Plantation Pipeline Gasoline Pipe Line Release
Double Oak Mountain, AL
Preliminary Summary of Air Monitoring Results
August 28, 2014

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

CTEH CENTER FOR TOXICOLOGY AND ENVIRONMENTAL HEALTH, LLC

Introduction

On August 23, 2014, Center for Toxicology and Environmental Health, LLC (CTEH®) was contacted by Plantation Pipe Line 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-telemetering monitoring.

This submittal summarizes air monitoring data for August 27, 2014 17:00 to August 28, 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 (O_2), 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 Summary[1]
August 27, 2014 17:00 – August 28, 2014 17:00

Analyte	Instrument	Number of Readings	Number of Detections	Average of Detections	Concentration Range
Benzene	UltraRAE	22	10	7.7 ppm	0.15 - 52.4 ppm
LEL	MultiRAE Plus	15	0	NA	<1 %
O2	MultiRAE Plus	12	12	20.9 %	20.6 - 20.9 %
VOC	MultiRAE Plus	39	25	22.2 ppm	1.2 - 211 ppm

[1]*Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format.*
[2]*Maximum detections preceded by the "<" symbol are considered non-detects at or above reporting limit value to the right.*

Remote-telemetering Air Monitoring

All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Remote-telemetering monitoring was conducted for percent of the Lower Explosive Limit (LEL), oxygen (O_2), and Volatile Organic Compounds (VOCs) with RAESystems® AreaRAEs. Table 2 summarizes data for remote-telemetering data in the work area and Appendix B includes the remote-telemetering data graphs.

Table 2: Remote-telemetering Air Monitoring Summary[1]
August 27, 2014 17:00 – August 28, 2014 17:00

Unit	Analyte	Number of Readings	Number of Detections	Average of Detections	Concentration Range
AR01	LEL	5644	0	NA	<1 %
	O_2	635	635	20.9 %	20.9 - 21.5 %
	VOC	5644	2808	2.1 ppm	0.1 - 36.4 ppm
AR05	LEL	5247	0	NA	<1 %
	O_2	667	667	20.6 %	20.5 - 20.9 %
	VOC	5247	4939	2.2 ppm	0.1 - 41.3 ppm
AR06	LEL	5701	10	4.5 %	1.2 - 8.8 %
	O_2	1679	1679	20.9 %	20.6 - 20.9 %
	VOC	5701	4827	7.0 ppm	0.1 - 142.2 ppm
AR08	LEL	5648	0	NA	<1 %
	O_2	1606	1606	20.7 %	20.4 - 20.9 %
	VOC	5648	5443	8.1 ppm	0.1 - 209.3 ppm

[1]*Please note: The data set displayed here has not undergone complete QA/QC analysis and is presented in a preliminary format.*
[2]*Maximum detections preceded by the "<" symbol are considered non-detects at or above reporting limit value to the right.*

