

Plantation Pipeline Gasoline Pipeline Release
Double Oak Mountain, AL
Preliminary Summary of Air Monitoring Results
August 26, 2014

Prepared by
Center for Toxicology and Environmental Health, L.L.C. (CTEH®)

Introduction

On August 23, 2014, Center for Toxicology and Environmental Health, LLC (CTEH®) was contacted by Plantation Pipeline to initiate air monitoring in support of response activities following a gasoline pipeline release in Double Oak Mountain, AL. Site monitoring consisted of manually-logged real-time monitoring as well as remote-telemetry monitoring.

This submittal summarizes air monitoring data for August 25, 2014 18:00 to August 26, 2014 17:00.

Real-time Air Monitoring

All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Manually-logged monitoring was conducted for benzene, percent of the Lower Explosive Limit (LEL), oxygen (O₂), and Volatile Organic Compounds (VOCs), with instruments such as RAESystems® MultiRAEs (MRs), and RAESystems® UltraRAEs. Table 1 summarizes data for manually-logged real-time readings in the Work Area.

Table 1: Work Area - Manually-Logged Real-Time Air Monitoring Summary¹
August 25, 2014 18:00 – August 26, 2014 17:00

Analyte	Instrument	Number of Readings	Number of Detections	Average of Detections	Concentration Range
Benzene	Gastec #121L	1	0	NA	<0.05 ppm
	UltraRAE	41	14	0.43 ppm	0.05 - 1.25 ppm
LEL	MultiRAE Plus	5	0	NA	<1 %
O ₂	MultiRAE Plus	5	5	20.9 %	20.9 - 20.9 %
VOC	MultiRAE Plus	43	20	10.1 ppm	1.5 - 39.9 ppm

¹Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format.

²Maximum detections preceded by the "<" symbol are considered non-detects at or above reporting limit value to the right.

Remote-telemetry Air Monitoring

All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Remote-telemetry monitoring was conducted for percent of the Lower Explosive Limit (LEL) and Volatile Organic Compounds (VOCs) with RAESystems® AreaRAEs. Table 2 summarizes data for remote-telemetry data in the work area and Appendix B includes the remote-telemetry data graphs.

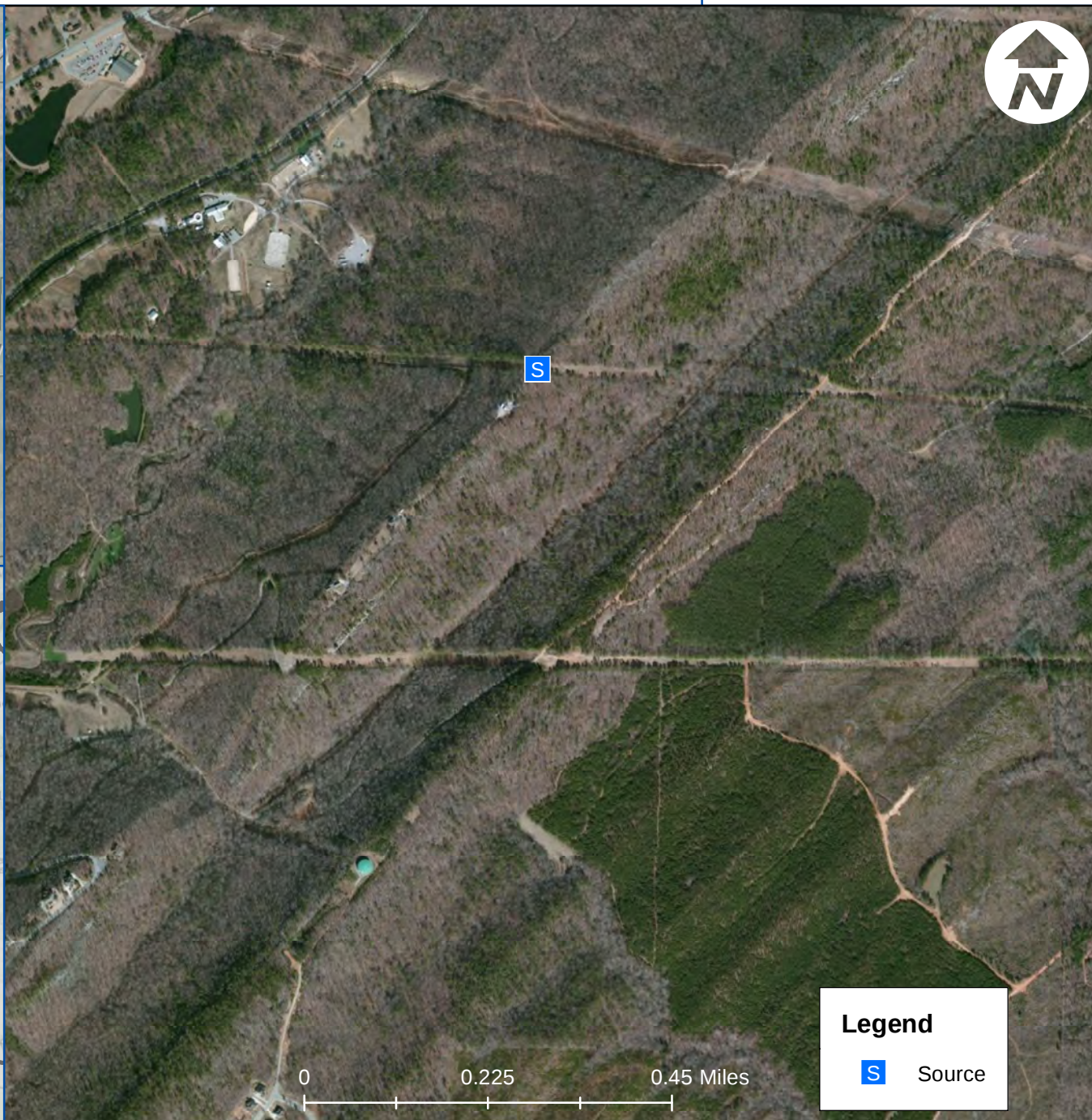
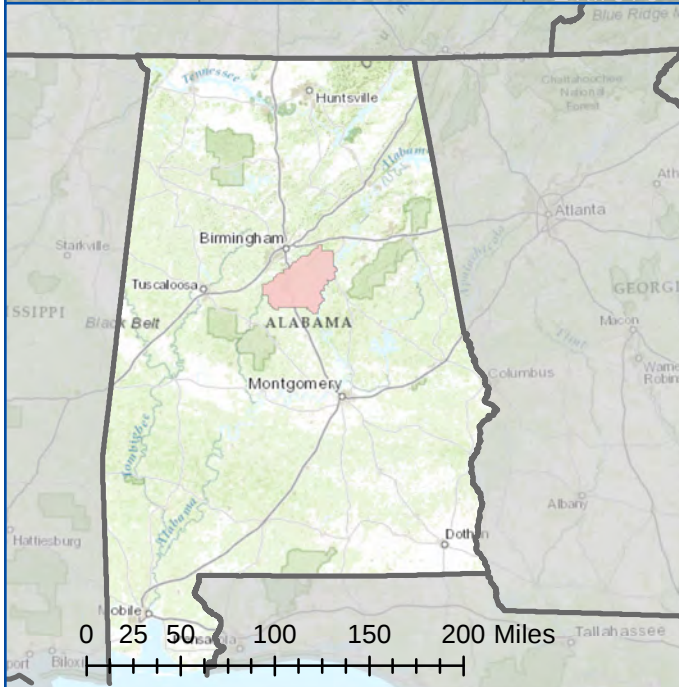
Table 2: Remote-telemetry Air Monitoring Summary¹
August 25, 2014 18:00 – August 26, 2014 17:00

