320

Lab Sample ID: 410-22885-2

Date Collected: 12/03/20 08:58

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 04:42	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 04:42	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 04:42	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 04:42	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	100		81 - 118			12/09/20 04:42	1		
4-Bromofluorobenzene (Surr)	98		85 - 114			12/09/20 04:42	1		
Dibromofluoromethane (Surr)	100		80 - 119			12/09/20 04:42	1		
Toluene-d8 (Surr)	99		89 - 112			12/09/20 04:42	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (2C)	0.019	U M	0.029	0.019	0.0096	ug/L		12/15/20 00:19	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	82		46 - 136		12/10/20 23:36	12/15/20 00:19	1		
1,1,2,2-Tetrachloroethane (2C)	93		46 - 136		12/10/20 23:36	12/15/20 00:19	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:23	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-GAC1-120320

Lab Sample ID: 410-22885-2

Date Collected: 12/03/20 08:58

Matrix: Water

Date Received: 12/04/20 11:48

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 09:23	1

Client Sample ID: GWTS-INF1-120320

Lab Sample ID: 410-22885-3

Date Collected: 12/03/20 09:08

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 12:08	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 12:08	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 12:08	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		81 - 118		12/09/20 12:08	1
4-Bromofluorobenzene (Surr)	98		85 - 114		12/09/20 12:08	1
Dibromofluoromethane (Surr)	99		80 - 119		12/09/20 12:08	1
Toluene-d8 (Surr)	99		89 - 112		12/09/20 12:08	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.028	0.019	0.0095	ug/L		12/15/20 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	78		46 - 136	12/10/20 23:36	12/15/20 00:36	1
1,1,2,2-Tetrachloroethane (2C)	90		46 - 136	12/10/20 23:36	12/15/20 00:36	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:20	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 09:20	1

Client Sample ID: GWTS-FB01-120320

Lab Sample ID: 410-22885-4

Date Collected: 12/03/20 08:20

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 23:33	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/08/20 23:33	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 23:33	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/08/20 23:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		81 - 118		12/08/20 23:33	1
4-Bromofluorobenzene (Surr)	98		85 - 114		12/08/20 23:33	1
Dibromofluoromethane (Surr)	100		80 - 119		12/08/20 23:33	1
Toluene-d8 (Surr)	100		89 - 112		12/08/20 23:33	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0097	ug/L		12/15/20 00:53	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-FB01-120320

Lab Sample ID: 410-22885-4

Date Collected: 12/03/20 08:20

Matrix: Water

Date Received: 12/04/20 11:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	77		46 - 136	12/10/20 23:36	12/15/20 00:53	1
1,1,2,2-Tetrachloroethane (2C)	92		46 - 136	12/10/20 23:36	12/15/20 00:53	1

Client Sample ID: GWTS-TB01-120320

Lab Sample ID: 410-22885-5

Date Collected: 12/03/20 09:45

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 23:55	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/08/20 23:55	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 23:55	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/08/20 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		81 - 118		12/08/20 23:55	1
4-Bromofluorobenzene (Surr)	98		85 - 114		12/08/20 23:55	1
Dibromofluoromethane (Surr)	100		80 - 119		12/08/20 23:55	1
Toluene-d8 (Surr)	100		89 - 112		12/08/20 23:55	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.020	U	0.029	0.020	0.0098	ug/L		12/15/20 01:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	79		46 - 136	12/10/20 23:36	12/15/20 01:10	1
1,1,2,2-Tetrachloroethane (2C)	89		46 - 136	12/10/20 23:36	12/15/20 01:10	1

Client Sample ID: GWTS-EFF2-120320

Lab Sample ID: 410-22885-6

Date Collected: 12/03/20 09:15

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:04	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 05:04	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:04	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 05:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		81 - 118		12/09/20 05:04	1
4-Bromofluorobenzene (Surr)	97		85 - 114		12/09/20 05:04	1
Dibromofluoromethane (Surr)	99		80 - 119		12/09/20 05:04	1
Toluene-d8 (Surr)	100		89 - 112		12/09/20 05:04	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		12/15/20 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	85		46 - 136	12/10/20 23:36	12/15/20 01:27	1
1,1,2,2-Tetrachloroethane (2C)	96		46 - 136	12/10/20 23:36	12/15/20 01:27	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-EFF2-120320

Lab Sample ID: 410-22885-6

Date Collected: 12/03/20 09:15

Matrix: Water

Date Received: 12/04/20 11:48

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:17	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 09:17	1

Client Sample ID: GWTS-EFF2DUP-120320

Lab Sample ID: 410-22885-7

Date Collected: 12/03/20 09:15

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:26	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 05:26	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:26	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 05:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		81 - 118		12/09/20 05:26	1
4-Bromofluorobenzene (Surr)	98		85 - 114		12/09/20 05:26	1
Dibromofluoromethane (Surr)	102		80 - 119		12/09/20 05:26	1
Toluene-d8 (Surr)	99		89 - 112		12/09/20 05:26	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0096	ug/L		12/15/20 02:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	76		46 - 136	12/10/20 23:36	12/15/20 02:01	1
1,1,2,2-Tetrachloroethane (2C)	91		46 - 136	12/10/20 23:36	12/15/20 02:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:14	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 09:14	1

Client Sample ID: GWTS-GAC2-120320

Lab Sample ID: 410-22885-8

Date Collected: 12/03/20 09:30

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:49	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 05:49	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 05:49	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 05:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		81 - 118		12/09/20 05:49	1
4-Bromofluorobenzene (Surr)	98		85 - 114		12/09/20 05:49	1
Dibromofluoromethane (Surr)	100		80 - 119		12/09/20 05:49	1
Toluene-d8 (Surr)	101		89 - 112		12/09/20 05:49	1

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Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-GAC2-120320

Lab Sample ID: 410-22885-8

Date Collected: 12/03/20 09:30

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (2C)	0.019	U	0.029	0.019	0.0097	ug/L		12/15/20 02:18	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	79		46 - 136		12/10/20 23:36	12/15/20 02:18	1		
1,1,2,2-Tetrachloroethane (2C)	93		46 - 136		12/10/20 23:36	12/15/20 02:18	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:05	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 09:05	1

Client Sample ID: GWTS-INF2-120320

Lab Sample ID: 410-22885-9

Date Collected: 12/03/20 09:40

Matrix: Water

Date Received: 12/04/20 11:48

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 06:11	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 06:11	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 06:11	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 06:11	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	99		81 - 118			12/09/20 06:11	1		
4-Bromofluorobenzene (Surr)	97		85 - 114			12/09/20 06:11	1		
Dibromofluoromethane (Surr)	100		80 - 119			12/09/20 06:11	1		
Toluene-d8 (Surr)	99		89 - 112			12/09/20 06:11	1		

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.018	J	0.029	0.019	0.0096	ug/L		12/15/20 02:35	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
1,1,2,2-Tetrachloroethane (1C)	82		46 - 136		12/10/20 23:36	12/15/20 02:35	1		
1,1,2,2-Tetrachloroethane (2C)	97		46 - 136		12/10/20 23:36	12/15/20 02:35	1		

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 09:02	1
Manganese	0.0039	J	0.010	0.0052	0.0031	mg/L		12/09/20 09:02	1

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Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (81-118)	BFB (85-114)	DBFM (80-119)	TOL (89-112)
410-22885-1	GWTS-EFF1-120320	100	98	100	100
410-22885-1 MS	GWTS-EFF1-120320	100	98	100	100
410-22885-1 MSD	GWTS-EFF1-120320	97	99	99	101
410-22885-2	GWTS-GAC1-120320	100	98	100	99
410-22885-3	GWTS-INF1-120320	100	98	99	99
410-22885-4	GWTS-FB01-120320	98	98	100	100
410-22885-5	GWTS-TB01-120320	100	98	100	100
410-22885-6	GWTS-EFF2-120320	98	97	99	100
410-22885-7	GWTS-EFF2DUP-120320	100	98	102	99
410-22885-8	GWTS-GAC2-120320	99	98	100	101
410-22885-9	GWTS-INF2-120320	99	97	100	99
LCS 410-74529/4	Lab Control Sample	99	99	101	99
LCS 410-74710/4	Lab Control Sample	99	99	100	101
MB 410-74529/6	Method Blank	100	99	100	100
MB 410-74710/6	Method Blank	102	97	101	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1122TCA1 (46-136)	1122TCA2 (46-136)
410-22885-1	GWTS-EFF1-120320	79	92
410-22885-1 MS	GWTS-EFF1-120320	87	99
410-22885-1 MSD	GWTS-EFF1-120320	83	97
410-22885-2	GWTS-GAC1-120320	82	93
410-22885-3	GWTS-INF1-120320	78	90
410-22885-4	GWTS-FB01-120320	77	92
410-22885-5	GWTS-TB01-120320	79	89
410-22885-6	GWTS-EFF2-120320	85	96
410-22885-7	GWTS-EFF2DUP-120320	76	91
410-22885-8	GWTS-GAC2-120320	79	93
410-22885-9	GWTS-INF2-120320	82	97
LCS 410-75634/2-A	Lab Control Sample	90	100
LCSD 410-75634/3-A	Lab Control Sample Dup	88	95
MB 410-75634/1-A	Method Blank	76	92

Surrogate Legend

1122TCA = 1,1,2,2-Tetrachloroethane

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-74529/6
Matrix: Water
Analysis Batch: 74529

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 22:02	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/08/20 22:02	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/08/20 22:02	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/08/20 22:02	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		81 - 118		12/08/20 22:02	1
4-Bromofluorobenzene (Surr)	99		85 - 114		12/08/20 22:02	1
Dibromofluoromethane (Surr)	100		80 - 119		12/08/20 22:02	1
Toluene-d8 (Surr)	100		89 - 112		12/08/20 22:02	1

Lab Sample ID: LCS 410-74529/4
Matrix: Water
Analysis Batch: 74529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	20.0	21.1		ug/L		106	42 - 138
Ethylbenzene	20.0	20.9		ug/L		105	79 - 121
Toluene	20.0	20.9		ug/L		104	80 - 121
Xylenes, Total	60.0	61.5		ug/L		103	79 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	101		80 - 119
Toluene-d8 (Surr)	99		89 - 112

Lab Sample ID: 410-22885-1 MS
Matrix: Water
Analysis Batch: 74529

Client Sample ID: GWTS-EFF1-120320
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Benzene	0.50	U	20.0	21.7		ug/L		109	42 - 138
Ethylbenzene	0.80	U	20.0	21.9		ug/L		109	79 - 121
Toluene	0.50	U	20.0	21.7		ug/L		109	80 - 121
Xylenes, Total	2.8	U	60.0	64.5		ug/L		108	79 - 121

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		81 - 118
4-Bromofluorobenzene (Surr)	98		85 - 114
Dibromofluoromethane (Surr)	100		80 - 119
Toluene-d8 (Surr)	100		89 - 112

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QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 410-22885-1 MSD
Matrix: Water
Analysis Batch: 74529

Client Sample ID: GWTS-EFF1-120320
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.50	U	20.0	22.1		ug/L		111	42 - 138	2	20
Ethylbenzene	0.80	U	20.0	22.3		ug/L		111	79 - 121	2	20
Toluene	0.50	U	20.0	22.3		ug/L		111	80 - 121	3	20
Xylenes, Total	2.8	U	60.0	66.0		ug/L		110	79 - 121	2	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	97		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	99		80 - 119
Toluene-d8 (Surr)	101		89 - 112

Lab Sample ID: MB 410-74710/6
Matrix: Water
Analysis Batch: 74710

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 10:28	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		12/09/20 10:28	1
Toluene	0.50	U	1.0	0.50	0.20	ug/L		12/09/20 10:28	1
Xylenes, Total	2.8	U	6.0	2.8	1.4	ug/L		12/09/20 10:28	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		81 - 118		12/09/20 10:28	1
4-Bromofluorobenzene (Surr)	97		85 - 114		12/09/20 10:28	1
Dibromofluoromethane (Surr)	101		80 - 119		12/09/20 10:28	1
Toluene-d8 (Surr)	99		89 - 112		12/09/20 10:28	1