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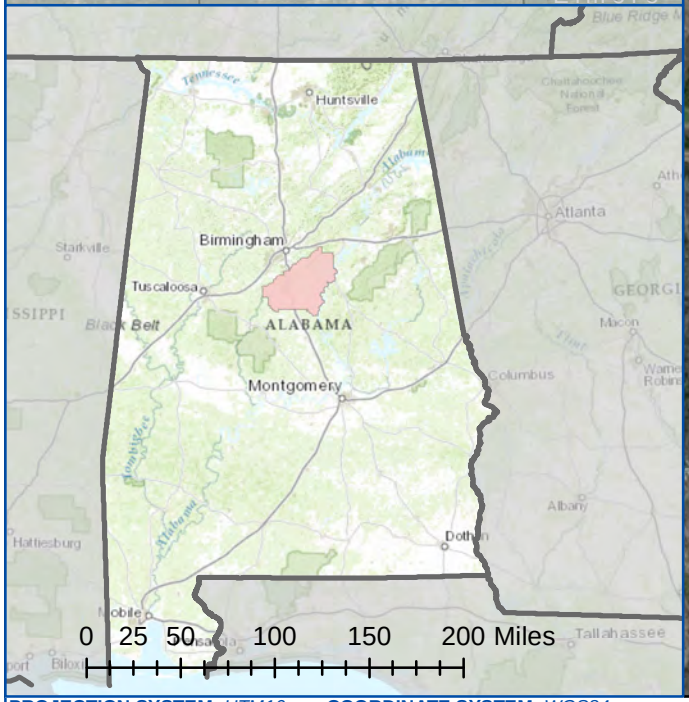
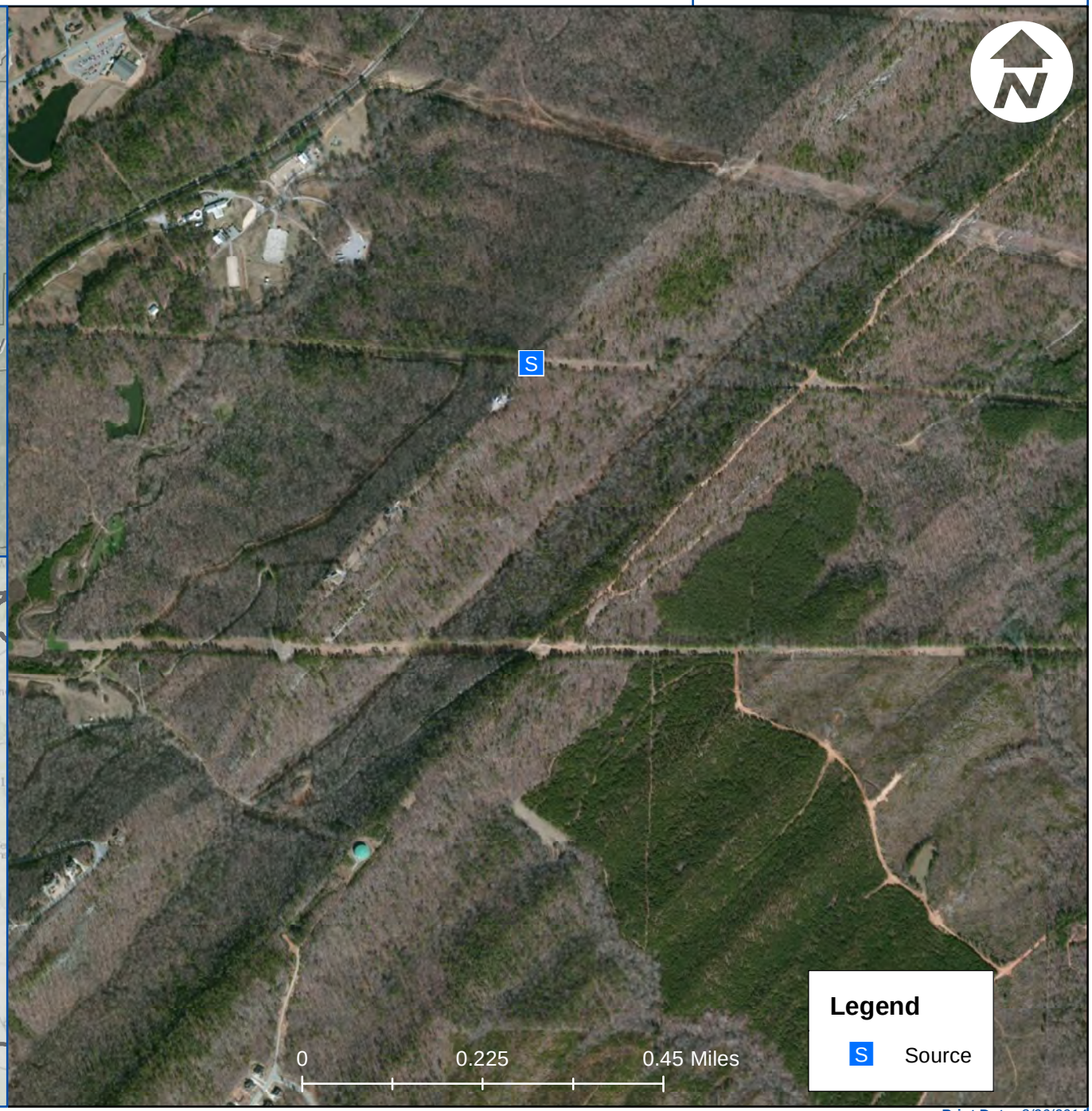
Appendix A: Incident Maps

Gasoline Pipeline Release - Pelham, AL

Site Map

Project: #106608
Client: Plantation Pipe Line
City: Double Oak Mountain, AL
County: Shelby