Unit	Analyte	Number of Readings	Number of Detections	Average of Detections	Concentration Range
AR01	LEL	5059	0	NA	<1 %
8/25/2014 1800 - 8/26/2014 1659	VOC	5059	1332	2.5 ppm	0.1 - 13.7 ppm
AR02	LEL	1613	0	NA	<1 %
8/25/2014 1800 - 8/26/2014 0047	VOC	1613	1151	3.3 ppm	0.1 - 29.3 ppm
AR03	LEL	1516	0	NA	<1 %
8/25/2014 1800 - 8/26/2014 0025	VOC	1516	1244	4.3 ppm	0.1 - 51.1 ppm
AR04	LEL	1426	0	NA	<1 %
8/25/2014 1800 - 8/25/2014 2359	VOC	1426	10	0.9 ppm	0.1 - 4 ppm
AR05	LEL	3810	0	NA	<1 %
8/26/2014 0105 - 8/26/2014 1700	VOC	3810	2524	1.9 ppm	0.1 - 63.2 ppm
AR06	LEL	3869	0	NA	<1 %
8/26/2014 0049 - 8/26/2014 1700	VOC	3869	2455	5.3 ppm	0.1 - 42.4 ppm
AR07	LEL	3238	0	NA	<1 %
8/26/2014 0019 - 8/26/2014 1445	VOC	3238	2729	7.6 ppm	0.1 - 83.7 ppm

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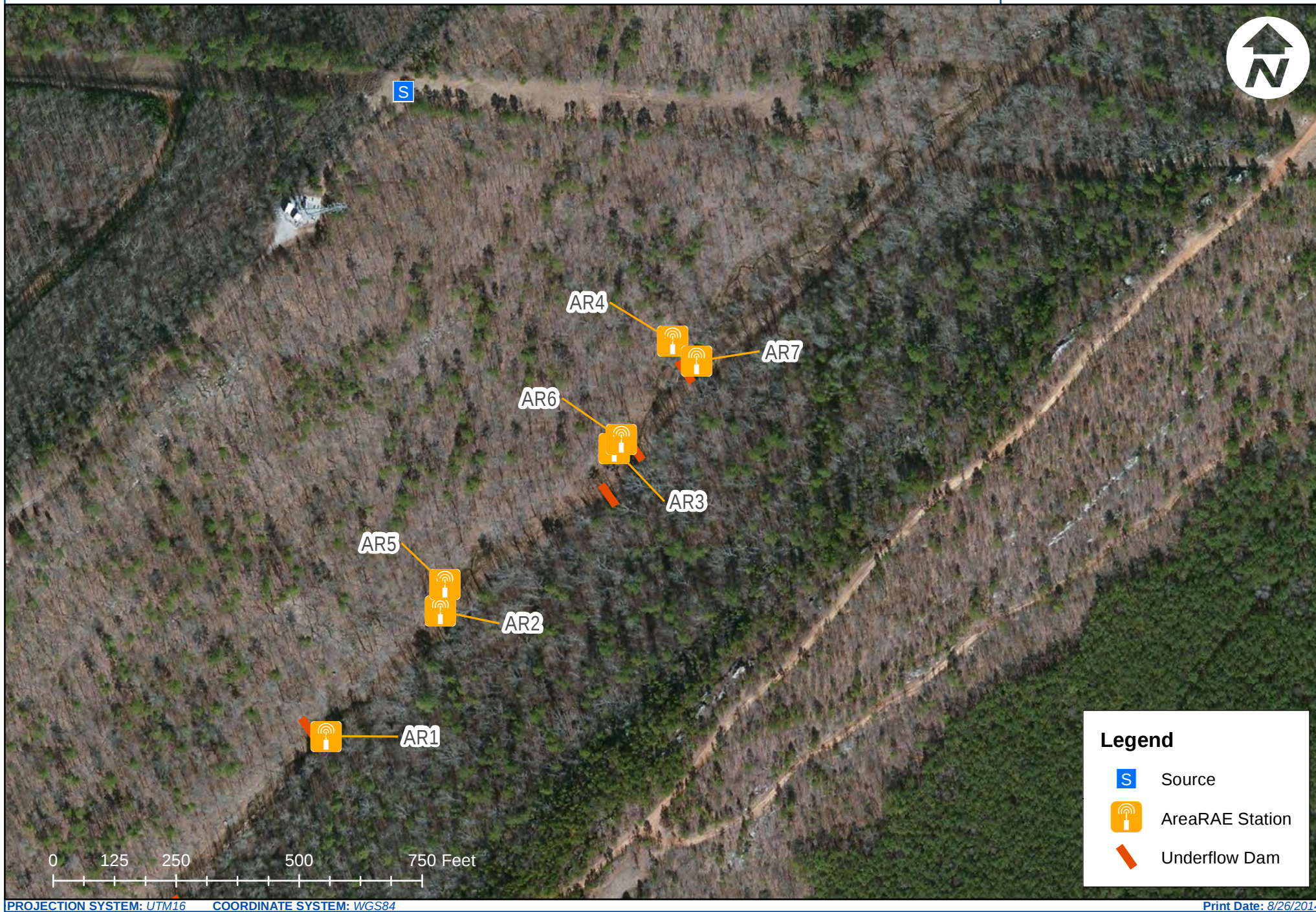
²Maximum detections preceded by the "<" symbol are considered non-detects at or above reporting limit value to the right.