Lab Sample ID: LCS 410-74710/4
Matrix: Water
Analysis Batch: 74710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.1		ug/L		101	42 - 138
Ethylbenzene	20.0	20.3		ug/L		101	79 - 121
Toluene	20.0	19.9		ug/L		100	80 - 121
Xylenes, Total	60.0	60.2		ug/L		100	79 - 121

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	99		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	100		80 - 119
Toluene-d8 (Surr)	101		89 - 112

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

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- 15

Lab Sample ID: MB 410-75634/1-A
Matrix: Water
Analysis Batch: 76550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 75634

Analyte	MB MB		LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
	Result	Qualifier							
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		12/11/20 20:54	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,1,2,2-Tetrachloroethane (1C)	76		46 - 136	12/10/20 23:36	12/11/20 20:54	1
1,1,2,2-Tetrachloroethane (2C)	92		46 - 136	12/10/20 23:36	12/11/20 20:54	1

Lab Sample ID: LCS 410-75634/2-A
Matrix: Water
Analysis Batch: 76550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 75634

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Ethylene Dibromide (1C)	0.128	0.167		ug/L		131	60 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	90		46 - 136
1,1,2,2-Tetrachloroethane (2C)	100		46 - 136

Lab Sample ID: LCSD 410-75634/3-A
Matrix: Water
Analysis Batch: 76550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 75634

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Ethylene Dibromide (1C)	0.128	0.163		ug/L		127	60 - 140	3	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	88		46 - 136
1,1,2,2-Tetrachloroethane (2C)	95		46 - 136

Lab Sample ID: 410-22885-1 MS
Matrix: Water
Analysis Batch: 76691

Client Sample ID: GWTS-EFF1-120320
Prep Type: Total/NA
Prep Batch: 75634

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Ethylene Dibromide (1C)	0.019	U	0.122	0.125		ug/L		102	60 - 140

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,1,2,2-Tetrachloroethane (1C)	87		46 - 136
1,1,2,2-Tetrachloroethane (2C)	99		46 - 136

Lab Sample ID: 410-22885-1 MSD
Matrix: Water
Analysis Batch: 76691

Client Sample ID: GWTS-EFF1-120320
Prep Type: Total/NA
Prep Batch: 75634

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
				Result	Qualifier						
Ethylene Dibromide (1C)	0.019	U	0.122	0.127		ug/L		104	60 - 140	2	20

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: 410-22885-1 MSD
 Matrix: Water
 Analysis Batch: 76691

Client Sample ID: GWTS-EFF1-120320
 Prep Type: Total/NA
 Prep Batch: 75634

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,1,2,2-Tetrachloroethane (1C)	83		46 - 136
1,1,2,2-Tetrachloroethane (2C)	97		46 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-74018/1-A
 Matrix: Water
 Analysis Batch: 74805

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 74018

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	0.10	U	0.21	0.10	0.041	mg/L		12/09/20 08:38	1
Manganese	0.0052	U	0.010	0.0052	0.0031	mg/L		12/09/20 08:38	1

Lab Sample ID: LCS 410-74018/2-A
 Matrix: Water
 Analysis Batch: 74805

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 74018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.400	0.421		mg/L		105	87 - 115
Manganese	0.0200	0.0223		mg/L		112	90 - 114

Lab Sample ID: 410-22885-1 MS
 Matrix: Water
 Analysis Batch: 74805

Client Sample ID: GWTS-EFF1-120320
 Prep Type: Dissolved
 Prep Batch: 74018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.10	U	0.400	0.409		mg/L		102	87 - 115
Manganese	0.0052	U	0.0200	0.0216		mg/L		108	90 - 114

Lab Sample ID: 410-22885-1 MSD
 Matrix: Water
 Analysis Batch: 74805

Client Sample ID: GWTS-EFF1-120320
 Prep Type: Dissolved
 Prep Batch: 74018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.10	U	0.400	0.426		mg/L		106	87 - 115	4	20
Manganese	0.0052	U	0.0200	0.0219		mg/L		110	90 - 114	1	20

Lab Sample ID: 410-22885-1 DU
 Matrix: Water
 Analysis Batch: 74805

Client Sample ID: GWTS-EFF1-120320
 Prep Type: Dissolved
 Prep Batch: 74018

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	0.10	U	0.10	U	mg/L		NC	20
Manganese	0.0052	U	0.0052	U	mg/L		NC	20

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

GC/MS VOA

Analysis Batch: 74529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-1	GWTS-EFF1-120320	Total/NA	Water	8260C DOD	
410-22885-2	GWTS-GAC1-120320	Total/NA	Water	8260C DOD	
410-22885-4	GWTS-FB01-120320	Total/NA	Water	8260C DOD	
410-22885-5	GWTS-TB01-120320	Total/NA	Water	8260C DOD	
410-22885-6	GWTS-EFF2-120320	Total/NA	Water	8260C DOD	
410-22885-7	GWTS-EFF2DUP-120320	Total/NA	Water	8260C DOD	
410-22885-8	GWTS-GAC2-120320	Total/NA	Water	8260C DOD	
410-22885-9	GWTS-INF2-120320	Total/NA	Water	8260C DOD	
MB 410-74529/6	Method Blank	Total/NA	Water	8260C DOD	
LCS 410-74529/4	Lab Control Sample	Total/NA	Water	8260C DOD	
410-22885-1 MS	GWTS-EFF1-120320	Total/NA	Water	8260C DOD	
410-22885-1 MSD	GWTS-EFF1-120320	Total/NA	Water	8260C DOD	

Analysis Batch: 74710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-3	GWTS-INF1-120320	Total/NA	Water	8260C DOD	
MB 410-74710/6	Method Blank	Total/NA	Water	8260C DOD	
LCS 410-74710/4	Lab Control Sample	Total/NA	Water	8260C DOD	

GC Semi VOA

Prep Batch: 75634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-1	GWTS-EFF1-120320	Total/NA	Water	8011	
410-22885-2	GWTS-GAC1-120320	Total/NA	Water	8011	
410-22885-3	GWTS-INF1-120320	Total/NA	Water	8011	
410-22885-4	GWTS-FB01-120320	Total/NA	Water	8011	
410-22885-5	GWTS-TB01-120320	Total/NA	Water	8011	
410-22885-6	GWTS-EFF2-120320	Total/NA	Water	8011	
410-22885-7	GWTS-EFF2DUP-120320	Total/NA	Water	8011	
410-22885-8	GWTS-GAC2-120320	Total/NA	Water	8011	
410-22885-9	GWTS-INF2-120320	Total/NA	Water	8011	
MB 410-75634/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-75634/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 410-75634/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
410-22885-1 MS	GWTS-EFF1-120320	Total/NA	Water	8011	
410-22885-1 MSD	GWTS-EFF1-120320	Total/NA	Water	8011	

Analysis Batch: 76550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-75634/1-A	Method Blank	Total/NA	Water	8011	75634
LCS 410-75634/2-A	Lab Control Sample	Total/NA	Water	8011	75634
LCSD 410-75634/3-A	Lab Control Sample Dup	Total/NA	Water	8011	75634

Analysis Batch: 76691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-1	GWTS-EFF1-120320	Total/NA	Water	8011	75634
410-22885-2	GWTS-GAC1-120320	Total/NA	Water	8011	75634
410-22885-3	GWTS-INF1-120320	Total/NA	Water	8011	75634
410-22885-4	GWTS-FB01-120320	Total/NA	Water	8011	75634
410-22885-5	GWTS-TB01-120320	Total/NA	Water	8011	75634

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

GC Semi VOA (Continued)

Analysis Batch: 76691 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-6	GWTS-EFF2-120320	Total/NA	Water	8011	75634
410-22885-7	GWTS-EFF2DUP-120320	Total/NA	Water	8011	75634
410-22885-8	GWTS-GAC2-120320	Total/NA	Water	8011	75634
410-22885-9	GWTS-INF2-120320	Total/NA	Water	8011	75634
410-22885-1 MS	GWTS-EFF1-120320	Total/NA	Water	8011	75634
410-22885-1 MSD	GWTS-EFF1-120320	Total/NA	Water	8011	75634

Metals

Prep Batch: 74018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-1	GWTS-EFF1-120320	Dissolved	Water	Non-Digest Prep	
410-22885-2	GWTS-GAC1-120320	Dissolved	Water	Non-Digest Prep	
410-22885-3	GWTS-INF1-120320	Dissolved	Water	Non-Digest Prep	
410-22885-6	GWTS-EFF2-120320	Dissolved	Water	Non-Digest Prep	
410-22885-7	GWTS-EFF2DUP-120320	Dissolved	Water	Non-Digest Prep	
410-22885-8	GWTS-GAC2-120320	Dissolved	Water	Non-Digest Prep	
410-22885-9	GWTS-INF2-120320	Dissolved	Water	Non-Digest Prep	
MB 410-74018/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-74018/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
410-22885-1 MS	GWTS-EFF1-120320	Dissolved	Water	Non-Digest Prep	
410-22885-1 MSD	GWTS-EFF1-120320	Dissolved	Water	Non-Digest Prep	
410-22885-1 DU	GWTS-EFF1-120320	Dissolved	Water	Non-Digest Prep	

Analysis Batch: 74805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-22885-1	GWTS-EFF1-120320	Dissolved	Water	6010C	74018
410-22885-2	GWTS-GAC1-120320	Dissolved	Water	6010C	74018
410-22885-3	GWTS-INF1-120320	Dissolved	Water	6010C	74018
410-22885-6	GWTS-EFF2-120320	Dissolved	Water	6010C	74018
410-22885-7	GWTS-EFF2DUP-120320	Dissolved	Water	6010C	74018
410-22885-8	GWTS-GAC2-120320	Dissolved	Water	6010C	74018
410-22885-9	GWTS-INF2-120320	Dissolved	Water	6010C	74018
MB 410-74018/1-A	Method Blank	Total/NA	Water	6010C	74018
LCS 410-74018/2-A	Lab Control Sample	Total/NA	Water	6010C	74018
410-22885-1 MS	GWTS-EFF1-120320	Dissolved	Water	6010C	74018
410-22885-1 MSD	GWTS-EFF1-120320	Dissolved	Water	6010C	74018
410-22885-1 DU	GWTS-EFF1-120320	Dissolved	Water	6010C	74018

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-EFF1-120320

Lab Sample ID: 410-22885-1

Date Collected: 12/03/20 08:20

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 00:17	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 00:02	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 08:45	SB	ELLE

Client Sample ID: GWTS-GAC1-120320

Lab Sample ID: 410-22885-2

Date Collected: 12/03/20 08:58

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 04:42	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 00:19	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:23	SB	ELLE

Client Sample ID: GWTS-INF1-120320

Lab Sample ID: 410-22885-3

Date Collected: 12/03/20 09:08

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74710	12/09/20 12:08	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 00:36	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:20	SB	ELLE

Client Sample ID: GWTS-FB01-120320

Lab Sample ID: 410-22885-4

Date Collected: 12/03/20 08:20

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/08/20 23:33	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 00:53	AC3T	ELLE

Client Sample ID: GWTS-TB01-120320

Lab Sample ID: 410-22885-5

Date Collected: 12/03/20 09:45

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/08/20 23:55	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 01:10	AC3T	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Client Sample ID: GWTS-EFF2-120320

Lab Sample ID: 410-22885-6

Date Collected: 12/03/20 09:15

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 05:04	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 01:27	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:17	SB	ELLE

Client Sample ID: GWTS-EFF2DUP-120320

Lab Sample ID: 410-22885-7

Date Collected: 12/03/20 09:15

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 05:26	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 02:01	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:14	SB	ELLE