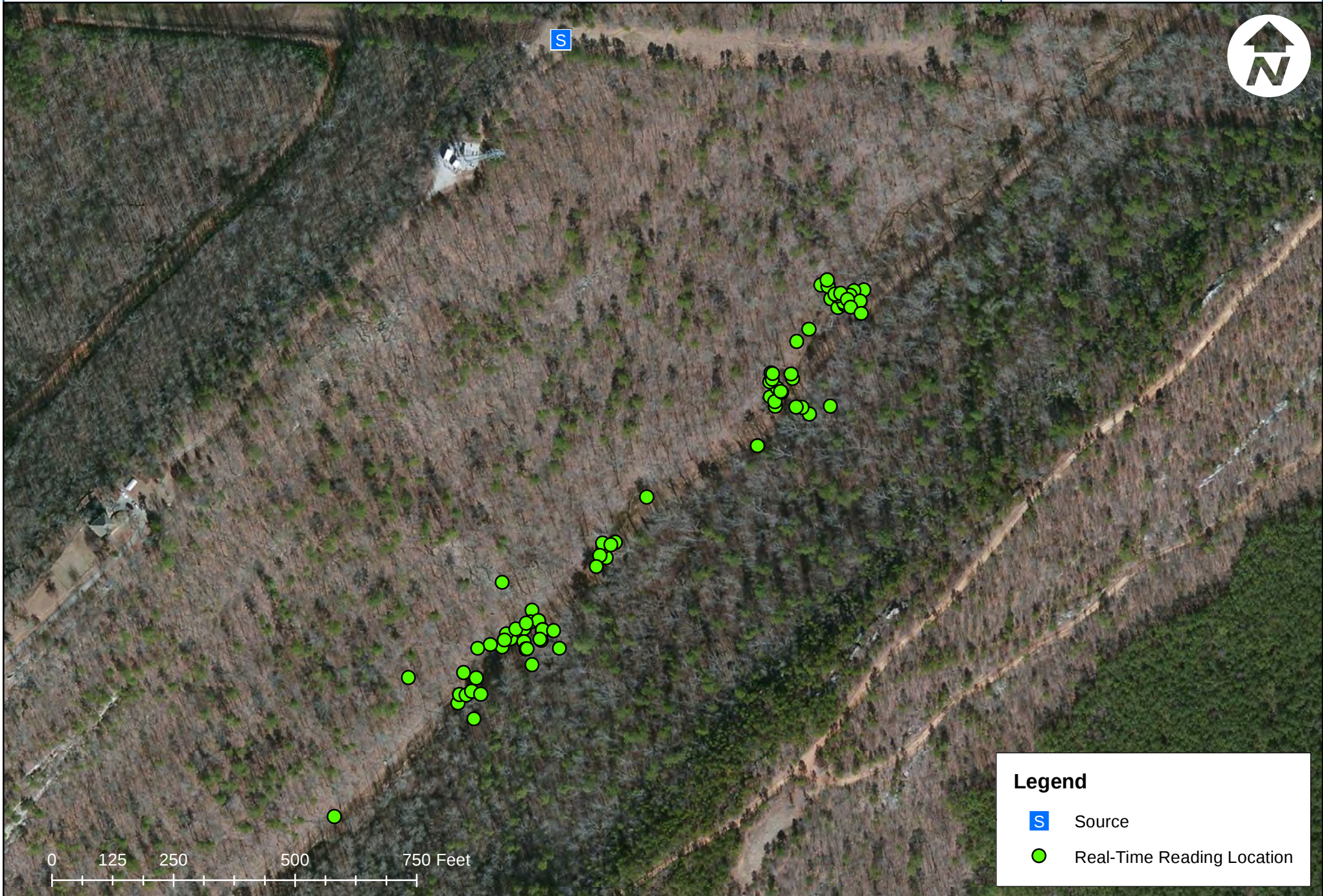
Appendix A: Incident Maps



Legend

S Source

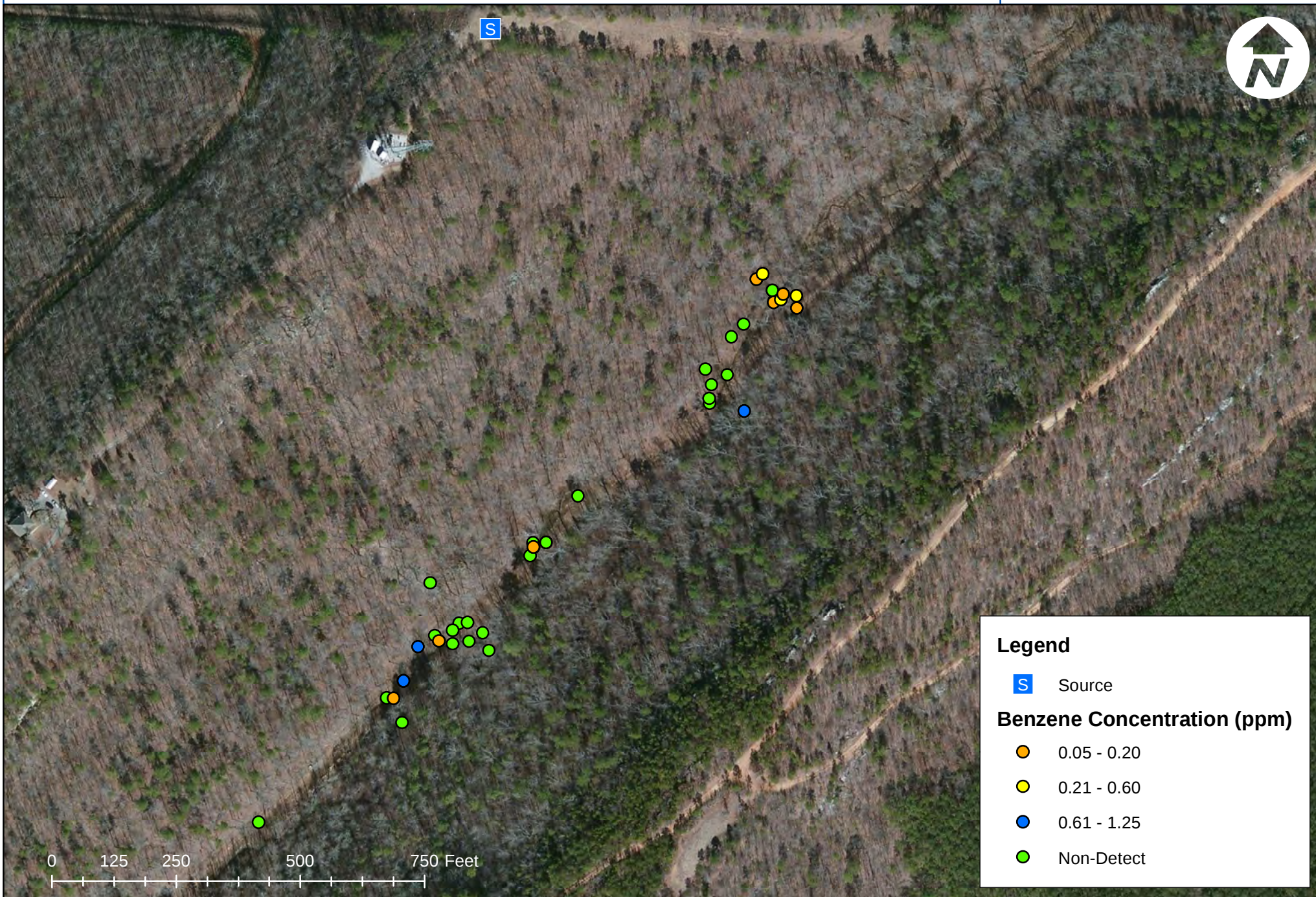