Client Sample ID: GWTS-GAC2-120320

Lab Sample ID: 410-22885-8

Date Collected: 12/03/20 09:30

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 05:49	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 02:18	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:05	SB	ELLE

Client Sample ID: GWTS-INF2-120320

Lab Sample ID: 410-22885-9

Date Collected: 12/03/20 09:40

Matrix: Water

Date Received: 12/04/20 11:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	74529	12/09/20 06:11	R64Z	ELLE
Total/NA	Prep	8011			75634	12/10/20 23:36	K2IL	ELLE
Total/NA	Analysis	8011		1	76691	12/15/20 02:35	AC3T	ELLE
Dissolved	Prep	Non-Digest Prep			74018	12/07/20 19:20	UJLA	ELLE
Dissolved	Analysis	6010C		1	74805	12/09/20 09:02	SB	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	1.01	12-31-20

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Eurofins Lancaster Laboratories Env, LLC

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
8011	Microextraction	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Bulk Fuels Facility

Job ID: 410-22885-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-22885-1	GWTS-EFF1-120320	Water	12/03/20 08:20	12/04/20 11:48	
410-22885-2	GWTS-GAC1-120320	Water	12/03/20 08:58	12/04/20 11:48	
410-22885-3	GWTS-INF1-120320	Water	12/03/20 09:08	12/04/20 11:48	
410-22885-4	GWTS-FB01-120320	Water	12/03/20 08:20	12/04/20 11:48	
410-22885-5	GWTS-TB01-120320	Water	12/03/20 09:45	12/04/20 11:48	
410-22885-6	GWTS-EFF2-120320	Water	12/03/20 09:15	12/04/20 11:48	
410-22885-7	GWTS-EFF2DUP-120320	Water	12/03/20 09:15	12/04/20 11:48	
410-22885-8	GWTS-GAC2-120320	Water	12/03/20 09:30	12/04/20 11:48	
410-22885-9	GWTS-INF2-120320	Water	12/03/20 09:40	12/04/20 11:48	

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Eurofins Lancaster Laboratories Env, LLC

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12/29/2020



410-22885 Chain of Custody

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EA 225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625		CHAIN-OF-CUSTODY RECORD						COC NUMBER COC-GWTS1-120320											
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401		LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA		YEAR: 2020											
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295		LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258		FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		QUARTER: Q4											
				ANALYSIS REQUIRED (Specify number of bottles)						COMMENTS									
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOCS (4200C)	BTEX (4200C)	BTEXN (4200C)	EDB (4200C)	(4200C)	Total As, Pb, Cd, Ni, Hg, Mn (6011)	Dissolved Fe, Mn (6020A/6010C)	Chloride, bromide, sulfate (300.0)	Nitrate-Nitrite (353.2)	Arsenic (SM4500(H))	Sulfide (SM4500(H))	Alkalinity (SM2232(B))			
1	GWTS-EFF1-120320	12/03/2020	0820	18	--	9	--	6	--	3*	--	--	--	--	--	--	Additional Volume Provided for MS/MSD		
2	GWTS-GAC1-120320	12/03/2020	0858	6	--	3	--	2	--	1*	--	--	--	--	--	--			
3	GWTS-INF1-120320	12/03/2020	0908	6	--	3	--	2	--	1*	--	--	--	--	--	--			
4	GWTS-FB01-120320	12/03/2020	0820	5	--	3	--	2	--	--	--	--	--	--	--	--	Collected simultaneously with GWTS-EFF1-120320		
5	GWTS-TB01-120320	12/03/2020	0945	4	--	2	--	2	--	--	--	--	--	--	--	--			
6	_____																		
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																			
SAMPLER(S): <i>G. Beyage P. Ferrant</i>										COURIER AND SHIPPING NUMBER: <i>Fedex: 8161 4706 8053</i>									
RELINQUISHED BY:				DATE	TIME	RECEIVED BY:												DATE	TIME
<i>Gabeon Beyage</i>				<i>12-03-2020</i>	<i>1130</i>	<i>[Signature]</i>													
Printed Name and Signature:						Printed Name and Signature:													
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Printed Name and Signature:						Printed Name and Signature:													
<i>KAM</i>						<i>[Signature]</i>												<i>12/14/20</i>	<i>1148</i>
																			<i>KAM</i>

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<div style="display: inline-block; vertical-align: middle; font-size: 8px;"> 225 Schling Circle Suite 400 Hunt Valley MD Tel No: (410) 584-7000 Fax No: (410) 771-1625 </div>		CHAIN-OF-CUSTODY RECORD				COC NUMBER COC-GWTS2-120320																					
PROJECT NAME: Kirtland AFB Bulk Fuels Facility		PROJECT NUMBER: 6360401	LABORATORY NAME AND CONTACT: Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster PA 17601		FAX AND MAIL REPORTS/EDD TO: Tara Lamond: tlamond@eaest.com EA Amanda Smith: asmith@eaest.com EA FAX AND MAIL REPORTS/EDD TO: Pam Moss: pmoss@eaest.com EA		YEAR: 2020 QUARTER: Q4																				
PROJECT SITE AND PHASE: ST106/SS111		LAB PO NUMBER: 21295	LAB CONTACT: Kay Hower KayHower@eurofinsUS.com Eurofins 1 (717) 556-7258																								
ANALYSIS REQUIRED (Specify number of bottles)																											
ITEM	SAMPLE IDENTIFIER	DATE COLLECTED	TIME COLLECTED	Total Number of Bottles	VOICs	(9280C)	BTEX	BTEXN	EDB	(8011)	Total As, Pb, Cd, Ni, Hg, Mg	Discolored Fe, Mn	(920A/6010C)	Chloride, bromide, sulfate	(300.0)	Nitrate-Nitrite	Ammonia	(SM4500NH3)	Sulfide	(SM4500SCF)	Alkalinity	(SM2320B)	COMMENTS				
1	GWTS-EFF2-120320	12/03/2020	0915	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--	--	--	--						
2	GWTS-EFF2DUP-120320	12/03/2020	0915	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--	--	--	--						
3	GWTS-GAC2-120320	12/03/2020	0930	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--	--	--	--						
4	GWTS-INF2-120320	12/03/2020	0940	6	--	3	--	2	--	1*	--	--	--	--	--	--	--	--	--	--	--						
5	_____																										
6	_____																										
COMMENTS: *Dissolved Fe, Mn aliquot was field filtered.																											
SAMPLER(S): <i>G. Begaye P. Ferraro</i>										COURIER AND SHIPPING NUMBER: Fedex: <i>8161 4706 8053</i>																	
RELINQUISHED BY:										DATE			TIME		RECEIVED BY:										DATE		TIME
Printed Name and Signature: <i>Gabriel Begaye</i>										12-03-2020			1130		_____												
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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-22885-1

Login Number: 22885**List Source: Eurofins Lancaster Laboratories Env****List Number: 1****Creator: Metzger, Katherine A**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	



Environment Testing
America

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ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-276448-1

Laboratory Sample Delivery Group: Kirtland AFB New Mexico
Client Project/Site: Kirtland AFB-Well Disinfection Water
Sampling

For:

EA Engineering, Science, and Technology
7995 E. Prentice Ave, Suite 206E
Greenwood Village, Colorado 80111

Attn: Pamela J Moss

Authorized for release by:
12/30/2020 5:37:09 PM

Sheri Fama, Project Manager I
(949)260-3274
Sheri.Fama@Eurofinset.com



LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Laboratory Job ID: 440-276448-1
SDG: Kirtland AFB New Mexico



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Sample Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-276448-1	GW239-204-PreDis	Water	12/21/20 10:15	12/22/20 11:30	

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Eurofins Calscience Irvine

Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
SDG: Kirtland AFB New Mexico

Job ID: 440-276448-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative 440-276448-1

Comments

No additional comments.

Receipt

The sample was received on 12/22/2020 at 11:30 AM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.9°C.

HPLC/IC

Method 300.1B: The following sample was diluted for the bromate analyte due to the nature of the sample matrix: GW239-204-PreDis (440-276448-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LCMS

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Client Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Client Sample ID: GW239-204-PreDis

Lab Sample ID: 440-276448-1

Date Collected: 12/21/20 10:15

Matrix: Water

Date Received: 12/22/20 11:30

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Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromate	ND		25	5.0	ug/L			12/23/20 16:21	5
Chlorite	ND		20	4.0	ug/L			12/23/20 15:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dichloroacetic acid(Surr)	104		90 - 115					12/23/20 15:45	1
Dichloroacetic acid(Surr)	106		90 - 115					12/23/20 16:21	5

Method: 331.0 - Perchlorate (LC/MS/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.17		0.10	0.021	ug/L			12/23/20 15:06	1

Eurofins Calscience Irvine

Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Method	Method Description	Protocol	Laboratory
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
331.0	Perchlorate (LC/MS/MS)	EPA	ECL 2



Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Eurofins Calscience Irvine

Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Client Sample ID: GW239-204-PreDis

Lab Sample ID: 440-276448-1

Date Collected: 12/21/20 10:15

Matrix: Water

Date Received: 12/22/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.1B		1			634334	12/23/20 15:45	YZ	TAL IRV
Total/NA	Analysis	300.1B		5			634323	12/23/20 16:21	YZ	TAL IRV
Dissolved	Analysis	331.0		1			118453	12/23/20 15:06	URMH	ECL 2

Laboratory References:

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
 TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Method: 300.1B - Disinfection By-Products, (IC)

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Lab Sample ID: MB 440-634323/5
Matrix: Water
Analysis Batch: 634323

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bromate	ND		5.0	1.0	ug/L			12/22/20 11:21	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
Dichloroacetic acid(Surr)	106		90 - 115					12/22/20 11:21	1

Lab Sample ID: LCS 440-634323/4
Matrix: Water
Analysis Batch: 634323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	LCS LCS		Limits				%Rec. Limits
%Recovery	Qualifier						
Dichloroacetic acid(Surr)	109		90 - 115				

Lab Sample ID: MRL 440-634323/3
Matrix: Water
Analysis Batch: 634323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	MRL MRL		Limits			%Rec	%Rec. Limits
%Recovery	Qualifier						
Dichloroacetic acid(Surr)	110		90 - 115				

Lab Sample ID: MB 440-634334/5
Matrix: Water
Analysis Batch: 634334

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlorite	ND		20	4.0	ug/L			12/22/20 11:21	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
Dichloroacetic acid(Surr)	106		90 - 115					12/22/20 11:21	1

Lab Sample ID: LCS 440-634334/4
Matrix: Water
Analysis Batch: 634334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	LCS LCS		Limits			%Rec	%Rec. Limits
%Recovery	Qualifier						
Dichloroacetic acid(Surr)	109		90 - 115				

Eurofins Calscience Irvine

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-634334/3
 Matrix: Water
 Analysis Batch: 634334

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorite	20.0	21.0		ug/L		105	10 - 200
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
Dichloroacetic acid(Surr)	110		90 - 115				

Method: 331.0 - Perchlorate (LC/MS/MS)

Lab Sample ID: MB 570-118453/6
 Matrix: Water
 Analysis Batch: 118453

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.10	0.021	ug/L			12/23/20 13:51	1

Lab Sample ID: LCS 570-118453/7
 Matrix: Water
 Analysis Batch: 118453

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.35		ug/L		93	85 - 115

Lab Sample ID: 440-276448-1 MS
 Matrix: Water
 Analysis Batch: 118453

Client Sample ID: GW239-204-PreDis
 Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.17		10.0	9.78		ug/L		96	80 - 120

Lab Sample ID: 440-276448-1 MSD
 Matrix: Water
 Analysis Batch: 118453

Client Sample ID: GW239-204-PreDis
 Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	0.17		10.0	9.66		ug/L		95	80 - 120	1	15

Eurofins Calscience Irvine

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
 SDG: Kirtland AFB New Mexico