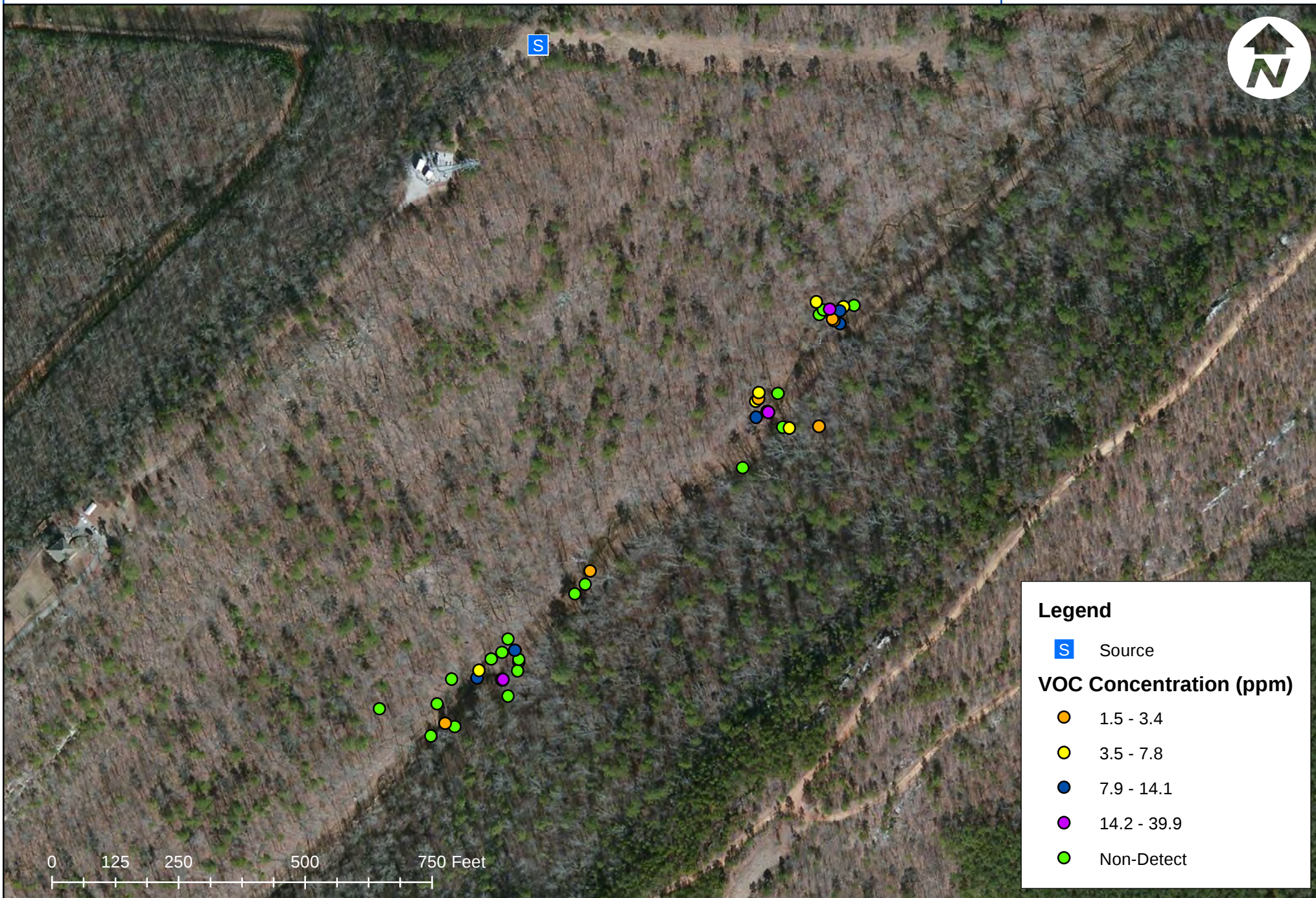


Legend

- S Source
- Real-Time Reading Location

0 125 250 500 750 Feet

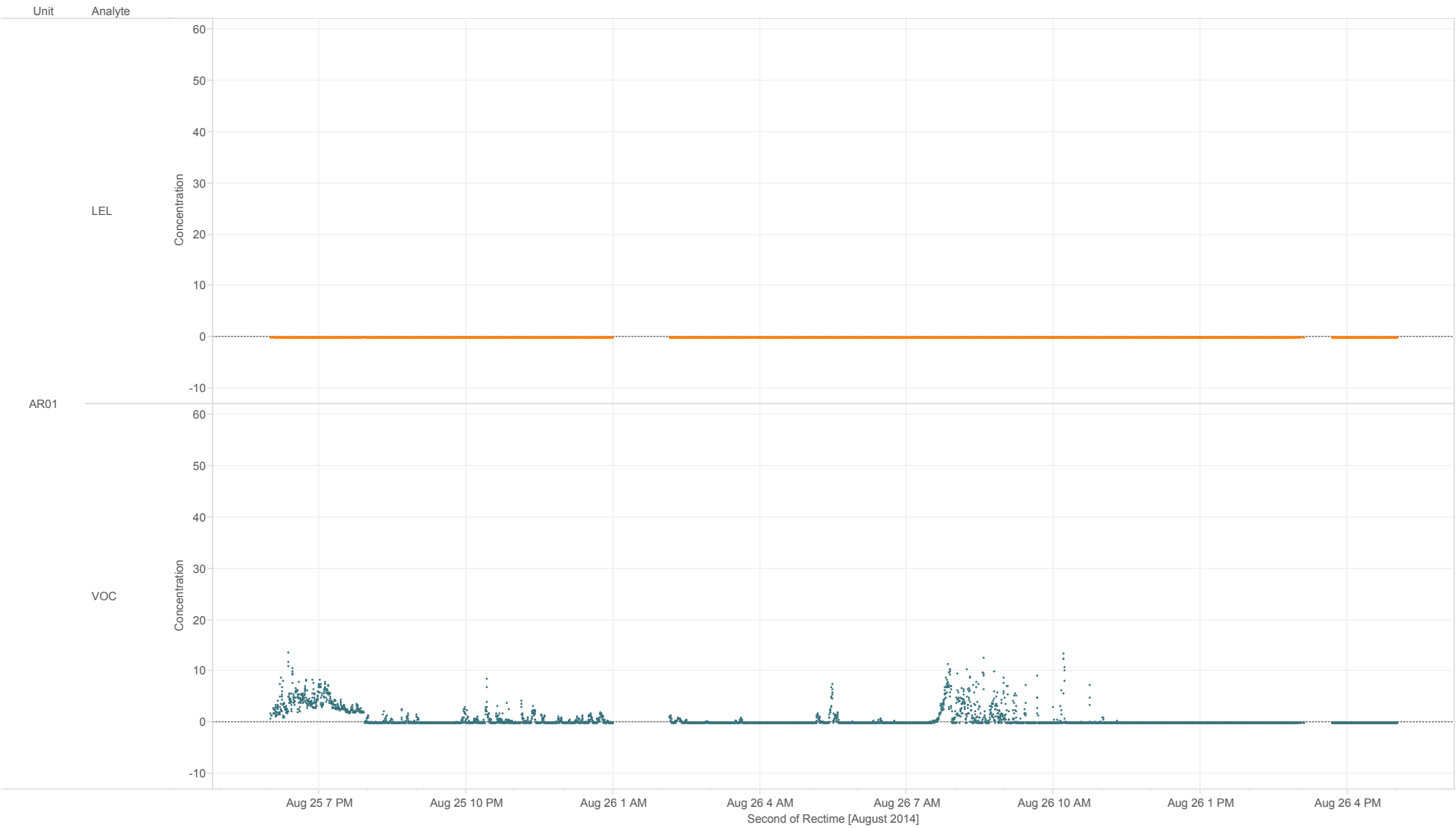




Appendix B:

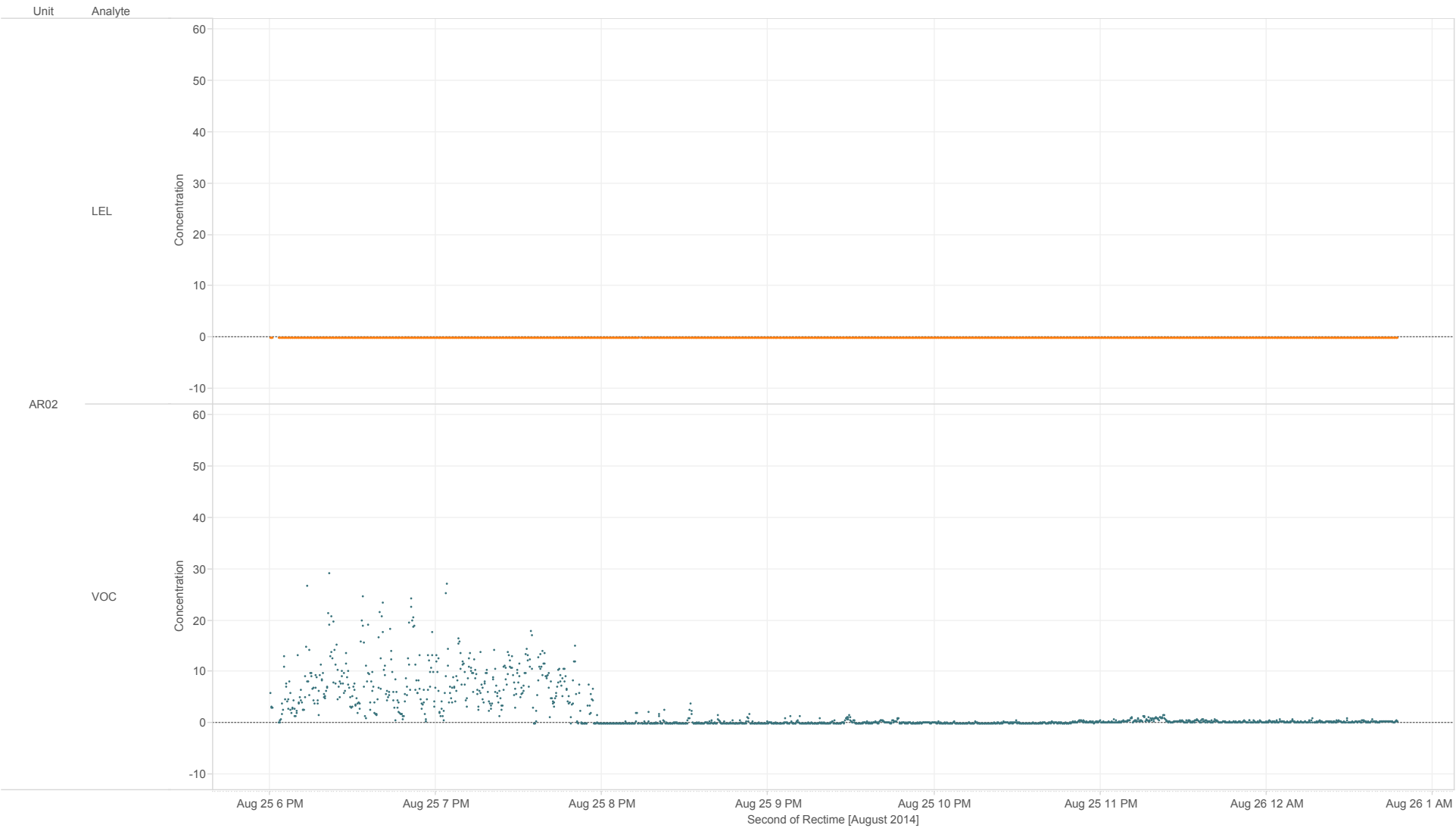
Remote-telemetry Air Monitoring Graphs

Remote-telemetry Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



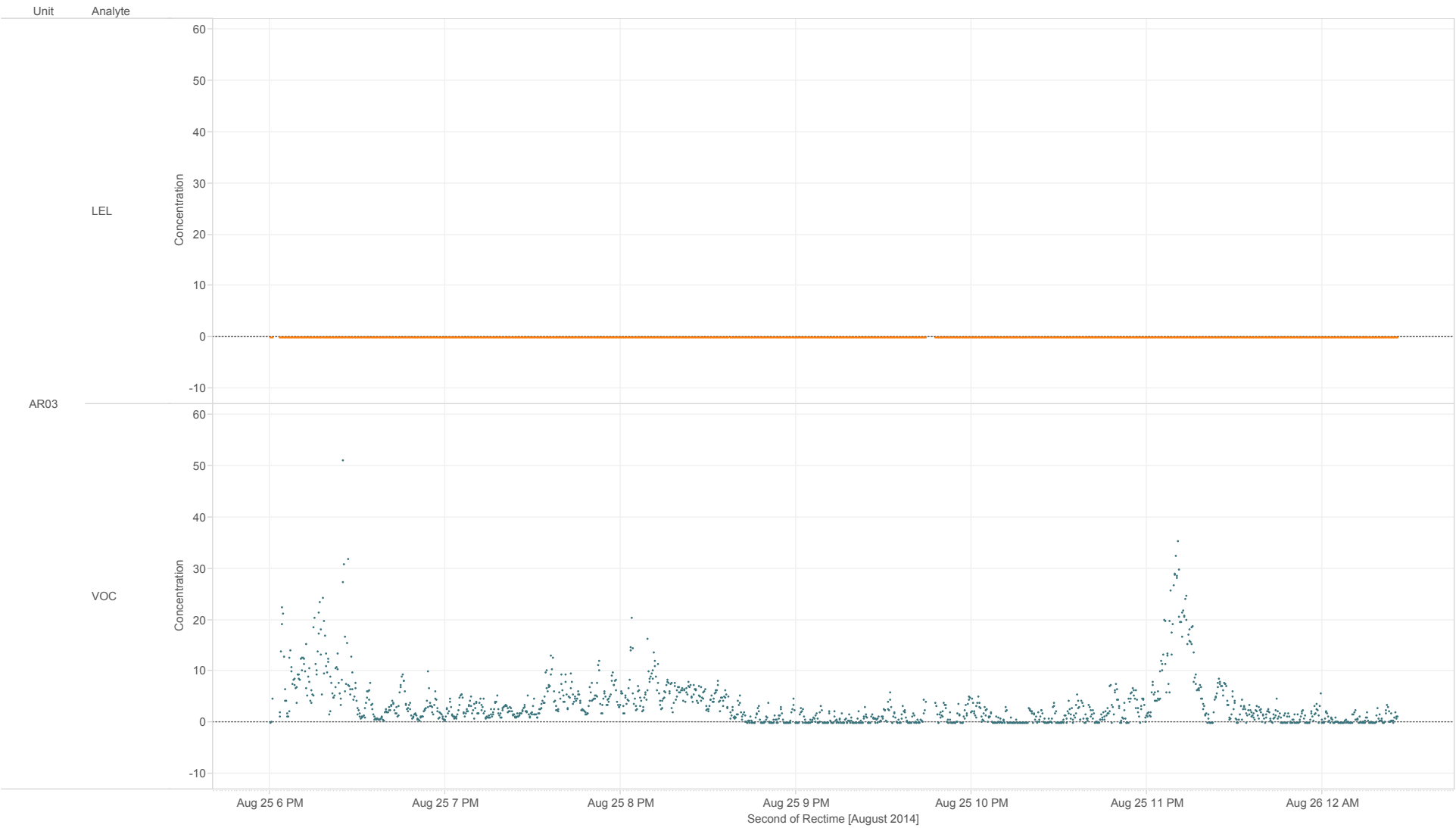
Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format