HPLC/IC

Analysis Batch: 634323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276448-1	GW239-204-PreDis	Total/NA	Water	300.1B	
MB 440-634323/5	Method Blank	Total/NA	Water	300.1B	
LCS 440-634323/4	Lab Control Sample	Total/NA	Water	300.1B	
MRL 440-634323/3	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 634334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276448-1	GW239-204-PreDis	Total/NA	Water	300.1B	
MB 440-634334/5	Method Blank	Total/NA	Water	300.1B	
LCS 440-634334/4	Lab Control Sample	Total/NA	Water	300.1B	
MRL 440-634334/3	Lab Control Sample	Total/NA	Water	300.1B	

LCMS

Analysis Batch: 118453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276448-1	GW239-204-PreDis	Dissolved	Water	331.0	
MB 570-118453/6	Method Blank	Total/NA	Water	331.0	
LCS 570-118453/7	Lab Control Sample	Total/NA	Water	331.0	
440-276448-1 MS	GW239-204-PreDis	Dissolved	Water	331.0	
440-276448-1 MSD	GW239-204-PreDis	Dissolved	Water	331.0	

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Definitions/Glossary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
SDG: Kirtland AFB New Mexico

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Calscience Irvine

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB-Well Disinfection Water Sampling

Job ID: 440-276448-1
SDG: Kirtland AFB New Mexico

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Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-21
Oregon	NELAP	4028 - 008	01-29-21

Laboratory: Eurofins Calscience LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	CA300001	01-29-21

Eurofins Calscience Irvine

TestAmerica Irvine
 17461 Derian Ave Suite 100
 Irvine, CA 92614-5817
 Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record



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Client Information		Sampler: <u>JOSE LIVINGSTON</u>		Lab PM: Fama, Sheri M		Carrier Tracking No(s):		COC No: 440-152097-28023.33			
Client Contact: Pamela Moss		Phone: (570) 430-8078		E-Mail: sheri.fama@testamericainc.com				Page: Page 1 of 1			
Company: EA Engineering, Science, and Technology				Analysis Requested				Job #:			
Address: 7995 E. Prentice Ave, Suite 206E		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 300.1B, 14D - Chlorite 300.1B, 28D - Bromate 331.0 - Perchlorate				Total Number of Containers		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
City: Greenwood Village		TAT Requested (days): 15 Business Days									
State, Zip: CO, 80111											
Phone: 303-810-6903(Tel)		PO #: 18599									
Email: pmoss@eaest.com		WO #: 6360401									
Project Name: Kirtland AFB - Well Disinfection Water Sampling		Project #: 21295						Special Instructions/Note: JLL 12/22/20			
Site: Kirtland AFB New Mexico		SSOW#:									
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300.1B, 14D - Chlorite	300.1B, 28D - Bromate	331.0 - Perchlorate	
GW239-204-PreDis		12/21/20	1015	G	Water	N	N	N	N	N	
					Water						
					Water						
					Water						
					Water						
					Water						
					Water						
					Water						
					Water						
		440-276448 Chain of Custody									
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)					Level 4 data deliverable (NonDOD); EQUIS EDD						
Empty Kit Relinquished by:					Special Instructions/QC Requirements:						
Date:					Method of Shipment:						
Relinquished by: <u>JOSE LIVINGSTON</u>		Date/Time: <u>12/21/2020 1330</u>		Company: <u>EA</u>		Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by: <u>FODEL</u>		Date/Time: <u>78177118 0818</u>		Company:		Received by:		Date/Time: <u>12/22/20 1130</u>		Company: <u>EA IRV</u>	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) C and Other Remarks: <u>1859 4.0/3.9</u>							

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 440-276448-1
SDG Number: Kirtland AFB New Mexico**Login Number: 276448****List Number: 1****Creator: Lagunas, Jorge L****List Source: Eurofins Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 440-276448-1
SDG Number: Kirtland AFB New Mexico**Login Number: 276448****List Number: 2****Creator: Rivera, Isaac****List Source: Eurofins Calscience****List Creation: 12/22/20 07:35 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing
America

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ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-276775-1

Laboratory Sample Delivery Group: Kirtland AFB New Mexico
Client Project/Site: Kirtland AFB Well Disinfection Water
Sampling

For:

EA Engineering, Science, and Technology
7995 E. Prentice Ave, Suite 206E
Greenwood Village, Colorado 80111

Attn: Pamela J Moss

Authorized for release by:
1/8/2021 4:50:45 PM

Sheri Fama, Project Manager I
(949)260-3274
Sheri.Fama@Eurofinset.com



LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Well Disinfection Water Sampling

Laboratory Job ID: 440-276775-1
SDG: Kirtland AFB New Mexico



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Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
SDG: Kirtland AFB New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-276775-1	GW239-204-PostDis	Water	12/28/20 08:20	12/29/20 12:55	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

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Case Narrative

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
SDG: Kirtland AFB New Mexico

Job ID: 440-276775-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-276775-1

Comments

No additional comments.

Receipt

The sample was received on 12/29/2020 at 12:55 PM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3°C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Client Sample ID: GW239-204-PostDis

Lab Sample ID: 440-276775-1

Date Collected: 12/28/20 08:20

Matrix: Water

Date Received: 12/29/20 12:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromate	ND		5.0	1.0	ug/L			12/31/20 07:50	1
Chlorite	ND		20	4.0	ug/L			12/31/20 07:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dichloroacetic acid(Surr)	107		90 - 115					12/31/20 07:50	1
Dichloroacetic acid(Surr)	107		90 - 115					12/31/20 07:50	1

Method: 331.0 - Perchlorate (LC/MS/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.19		0.10	0.021	ug/L			01/06/21 14:29	1

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Method Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Method	Method Description	Protocol	Laboratory
300.1B	Disinfection By-Products, (IC)	EPA	TAL IRV
331.0	Perchlorate (LC/MS/MS)	EPA	ECL 2



Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
 TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Lab Chronicle

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Client Sample ID: GW239-204-PostDis

Lab Sample ID: 440-276775-1

Date Collected: 12/28/20 08:20

Matrix: Water

Date Received: 12/29/20 12:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.1B		1			634853	12/31/20 07:50	YZ	TAL IRV
Total/NA	Analysis	300.1B		1			634854	12/31/20 07:50	YZ	TAL IRV
Dissolved	Analysis	331.0		1			120541	01/06/21 14:29	URMH	ECL 2

Laboratory References:

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



Eurofins Calscience Irvine

QC Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
SDG: Kirtland AFB New Mexico

Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 440-634853/39
Matrix: Water
Analysis Batch: 634853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bromate	ND		5.0	1.0	ug/L			12/31/20 07:14	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Dichloroacetic acid(Surr)	107		90 - 115					12/31/20 07:14	1

Lab Sample ID: LCS 440-634853/38
Matrix: Water
Analysis Batch: 634853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
Dichloroacetic acid(Surr)	109		90 - 115				

Lab Sample ID: MRL 440-634853/37
Matrix: Water
Analysis Batch: 634853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	MRL MRL		Limits				
	%Recovery	Qualifier					
Dichloroacetic acid(Surr)	108		90 - 115				

Lab Sample ID: MB 440-634854/39
Matrix: Water
Analysis Batch: 634854

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlorite	ND		20	4.0	ug/L			12/31/20 07:14	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Dichloroacetic acid(Surr)	107		90 - 115					12/31/20 07:14	1

Lab Sample ID: LCS 440-634854/38
Matrix: Water
Analysis Batch: 634854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
Dichloroacetic acid(Surr)	109		90 - 115				

Eurofins Calscience Irvine

QC Sample Results

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Method: 300.1B - Disinfection By-Products, (IC) (Continued)

Lab Sample ID: MRL 440-634854/37
 Matrix: Water
 Analysis Batch: 634854

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorite	20.0	21.4		ug/L		107	10 - 200
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
Dichloroacetic acid(Surr)	108		90 - 115				

Method: 331.0 - Perchlorate (LC/MS/MS)

Lab Sample ID: MB 570-120541/6
 Matrix: Water
 Analysis Batch: 120541

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.10	0.021	ug/L			01/06/21 13:42	1

Lab Sample ID: LCS 570-120541/7
 Matrix: Water
 Analysis Batch: 120541

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.38		ug/L		94	85 - 115

Lab Sample ID: LCSD 570-120541/8
 Matrix: Water
 Analysis Batch: 120541

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	10.0	9.50		ug/L		95	85 - 115	1	15

Lab Sample ID: 440-276775-1 MS
 Matrix: Water
 Analysis Batch: 120541

Client Sample ID: GW239-204-PostDis
 Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.19		10.0	9.87		ug/L		97	80 - 120

Lab Sample ID: 440-276775-1 MSD
 Matrix: Water
 Analysis Batch: 120541

Client Sample ID: GW239-204-PostDis
 Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	0.19		10.0	9.94		ug/L		98	80 - 120	1	15

Eurofins Calscience Irvine

QC Association Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

HPLC/IC

Analysis Batch: 634853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276775-1	GW239-204-PostDis	Total/NA	Water	300.1B	
MB 440-634853/39	Method Blank	Total/NA	Water	300.1B	
LCS 440-634853/38	Lab Control Sample	Total/NA	Water	300.1B	
MRL 440-634853/37	Lab Control Sample	Total/NA	Water	300.1B	

Analysis Batch: 634854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276775-1	GW239-204-PostDis	Total/NA	Water	300.1B	
MB 440-634854/39	Method Blank	Total/NA	Water	300.1B	
LCS 440-634854/38	Lab Control Sample	Total/NA	Water	300.1B	
MRL 440-634854/37	Lab Control Sample	Total/NA	Water	300.1B	

LCMS

Analysis Batch: 120541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-276775-1	GW239-204-PostDis	Dissolved	Water	331.0	
MB 570-120541/6	Method Blank	Total/NA	Water	331.0	
LCS 570-120541/7	Lab Control Sample	Total/NA	Water	331.0	
LCSD 570-120541/8	Lab Control Sample Dup	Total/NA	Water	331.0	
440-276775-1 MS	GW239-204-PostDis	Dissolved	Water	331.0	
440-276775-1 MSD	GW239-204-PostDis	Dissolved	Water	331.0	

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Definitions/Glossary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Qualifiers

HPLC/IC

Qualifier Qualifier Description

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Calscience Irvine

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
 Project/Site: Kirtland AFB Well Disinfection Water Sampling

Job ID: 440-276775-1
 SDG: Kirtland AFB New Mexico

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-21
Oregon	NELAP	4028 - 008	01-29-21

Laboratory: Eurofins Calscience LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	CA300001	01-29-21



Eurofins Calscience Irvine

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 440-276775-1
SDG Number: Kirtland AFB New Mexico**Login Number: 276775****List Number: 1****Creator: Lagunas, Jorge L****List Source: Eurofins Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $< 6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 440-276775-1
SDG Number: Kirtland AFB New Mexico

Login Number: 276775
List Number: 2
Creator: Cortez Diaz, Antonio

List Source: Eurofins Calscience
List Creation: 12/30/20 07:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6 mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX I-7
GROUNDWATER FLOW MODEL DESIGN

LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
3D	three-dimensional
AFB	Air Force Base
BFF	Bulk Fuels Facility
CL	clay
CS	coarse sand
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
ET	evapotranspiration
ft	foot (feet)
FS	fine sand
GWM	groundwater model
Kh	horizontal hydraulic conductivity
Kv	vertical hydraulic conductivity
MS	medium sand
NMED	New Mexico Environment Department
NRMSD	normalized root mean squared deviation
Q2	Second Quarter
Q4	Fourth Quarter
SM	silt
USACE	U.S. Army Corps of Engineers
VFS	very fine sand

1-7.1 GROUNDWATER FLOW MODEL DESIGN

U.S. Environmental Protection Agency (EPA) guidelines do not recommend specific model name and types for use in Step 4 stating that different types of simulation models, ranging from analytical to numerical, can be applied to calculate hydraulic heads and produce particle tracks upon which capture can be evaluated (EPA, 2008). The New Mexico Environment Department (NMED) deferred to Kirtland Air Force Base (AFB) for selection of an appropriate modeling approach and approved the proposed modeling approach on April 23, 2018 (NMED, 2018). The numerical model used for the purpose of adding a supporting line of evidence to this capture zone evaluation was developed using the finite element software FEFLOW 7.1 (Diersch, 2014). FEFLOW was chosen primarily because of the superior mesh design capabilities of the finite-element method. The finite-element mesh allows for the articulation of each monitoring well and extraction well no matter how irregular or close the spacing, and it allows for localized refinement around each extraction well increasing the accuracy of simulated drawdown due to extraction at the well while minimizing the number of nodes and elements required, thus minimizing computation time.