Remote-telemetry Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



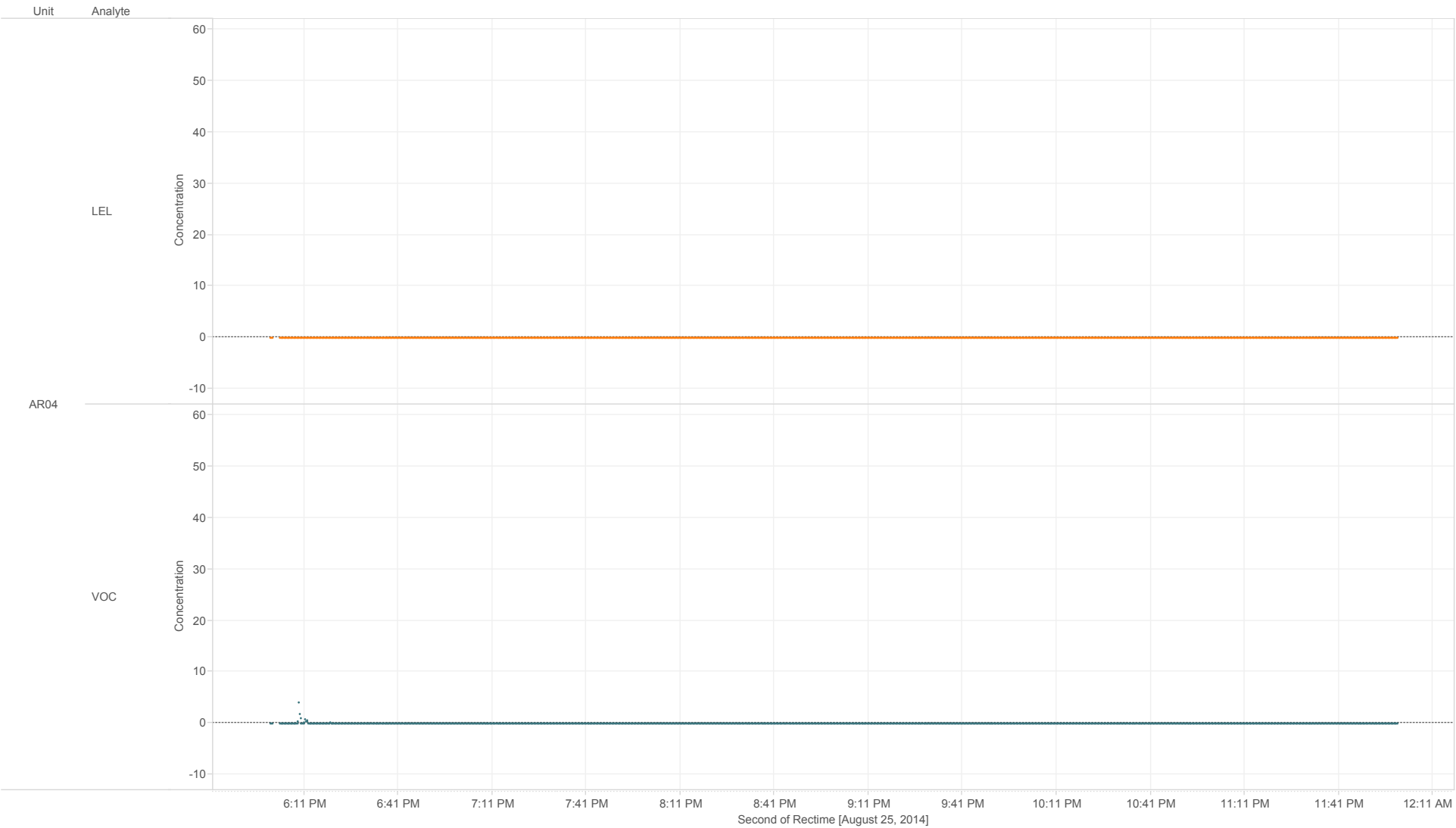
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Remote-telemetry Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



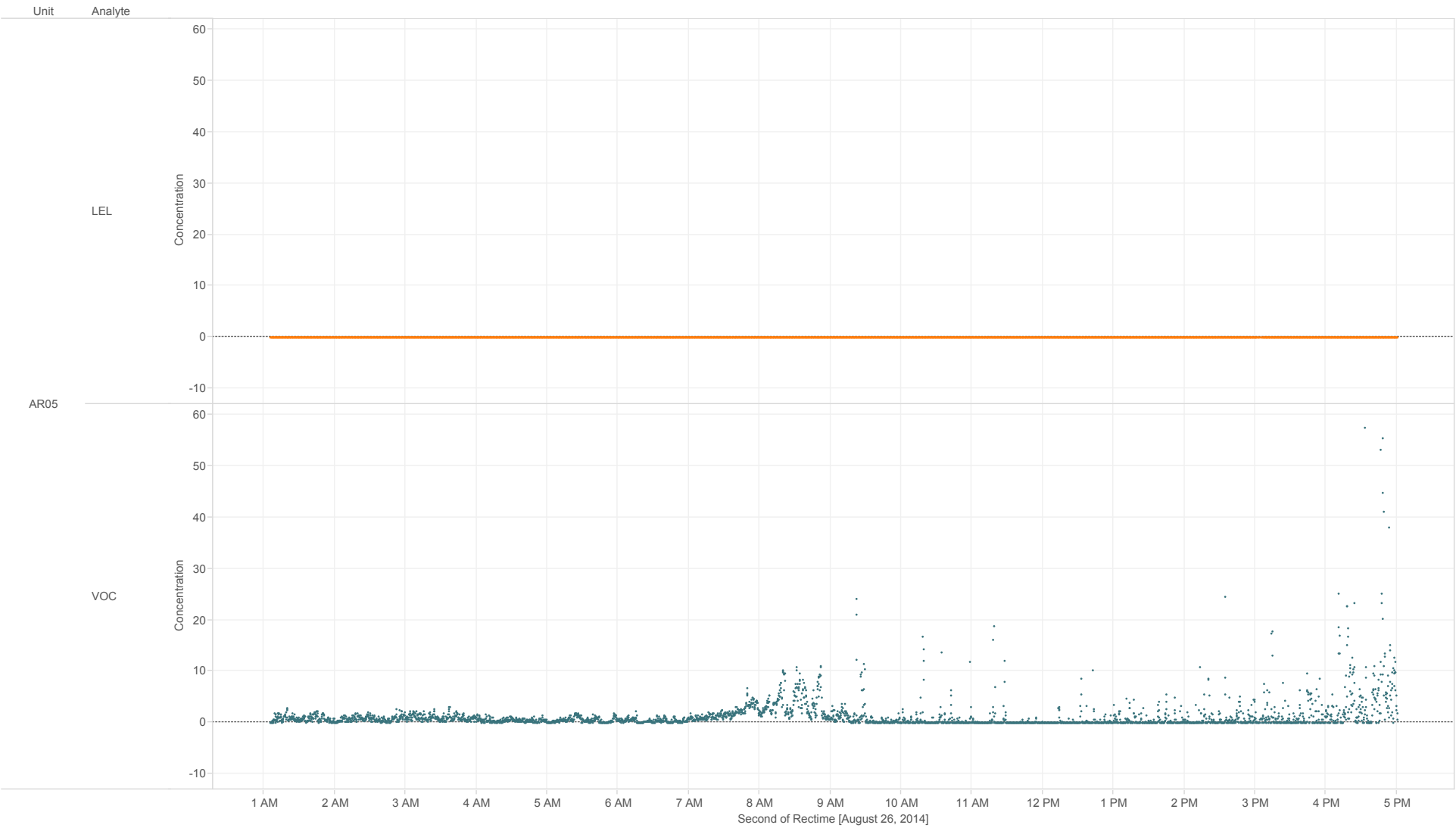
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Remote-telemetry Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



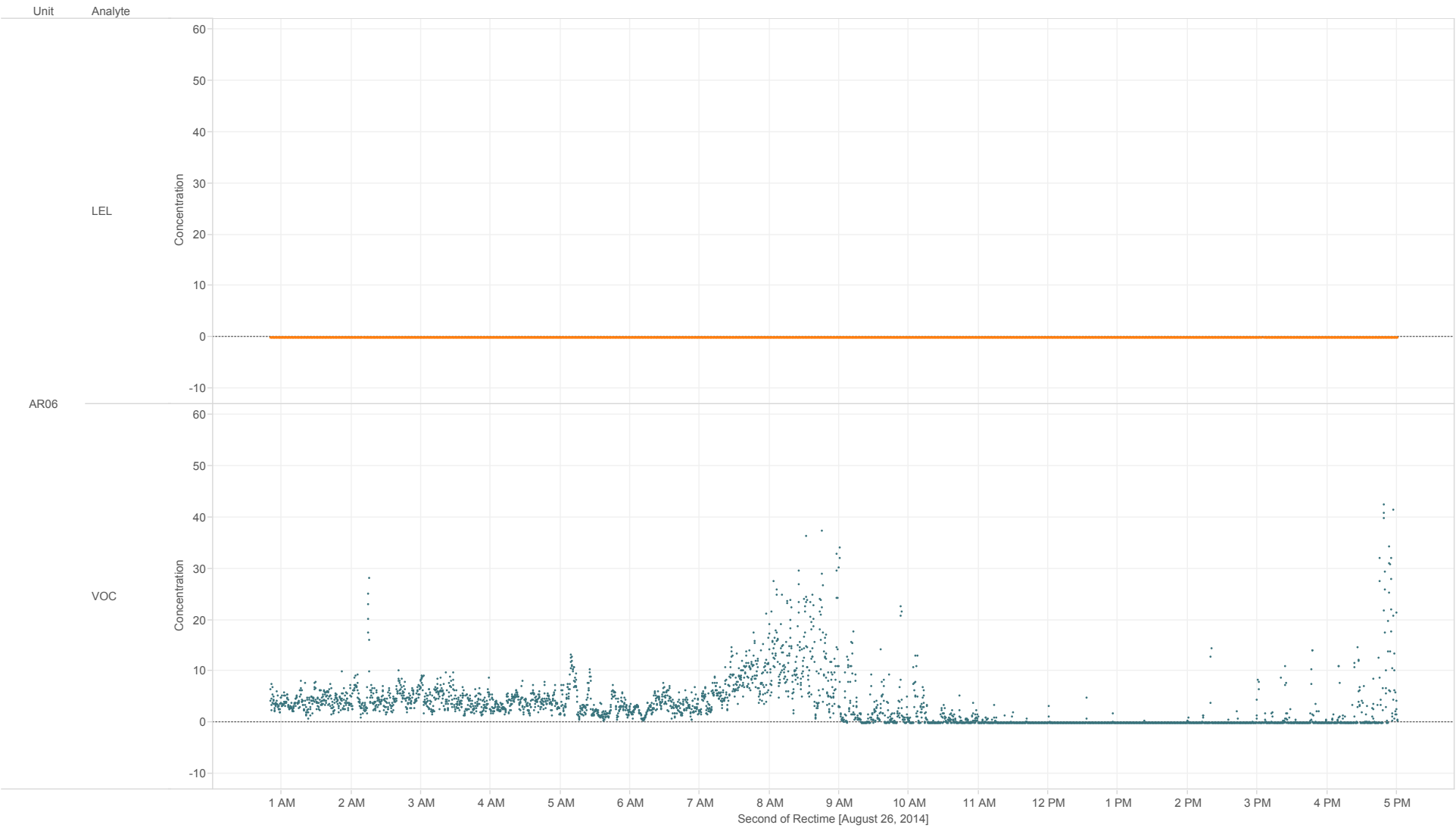
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Remote-telemetering Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