A simplified numerical flow model was designed and used to evaluate capture for fourth quarter (Q4) 2017, second quarter (Q2) 2018, Q4 2018, and Q2 2019 groundwater conditions. However, concern over the proximity of the model boundaries to the interim measure extraction wells was raised with the opinion that the constant head boundary assignments may be adversely affecting the simulated capture for these wells. In addition, this early model assumed that the aquifer could be accurately represented as a homogeneous unconfined aquifer having a single horizontal hydraulic conductivity (K_h) derived from aquifer tests conducted in the Bulk Fuels Facility (BFF) area. The inability to produce a single model design (i.e., constant hydraulic conductivity assignment) that would produce acceptably calibrated results under different groundwater conditions raised concerns about this assumption. Therefore, a new model (Kirtland AFB, 2020 Groundwater Model [GWM]), having a greatly expanded domain and representing the reported heterogeneity within the aquifer sediments, was developed for capture analysis in Q4 2019 (Kirtland AFB, 2020) and beyond.

The Kirtland AFB 2020 GWM numerical flow model is designed as a three-dimensional (3D), multi-layer representation of the unconfined aquifer underlying the BFF and surrounding area. The model simulates steady-state, gauging period specific flow conditions through the aquifer. A steady-state flow simulation was chosen based on data from an on-site aquifer test and on the project's data collection schedule. Analysis of the drawdown measurements from the 2015 constant-rate aquifer test performed at interim measure well KAFB-106228 revealed that the aquifer achieved steady-state conditions with respect to well extraction in less than 5 days (U.S. Army Corps of Engineers [USACE], 2016). In addition, water chemistry sampling and site-wide groundwater gauging is only performed twice a year, Q2 and Q4, meaning that the delineation of the ethylene dibromide (EDB) plume, upon which capture is assessed, can only be produced twice a year. Due to the aquifer's rapid response time and the reduction of availability of data between the bi-annual evaluation periods, a steady-state flow simulation was selected as the best method to produce bi-annual capture estimates providing that the model could be updated each evaluation period with the current groundwater conditions.

The model has been designed to represent the known heterogeneity (i.e., distribution of fine-grained and coarse-grained material) within the aquifer. Analysis of 197 driller's logs and 47 geophysical logs from the BFF and the surrounding area were used to develop a grain size-based 3D lithology model delineating vertical intervals of clay-silt (CL), clayey silty sand (SM), very-fine-grained sand (VFS), fine-grained sand (FS), medium-grained sand (MS), and coarse-grained sand (CS).

The numerical flow model was designed to replicate the vertical resolution of the lithology model. The top layer of the model (layer one), designed to completely contain the water table, extended from an elevation of 4,905 feet (ft) above mean sea level down to an elevation of 4,865 ft above mean sea level. Model layer one is followed by 29 layers with a uniform thickness of 5 ft. The next 16 layers had a uniform thickness of 10 ft and the bottom layer had a variable thickness representing the remaining aquifer thickness between an elevation of 4,560 ft above mean sea level and the top of the A2 unit for a total of 47 model layers. The A2 unit is a low permeability layer composed of silty sand, silts and clays that has been identified in deep driller's logs and electrical resistivity logs (Connell et al., 1998), which is assumed to represent the bottom of the unconfined aquifer.

The flow model was designed with a horizontal node spacing of less than 100 meters (328 ft), which was refined down to less than 10 meters (33 ft) in the region surrounding the dissolved EDB plume, equal to 50 meters (164 ft) along the external model boundary and equal to 1 meter (3.3 ft) around each interim remedy extraction well, each water production well, and each injection well within the model domain.

The lithology model cell data were transposed directly into the flow model layer network allowing the model to replicate the interpolated distribution of lithology types. Kh assignments for each lithology type given above were determined through analysis of three, grain size-based, hydraulic conductivity equations and on the results of aquifer pump test performed within and surrounding the model domain. The model assigned lithology type Kh values are listed in Table I-7-1. Each lithology zone was assumed to have a typical vertical anisotropy of 10/1 ($K_h/\text{vertical hydraulic conductivity } (K_v) = 10/1$). A more detailed overview of the original groundwater flow model design and calibration is presented in the Q4 2019 Annual Report (Kirtland AFB, 2020).

The original model was calibrated to three different groundwater conditions: Q4 2017, Q4 2018, and Q4 2019. Three identical versions of the model were modified to include calibration period specific boundary conditions and extraction and injection rates. The hydraulic head along the external model boundary was defined by the assignment of constant head values along all boundary nodes. The constant head values were estimated by a nearest neighbor interpolation of all measured groundwater levels within and surrounding the model domain out to a maximum distance of approximately 3.4 miles.

Extraction rates assigned to the interim measure wells are defined by the extraction rate measured from each well prior to gauging. Results from the 2015 constant rate aquifer test, performed using interim measure extraction well KAFB-106228, showed that the head in observation wells observed to have any related drawdown reach steady-state with respect to extraction within 5 days (Kirtland AFB, 2016). Therefore, extraction rates assigned to simulated interim measure wells are based on the extraction record for the well for the 5 days prior to gauging. Some water production wells within the model domain (KAFB-14, KAFB-016, KAFB-20, and Burton-5) extract water from both above and below the A2 confining unit. For these wells, the assigned extraction rate was modified based on the estimated percentage of each wells screen interval above and below the A2.

Each model was considered calibrated when the simulation produced a Normalized Root Mean Squared Deviation (NRMSD) of less than or equal to 5 percent (%). It should be noted that changes made to one model during calibration were made to all three models, and that the final calibrated models were identical except for the assigned extraction/injection rates and the assigned boundary heads. The three calibrated models had a final NRMSD of 4% (Q4 2017), 5% (Q4 2018), and 5% (Q4 2019).

In order to perform the Q4 2020 capture analysis, the Kirtland AFB 2020 GWM model was updated with boundary conditions representing the Q4 2020 groundwater condition and with Q4 2020 extraction and injection rates. In addition, due to the continuously rising water table, a new layer was added between the elevations of 4,870 and 4,865 ft above mean sea level beginning in the updated Q2 2020 model version.

This new layer became model layer two and model layer one now extends from 4,905 to 4,870 ft above mean sea level. The distribution of lithology types in this layer was derived from the original lithology model and assigned the same lithology type Kh values as in the other model layers. The Q4 2020 version of the Kirtland AFB 2020 GWM model has a total of 48 layers. Figure I-7-1 shows a 2-dimensional plan view of the domain including the model boundary groundwater elevations and extraction locations, and rates for the Q4 2020 version of the Kirtland AFB 2020 GWM model.

Each side of the model domain has at least one gauged monitoring well to control the heads interpolated along its length. Time period groundwater measurements from distant U.S. Geological Survey monitoring wells, Jerry Cline C, Montessa Park B, and Del Sol Divider 3 were also used to define the groundwater levels coming into the model domain. Finally, the interpolated regional flow field included an estimate of the drawdown being created by extraction at the nearby Ridgecrest wellfield. The drawdown associated with Ridgecrest wells 1, 2, and 3 was estimated through a linear continuation of the observed water level drop between U.S. Geological Survey monitoring wells Del Sol Divider 3 and Trumbull 1A, extrapolated to the locations of the three Ridgecrest wells.

The modeling site is located in a semiarid climate region. The average annual precipitation recorded at the National Oceanic and Atmospheric Administration Albuquerque International Airport station for 1932 through 2019 is 8.7 inches per year (National Centers for Environmental Information, 2020). The annual evapotranspiration (ET) rate for non-irrigated ground in Albuquerque was estimated at 33.5 inches per year (Goetz and Shelton, 1990). Analysis of the average monthly precipitation and ET for the region from these sources shows that ET exceeds precipitation year-round. Therefore, no areal recharge is assigned to the model and it is assumed that all water enters the model through the exterior boundaries or through injection wells. The flux of water across the model boundaries is controlled by the assigned boundary constant head values and the Kh value assigned to boundary elements.

Figure I-7-1 also shows the model simulated non-extraction flow-field, with particle tracks, for Q4 2020. As a starting condition for the simulation, the head values defining the regional flow-field assigned to the model boundary represent an estimate of the flow-field across the model domain with no operating extraction wells. Once interim measure extraction is activated in the model, the assigned regional flow-field only controls simulated heads along the model boundary while the flow-field varies within the model domain in response to the assigned extraction rates.

Analysis of the interim measure extraction record showed that, for the 5 days prior to Q4 2020 gauging, KAFB-106228, KAFB-106233, KAFB-106234, and KAFB-106239 were operational at greater than 95% of capacity. The average extraction rate for the 5 days prior to the Q4 2020 gauging event was calculated from measured daily extraction volumes and assigned to each well. Table I-7-2 lists the details of the flow model assigned extraction and injection wells for the Q4 2020 simulation.

With no other model modifications other than the evaluation period updates described above, the model was able to simulate Q4 2020 groundwater conditions with the same level of accuracy as achieved for the three calibration time periods. Comparing the residuals between simulated and measured head at 186 gauged wells within the model domain resulted in an NRMSD of 5% for Q4 2020 conditions. Figure I-7-2 shows a plot of simulated versus measured heads at all 186 Q4 2020 gauged monitoring wells. The groundwater levels residual changes (or has a range) from -1.25 to 1.0 ft.

Figure I-7-3 shows the Q4 2020 simulated flow-field and the location of each Q4 2020 gauged well, which are color coded to represent whether the simulated head residual at that location is within the acceptable range of +/- 1.12 ft (green), or above (orange) or below (blue) the range. The figure shows that the simulated head at 179 out of 186 gauged wells (96%) is within the acceptable range. Simulated heads at the seven remaining well locations are below the acceptable range, but by no more than 0.2 ft. The fit

to observed data statistics for the Q4 2020 simulation are listed in Table I-7-3. In addition to the simulation having an NRMSD of less than 10%, Figure I-7-3 shows that there is no spatial grouping of simulated heads outside of the acceptable range. The calculated mean of the residuals (mean of the residuals in Table I-7-3) value of -0.3 indicates that the simulation has a slight bias toward overestimating heads across the model domain.

The model is intended to be used as a supporting line of evidence as part of performance assessment every Q2 and Q4. For each assessment period, the model will be updated, further refinements will be incorporated, and extraction and injection rates for all interim measure and water supply wells and updated with the most recent regional flow-field estimate. This biannual update is consistent with the iterative capture zone analysis process outlined in the EPA guidance.