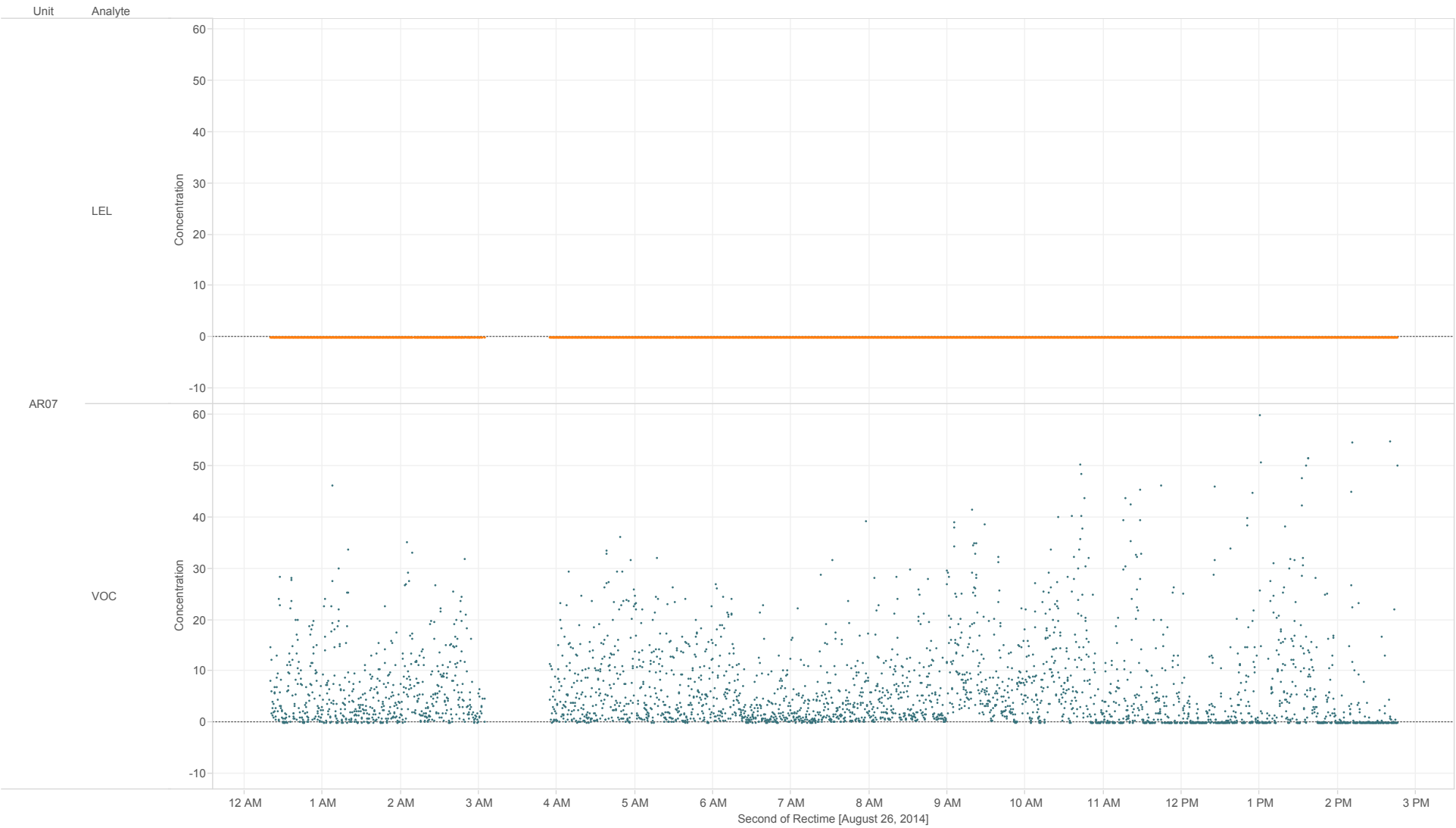
Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format

Remote-telemetering Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format

Remote-telemetering Air Monitoring - Pelham, AL - 8/25/2014 18:00 - 8/26/2014 17:00



Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format

Appendix C: Calibration Logs

Calibration Log

Date	Time	Instrument	Serial Number	Cal Gas	Concentration	Lot Number	Expiration/ Mfg. Date	Calibrated By
8/24/14	12:37	AR 2	292-504109	Quad/156	50/20.9/100	970235 962691	7/16 / 12/16	RP
	12:40	AR 3	294-500716					
	12:45	AR 4	292-504133					
	12:50	AR 9	292-504111					
	12:55	PPB 8ae	594-901471	ISO	10 ppm	962691	12/16	
	12:58	PPB 2AG	594-901451					
	1302	UltraLae	596-901284	Benzene	5 ppm	969564	5/17	RP
	1420	MR +	095-528075	Quad ISO	50% LEL 20.9% O2 / 100 ppm + 50	970235 971552	7-16 / 9-17	K13
8/25	0553	PPB 8ae	594-901471	ISO	10ppb	962691	12	AR
	0554	UltraLae	596-901284	Benzene	5 ppm	956564	4/16	ATZ
	0557	MTZ	095-528075	ISO	100 ppm 50% LEL 20.9	955459 970235	4/16 7/16	AR
			095-527987					
			095-527231					
			095-527941					
8/25	1529	AR1	292-504111	Quad/80	50/20.9% / 100	970235 971552	7/16 / 8/17	EC
	1539	AR2	292-504109					
	1545	AR3	292-500716					
	1554	AR4	292-504133					

Project# 106608

Client Kinder Morgan

Location Belham, AL

Calibration Log

Date	Time	Instrument	Serial Number	Cal Gas	Concentration	Lot Number	Expiration/ Mfg. Date	Calibrated By
8/25	1942	UltraPac	596-905842	Benzene	5ppm	956564	4/16	AR
└	1946	UltraPac	596-901284	└	└	└	└	AR
8/25	2333	MRT	095-528039	ISO Quarol	100ppm 50%LEL 20.9%	971552 970235	8/17	AR
└	└	└	095-521887	└	└	└	└	└
└	└	└	095-527231 095-521521-AR	└	└	└	└	└
8/25	2340	FPB Pac	594-901471	ISO	10ppm	962691	12/15	AR
8/26	0010	AR04/AR07	292-504133	ISO Quarol	100ppm/50%LEL	955159/955159	4/16 / 9/16	AR
└	0027	AR03/AR06	292-500716	└	└	└	└	└
└	0054	AR02/AR05	292-504109	└	└	└	└	└
└	0151	AR01	292-504111	└	└	└	└	└
8/26	0557	FPB Pac	594-901451	ISO	10ppm	952863	12/15	AR
└	0600	UltraPac	596-901284	Benzene	5ppm	956564	4/16	AR
└	0604	MRT	095-521944	ISO Quarol	100ppm/20.9% 50%LEL	971552/970235	8/17 / 7/16	AR

Project# 106608

Client Kinder Morgan

Location Pelham, AL