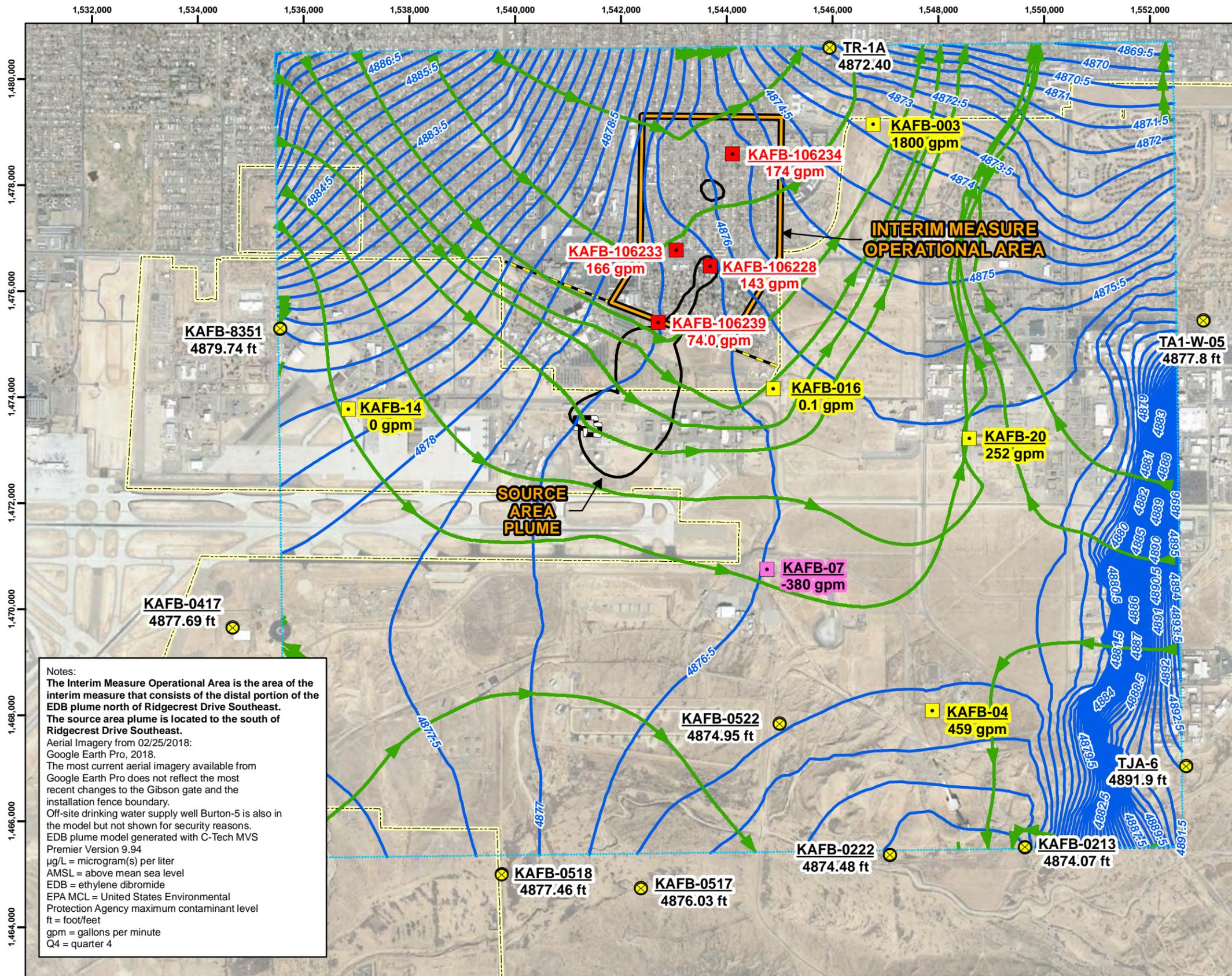
I-7.2. REFERENCES

- Connell, S.D., B.D. Allen, and J.W. Hawley. 1998. *Subsurface Stratigraphy of the Santa Fe Group from Borehole Geophysical Logs, Albuquerque Area, New Mexico*. New Mexico Geology, Volume 20, No. 1. February.
- Diersch, H.G. 2014. *FEFLOW – Finite Element Modeling of Flow, Mass and Heat Transport in Porous and Fractured Media*. Springer, 2014, Berlin Heidelberg, XXXV. 996 p.
- (U.S.) Environmental Protection Agency (EPA). 2008. *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems: Final Project Report*. EPA 600/R-08/003. pp. 166. January.
- Goetz, C.L. and S.G. Shelton. 1990. Infiltration and Evaporation within the Albuquerque, New Mexico, Area with a Section on Historical Water-Resource Trends during the 1954-80's Period of Urban Growth. *U.S. Geological Survey Water-Resources Investigations Report 90-4055*.
- Kirtland Air Force Base (AFB). 2016. *Aquifer Test Report for Groundwater Extraction Well KAFB-106228, Bulk Fuels Facility, Solid Waste Management Unit ST-106/SS-111, Kirtland Air Force Base, New Mexico*. Prepared by CB&I Federal Services for Kirtland AFB under USACE–Albuquerque District Contract No. W912DY-10-D-0014. July.
- Kirtland AFB. 2020. *Quarterly Monitoring Report October-December 2019 and Annual Report for 2019, Bulk Fuels Facility, SWMU ST-106/SS-111*. Prepared by EA Engineering, Science, and Technology, Inc., PBC for Kirtland AFB under USACE–Albuquerque District Contract No. W912DR-12-0006. March.
- National Centers for Environmental Information. 2020. Albuquerque International Airport, NM US, 1931-2020 Monthly Summaries: Accessed January 2020. At <https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USW00023050/detail>.
- New Mexico Environment Department (NMED). 2018. Correspondence from Mr. Juan Carlos Borrego, Deputy Secretary Environment Department, to Colonel Richard W. Gibbs, Base Commander, 377 ABW/CC, Kirtland AFB, New Mexico and Mr. Chris Segura, Chief, Installation Support Section, AFCEC/CZOW, Kirtland AFB, New Mexico, *re: Preliminary Groundwater Plume Capture Modeling, Bulk Fuels Facility, Solid Waste Management Unit ST-106/SS-111, Kirtland Air Force Base, New Mexico*. EPA ID No. NM9570024423, HWB-KAFB-13-MISC. April 23.
- U.S. Army Corps of Engineers (USACE). 2016. *Aquifer Test Report for Groundwater Extraction Well KAFB-106228, Bulk Fuels Facility, Solid Waste Management Unit ST-106/SS-111, Kirtland Air Force Base, New Mexico*. Prepared by CB&I Federal Services for the USACE–Albuquerque District under USACE Contract No. W912DY-10-D-0014. July.

FIGURES

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- Figure I-7-1 Groundwater Flow Model Domain, Key Features and Non-Extraction Flow Field, Q4 2020
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- Figure I-7-3 Groundwater Flow Model Simulated Q4 2020 Water Table and Distribution of Simulation Residuals



Notes:
 The Interim Measure Operational Area is the area of the interim measure that consists of the distal portion of the EDB plume north of Ridgcrest Drive Southeast. The source area plume is located to the south of Ridgcrest Drive Southeast.
 Aerial Imagery from 02/25/2018:
 Google Earth Pro, 2018.
 The most current aerial imagery available from Google Earth Pro does not reflect the most recent changes to the Gibson gate and the installation fence boundary.
 Off-site drinking water supply well Burton-5 is also in the model but not shown for security reasons.
 EDB plume model generated with C-Tech MVS Premier Version 9.94
 µg/L = microgram(s) per liter
 AMSL = above mean sea level
 EDB = ethylene dibromide
 EPA MCL = United States Environmental Protection Agency maximum contaminant level
 ft = foot/feet
 gpm = gallons per minute
 Q4 = quarter 4

Legend

- Model Assigned Interim Remedy Extraction Well (Extraction Rate)
- Model Assigned Injection Well (Injection Rate)
- Model Assigned Base Drinking Water Supply Well (Extraction Rate)
- ⊗ Groundwater Monitoring Boundary Well (groundwater elevation - ft AMSL)
- Constant Head Boundary Assignment
- ➔ Pre-Extraction Particle Track (Flow Direction)
- Pre-Extraction Potentiometric Surface Contours (ft AMSL)
- ⊗ EDB Plume with Concentration > 0.05 µg/L (EPA MCL) The depicted boundary represents the 0.05 µg/L concentration contour
- Target Capture Zone Boundary
- Installation Fence Boundary
- ▭ Interim Measure Operational Area
- ▭ Source Area

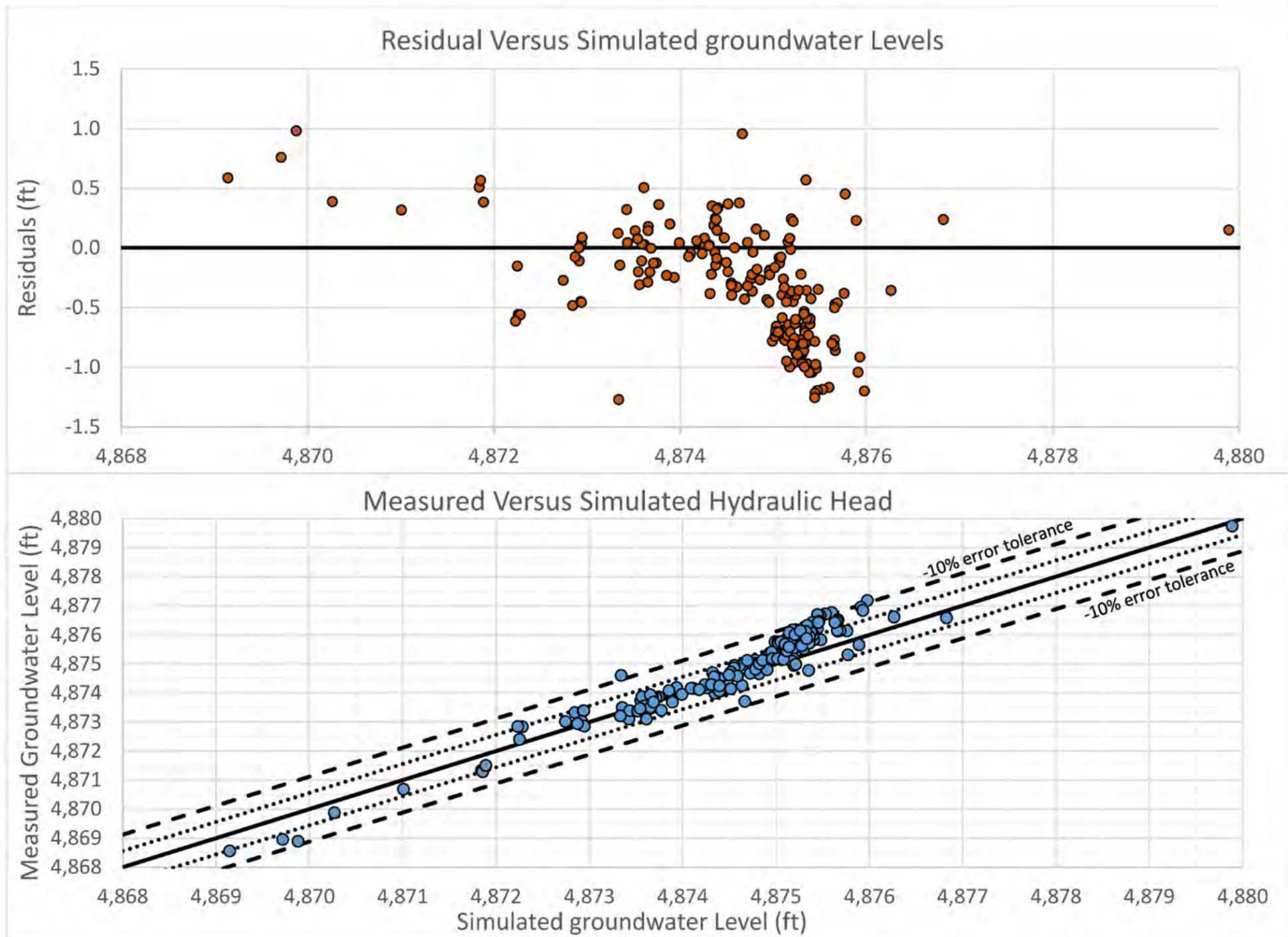
0 1,000 2,000 4,000
Feet

Projection: NAD83 State Plane New Mexico Central FIPS3002 Feet

PERIODIC MONITORING REPORT
 OCTOBER - DECEMBER 2020
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE I-7-1

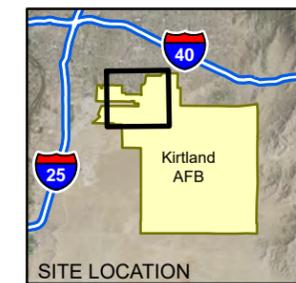
GROUNDWATER FLOW MODEL DOMAIN, KEY FEATURES AND NON-EXTRACTION FLOW FIELD, Q4 2020



Legend

- Residual Groundwater Level
- Measured Hydraulic Head

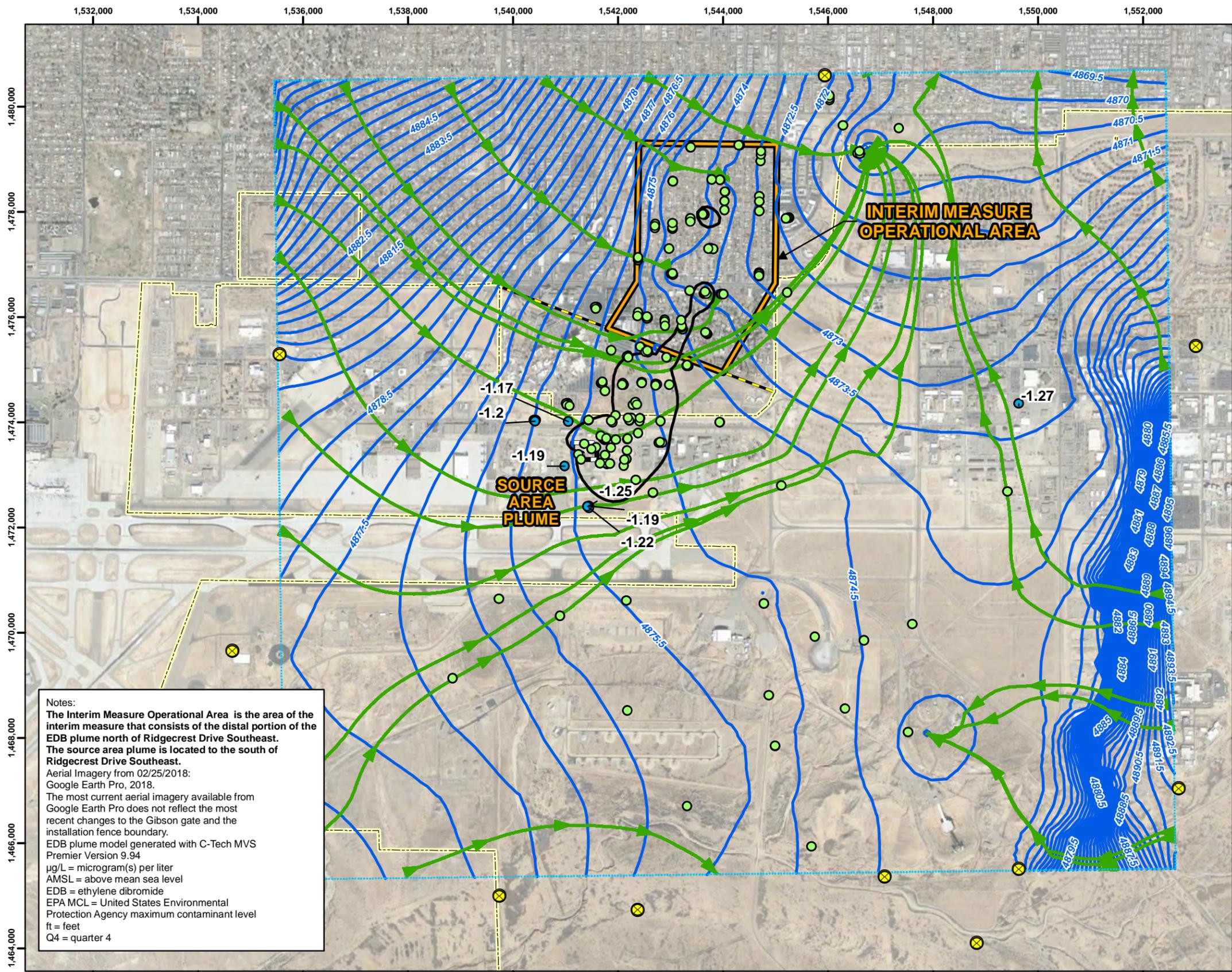
Notes:
 AMSL = above mean sea level
 ft = foot/feet
 Q4 = quarter 4



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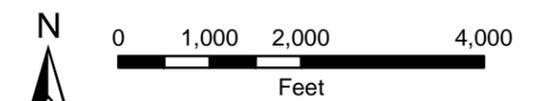
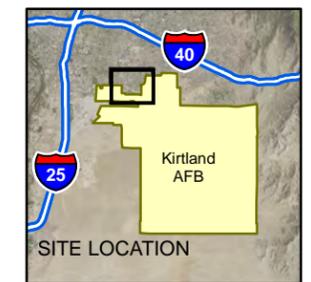
FIGURE I-7-2

Q4 2020 NUMERICAL MODEL GOODNESS
 OF FIT RESULTS – SIMULATED VS
 MEASURED GROUNDWATER LEVELS



- Legend**
- Groundwater Monitoring Boundary Well
 - Residual Below Calibration Target Range
 - Residual Within Calibration Target Range
 - Post-Extraction Potentiometric Surface Contours
 - Post-Extraction Particle Track (Flow Direction)
 - Constant Head Boundary Assignment
 - EDB Plume with Concentration > 0.05 µg/L (EPA MCL) The depicted boundary represents the 0.05 µg/L concentration contour
 - Target Capture Zone Boundary
 - Installation Fence Boundary
 - Interim Measure Operational Area
 - Source Area

-1.27 Residual Value



Projection: NAD83 State Plane New Mexico Central FIPS3002 Feet

PERIODIC MONITORING REPORT
 OCTOBER - DECEMBER 2020
 BULK FUELS FACILITY
 SOLID WASTE MANAGEMENT UNITS ST-106/SS-111
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE I-7-3

GROUNDWATER FLOW MODEL SIMULATED Q4
 2020 WATER-TABLE AND DISTRIBUTION OF
 SIMULATION RESIDUALS

Notes:
 The Interim Measure Operational Area is the area of the interim measure that consists of the distal portion of the EDB plume north of Ridgecrest Drive Southeast.
 The source area plume is located to the south of Ridgecrest Drive Southeast.
 Aerial Imagery from 02/25/2018:
 Google Earth Pro, 2018.
 The most current aerial imagery available from Google Earth Pro does not reflect the most recent changes to the Gibson gate and the installation fence boundary.
 EDB plume model generated with C-Tech MVS Premier Version 9.94
 µg/L = microgram(s) per liter
 AMSL = above mean sea level
 EDB = ethylene dibromide
 EPA MCL = United States Environmental Protection Agency maximum contaminant level
 ft = feet
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- Table I-7-2 Summary of Q4 2020 Model Well Assignments
- Table I-7-3 Groundwater Flow Model Simulation Fit to Observed Data Statistics, Q4 2020

**Table I-7-1
Summary of Hydraulic Conductivity Assignments**

Lithology Zone	Particle Size Range^a (mm)	Kh Estimation Equation^b	Range of Equation Calculated Kh (ft/day)	Average Kh Using Median Grain-Size (ft/day)	Assigned Kh (ft/day)
Clay (CL)	.00006 - 0.0039	Hazen	0.002-0.03	0.01	0.01
		Beyer	0.005-0.08	0.03	
		Wang (eq15)	-	-	
Silty-Clayey Sand (SM)	0.00006 - 0.0625	Hazen	0.002-8	1.1	1.5
		Beyer	0.001-10	1.7	
		Wang (eq15)	0.002-8	1.5	
Very Fine Sand (VFS)	0.0625 - 0.125	Hazen	8-32	18	35
		Beyer	11-79	35	
		Wang (eq15)	9-102	37	
Fine Sand (FS)	0.125 - 0.25	Hazen	32-128	72	148
		Beyer	53-316	148	
		Wang (eq15)	35-248	109	
Medium Sand (MS)	0.25 - 0.50	Hazen	128-511	287	632
		Beyer	246-1,264	632	
		Wang (eq15)	138-710	357	
Coarse Sand (CS)	0.50 - 1.00	Hazen	511-2,043	1149	2,686
		Beyer	1,123-5,058	2686	
		Wang (eq15)	553-2,213	1236	

^a Particle Size Range from Wentworth, C.K. 1922. *A Scale of Grade and Class Terms for Clastic Sediments*. The Journal of Geology 30, No. 5. July-August.

^b Description of each equation can be found in Wang, J., B. Francois, and P. Lambert. 2017. *Equations for hydraulic conductivity estimation from particle size distribution: A dimensional analysis*. Water Resources Research. September.

- = none given

eq15 = equation 15

ft = foot (feet)

Kh = hydraulic conductivity

mm = millimeter

**Table I-7-2
Summary of Q4 2020 Model Well Assignments**

Location ID	Model Assignments					Well Completion Information					
	Extraction & Injection Rate ^a (gpm)	Well Radius (in)	Top of Screen Elevation (ft)	Bottom Of Screen Elevation (ft)	Model Layer	Ground Surface Elevation (ft)	Depth to Screen Top (ft)	Depth to Screen Bottom (ft)	Screen Interval (ft)	Pump Capacity (gpm)	Percent of Screen Interval Above A2 ^b
KAFB-3 ^c	1,800	7	4,905	4,460	1 - 48	5,357	452	900	448	Unknown	100%
KAFB-4	459	7	4,865	4,365	2 - 48	5,364	494	1000	506	650	100%
KAFB-7 ^d	-380	8	4,900	4,496	1; 21-48	5,352	452	950	374	NA	100%
KAFB-14 ^g	0.0	8	4,905	0	1 - 17	5,324	380	1,000	620	1,500	14%
KAFB-16	0.1	9	4,660	4,640	38 - 39	5,369	710	1,400	690	2,500	3%
KAFB-20 ^e	252	10	4,680	4,560	36 - 47	5,390	710	1,180	380	1,400	50%
KAFB-106228 ^f	143	4	4,882	4,782	1 - 19	5,322	440	540	100	150	100%
KAFB-106233 ^f	166	4	4,884	4,782	1 - 19	5,314	430	532	102	175	100%
KAFB-106234 ^f	174	4	4,886	4,786	1 - 18	5,326	440	540	100	175	100%
KAFB-106239 ^f	74	4	4,863	4,761	3 - 23	5,333	470	573	103	75	100%
Burton-5	23	7	4,731	4,710	30 - 32	5,343	590	990	360	750	3%

^a Negative extraction rate indicates injection.

^b A2 is the uppermost confining unit in the aquifer (AECOM, 2015).

^c KAFB-3 penetrates but is not screened below A2.

^d KAFB-7 has two open intervals (16, 372 ft) totaling 388 ft separated by 110 ft of blank liner.

^e KAFB-20 has three screen intervals (120, 80, 180 ft) totaling 380 ft broken by blank casing lengths of 30 and 60 ft.

^f Well was running at >95% of pump capacity before gauging.

^g Well was inactive during the evaluation period.

% = percent

ft = foot (feet)

gpm = gallon per minute

ID = identification

in = inch (inches)

NA = not applicable

AECOM, 2015. Regional Geology and Cross Sections. Technical Memorandum, AECOM December 17. 22 pp.

Q4 = fourth quarter

**Table I-7-3
Groundwater Flow Model Simulation Fit to Observed Data Statistics, Q4 2020**

Gauged Wells	Observed Head (ft AMSL) (NAVD88)				Calibration Statistics									
	Count	Minimum	Maximum	Difference	10% Difference	RMSD	NRMSD	RSQ	Rmean	Maximum Residual	Minimum Residual	Residual Range	Residual StDev	SEM
	186	4,868.56	4,879.74	11.18	1.12	0.55	4.9%	0.932	-0.30	0.98	-1.27	2.25	0.46	0.03

% = percent

AMSL = above mean sea level

ft = foot (feet)

NAVD88 = North American Vertical Datum of 1988

NRMSD = normalized root mean square deviation

Q4 = fourth quarter

Rmean = mean of the residuals

RMSD = root mean square deviation

RSQ = coefficient of determination (R^2)

SEM = standard error of the mean

StDev = standard deviation

**Table J-1-1
Non-Hazardous GWM Liquid Investigation-Derived Waste Disposal in Q4 2020**

Collection Date	Well ID or Waste Generation Location	Container Type ^a	Number of Containers	Estimated Volume (Gallons)	Discharge Date	Effluent Discharge Location
10/1/2020	Consolidated Drum #1	Poly Drum	1	45	12/2/2020	Golf Course
10/2/2020	Consolidated Drum #2	Poly Drum	1	47	12/2/2020	Golf Course
10/5/2020	106007, 038, 039	Poly Drum	1	49.5	12/2/2020	Golf Course
10/6/2020	106082, 083, 084	Poly Drum	1	54.5	12/2/2020	Golf Course
10/6/2020	106015, 016	Pail	1	5	12/2/2020	Golf Course
10/6/2020	106003, VA-2	Pail	1	2	12/2/2020	Golf Course
10/7/2020	106040, 095, 096	Poly Drum	1	54	12/2/2020	Golf Course
10/12/2020	106077, 093, 009	Poly Drum	1	53	12/2/2020	Golf Course
10/12/2020	106095, 074, 073	Poly Drum	1	54	12/2/2020	Golf Course
10/13/2020	003, 013, 098, 097	Poly Drum	1	54	12/2/2020	Golf Course
10/15/2020	Consolidated Drum #4	Jerrican	1	0.5	12/2/2020	Golf Course
10/14/2020	101, 004, 100, 049	Poly Drum	1	40	12/2/2020	Golf Course
10/15/2020	102, 098, 081	Poly Drum	1	40	12/2/2020	Golf Course
10/23/2020	060, 024, 075	Poly Drum	1	25	12/2/2020	Golf Course
10/20/2020	062, 046, 078, 047	Poly Drum	1	40	12/2/2020	Golf Course
10/16/2020	061, 066, 009, 068	Poly Drum	1	54	12/2/2020	Golf Course
11/3/2020	015, 003, 016, VA-2	Pail	1	4	12/2/2020	Golf Course
12/1/2020	015, 016, 003, VA-2	Pail	1	2	12/2/2020	Golf Course

Total 623.5

Pail = 5-gallon plastic bucket with press-on plastic cover

Poly Drum = 55-gallon plastic drum sealed with plastic cover and locking-ring steel collar

Jerrican = 5-gallon plastic container with threaded cap

GWM = groundwater monitoring

ID = identification

Q4 = fourth quarter

**Table J-1-2
Non-Hazardous Liquid IDW Disposal from Other Sources in Q4 2020***

Collection Date	Well ID or Waste Generation Location	Container Type^a	Number of Containers	Estimated Volume (Gallons)	Discharge Date	Effluent Discharge Location	Manifest Number
NA	None	NA	NA	NA	NA	NA	NA
			Total	0			

*There were no waste in this category disposed in Q4 2020

^a Container types are described as follows:

Pail = 5-gallon plastic bucket with press-on plastic cover

Poly Drum = 55-gallon plastic drum sealed with plastic cover and locking-ring steel collar

ID = Identification

IDW = Investigation Derived Waste

NA = not applicable

Q4 = fourth quarter

**Table J-1-3
Non-Hazardous Liquid Investigation-Derived Waste Pending Disposal, Q4 2020**

Collection Date	Well ID	Container Type	Number of Containers^a	Estimated Volume (Gallons)	Anticipated Disposal Location
NA	None	NA	0	0	NA
			Total	0	

^a No waste pending disposal in this category as of the end of Q4 2020.

ID = identification

NA = not applicable

Q4 = third quarter

**Table J-1-4
Non-Hazardous Liquid Investigation-Derived Waste Pending Analysis, Q4 2020**

Collection Date	Source	Container Type	Number of Containers	Estimated Volume (Gallons)	Anticipated Disposal Location
10/15/2020	Consolidated #3	Jerrican	1	2	GWTS
10/15/2020	Consolidated #5	Jerrican	1	3	GWTS
10/19/2020	106094	Poly Drum	1	10	GWTS
10/28/2020	106018	Poly Drum	1	20	GWTS
10/29/2020	106014	Poly Drum	1	22	GWTS
10/30/2020	106079	Poly Drum	1	12	GWTS
10/30/2020	106001	Poly Drum	1	10	GWTS
10/30/2020	106076	Poly Drum	1	14	GWTS
10/29/2020	106006	Poly Drum	1	10.5	GWTS
10/29/2020	106020	Poly Drum	1	24	GWTS
10/19/2020	106065	Poly Drum	1	5	GWTS
10/19/2020	106067, 017	Poly Drum	1	28	GWTS
11/24/2020	106080, ER204-04	Poly Drum	1	18	GWTS
			Total	178.5	

Poly Drum = 55-gallon plastic drum sealed with plastic cover and locking-ring steel collar

Jerrican = 5-gallon plastic container with threaded cap

Q4 = fourth quarter

**Table J-1-5
Non-Hazardous Liquid Drilling Investigation-Derived Waste Disposal in Q4 2020***

Collection Date	Well ID	Container Type	Number of Containers	Estimated Volume (Gallons)	Discharge Date	Effluent Discharge Location
NA	NA	NA	NA	0.0	NA	NA
			Total	0		

*There were no waste in this category disposed in Q4 2020.

ID = identification

NA = not applicable

Q4 = fourth quarter

**Table J-2-1
Non-Hazardous Solid Waste Disposal in Q4 2020**

Collection Date^a	Well ID	Matrix	Container Type	Number of Containers	Estimated Volume^a (cubic yards)	Disposal Date	Transporter	Disposal Location	Manifest Number
NA	None	NA	NA	0	0	NA	NA	NA	NA
				Total	0				

^a There was no waste in the category disposed in Q4 2020.

ID = identification

NA = not applicable

Q4 = fourth quarter

Table J-2-2a
Non-Hazardous Drilling Solid Investigation-Derived Waste Generated/Disposed, Q4 2020

IDW Yard Entry Date	EA Container ID	Matrix	Container Type	Estimated Volume (cubic yards)	Disposal Date	Transporter	Disposal Location	Manifest Number
11/18/2020	106V3-01	soil	20 yd bin	12	tbd	tbd	tbd	tbd
11/22/2020	106S10A-01	soil	20 yd bin	12	tbd	tbd	tbd	tbd
12/11/2020	106S10A-02	soil	20 yd bin	16	tbd	tbd	tbd	tbd
Total				40				

Table J-2-2b
Non-Hazardous Drilling Solid Special Waste Disposal, Q4 2020

IDW Yard Entry Date	EA Container ID	Matrix	Container Type	Estimated Volume ^a (cubic yards)	Disposal Date	Transporter	Disposal Location	Manifest Number
NA	NA	NA	NA	0	NA	NA	NA	NA
Total				0				

^a There was no waste generated or disposed of in this category in Q4 2020.
 IDW = investigation derived waste
 ID = identification
 NA = not applicable
 tbd = to be determined
 Q4 = fourth quarter

**Table J-3-1
Hazardous Waste Disposal, Q4 2020***

90-Day Entry Date	90-Day Deadline	Well Location/ Drum ID	Matrix	Source	Container Type ^a	Estimated Volume (gallons)	Disposal Date	Transporter	Disposal Facility	Manifest Number	Notes
NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA
Total						0					

* There were no waste in this category disposed in Q4 2020.

^a Container types are described as follows:

Jerrican = 5-gallon plastic container with threaded cap

Steel Drum = 55-gallon steel, open top drum sealed with steel cover and locking-ring steel collar

ID = Identification

NA = Not applicable

Q4 = fourth quarter

**Table J-3-2
Hazardous Waste Pending Disposal, Q4 2020**

90-Day Entry Date	90-Day Deadline	Drum ID	Matrix	Source	Container Type ^a	Estimated Volume (gallons)	Status	Disposal Date
10/22/2020	1/19/2021	106008	Water	GWM	Steel Drum	40	Pending Disposal	tbd
10/22/2020	1/19/2020	CD #6			Jerrican			
10/23/2020	1/20/2020	106005, 059			Jerrican			
10/22/2020	1/19/2020	106010	Water	GWM	Steel Drum	20.5	Pending Disposal	tbd
10/22/2020	1/19/2020	106028	Water	GWM	Steel Drum	22.5	Pending Disposal	tbd
10/23/2020	1/20/2020	106059	Water	GWM	Steel Drum	25	Pending Disposal	tbd
10/23/2020	1/20/2020	106005	Water	GWM	Steel Drum	23.5	Pending Disposal	tbd
12/16/2020	3/15/2021	KAFB-106S10-03	DW	MWD	Steel Drum	45	Pending Analysis ^b	tbd
12/16/2020	3/15/2021	KAFB-106S10-03	DW	MWD	Steel Drum	45	Pending Analysis ^b	tbd
12/16/2020	3/15/2021	KAFB-106S10-03	DW	MWD	Steel Drum	3	Pending Analysis ^b	tbd
12/24/2020	3/23/2021	KAFB-106S10 1 of 3	DW	MWD	Steel Drum	50	Pending Analysis ^b	tbd
12/24/2020	3/23/2021	KAFB-106S10 2 of 3	DW	MWD	Steel Drum	50	Pending Analysis ^b	tbd
12/24/2020	3/23/2021	KAFB-106S10 3 of 3	DW	MWD	Steel Drum	20	Pending Analysis ^b	tbd
12/30/2020	3/29/2021	KAFB-106S10 -Final	DW	MWD	Steel Drum	52	Pending Analysis ^b	tbd
12/16/2020	3/15/2021	KAFB-S10-03	Soil	MWD	20-yd roll off	10yd	Pending Analysis ^b	tbd
12/16/2020	3/15/2021	KAFB-S10-04	Soil	MWD	20-yd roll off	16yd	Pending Analysis ^b	tbd
Total-Liquid (gal)						396.5		
Total-Soil (yd)						26		

Container Type^a

Steel Drum = 55-gallon steel, open-top drum sealed with steel cover and locking-ring collar

Jerrican = 5-gallon plastic container with threaded cap

Pending Analysis^b = Waste managed as hazardous pending analytical confirmation.

GWM = ground water monitoring

CD = consolidated drum

DW = well development water

ID = identification

MWD = monitoring well drilling

tbd = to be determined

Q4 = fourth quarter

**Table J-3-3
2020 Running Total of Hazardous Waste Disposal**

2020 Calendar Quarter	Calendar Months	Matrix	Source	Estimated Volume (gallons)	Transporter	Disposal Facility
Q1	January-March	Water	GWM	25	ACT	Advance Chemical Treatment, 6133 Edith Blvd NE, Albuquerque, NM 87112
Q2	April-June	Water	GWM	40	ACT	Advance Chemical Treatment, 6133 Edith Blvd NE, Albuquerque, NM 87112
Q3	July-September	Water and Water with sand	GWM and Well Rehabilitation	191	Clean Earth	Chemical Reclamation Services LLC 405 Powell St Avalon, TX 76623
Q4	October-December	NA	NA	0	NA	NA
2020 Running Total				256		

ACT = Advanced Chemical Treatment
 Blvd = boulevard
 GWM = Groundwater monitoring
 NA = not applicable
 NE = northeast
 NM = New Mexico
 Q1 = first quarter
 Q2 = second quarter
 Q3 = third quarter
 Q4 = fourth quarter
 TX = Texas