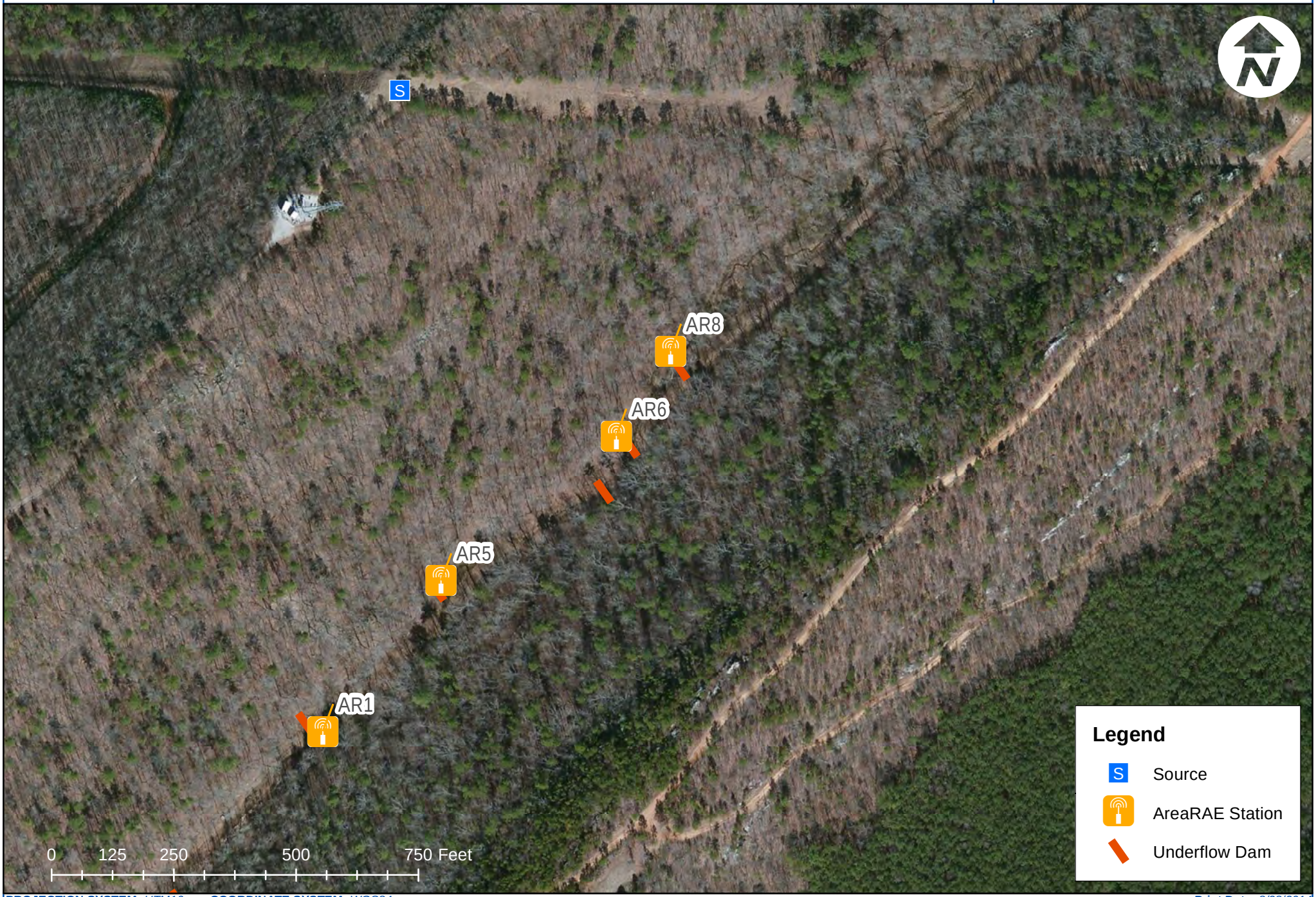


PROJECTION SYSTEM: *UTM16* **COORDINATE SYSTEM:** *WGS84* **Print Date:** *8/26/2014*

Remote-Telemetering Real-Time Air Monitoring Stations

August 27, 2014 17:00 - August 28, 2014 17:00

Project: #106608
Client: Plantation Pipe Line
City: Double Oak Mountain, AL
County: Shelby



PROJECTION SYSTEM: *UTM16* **COORDINATE SYSTEM:** *WGS84* **Print Date:** *8/28/2014*

Manually-Logged Real-Time Air Monitoring Locations

August 27, 2014 17:00 - August 28, 2014 17:00

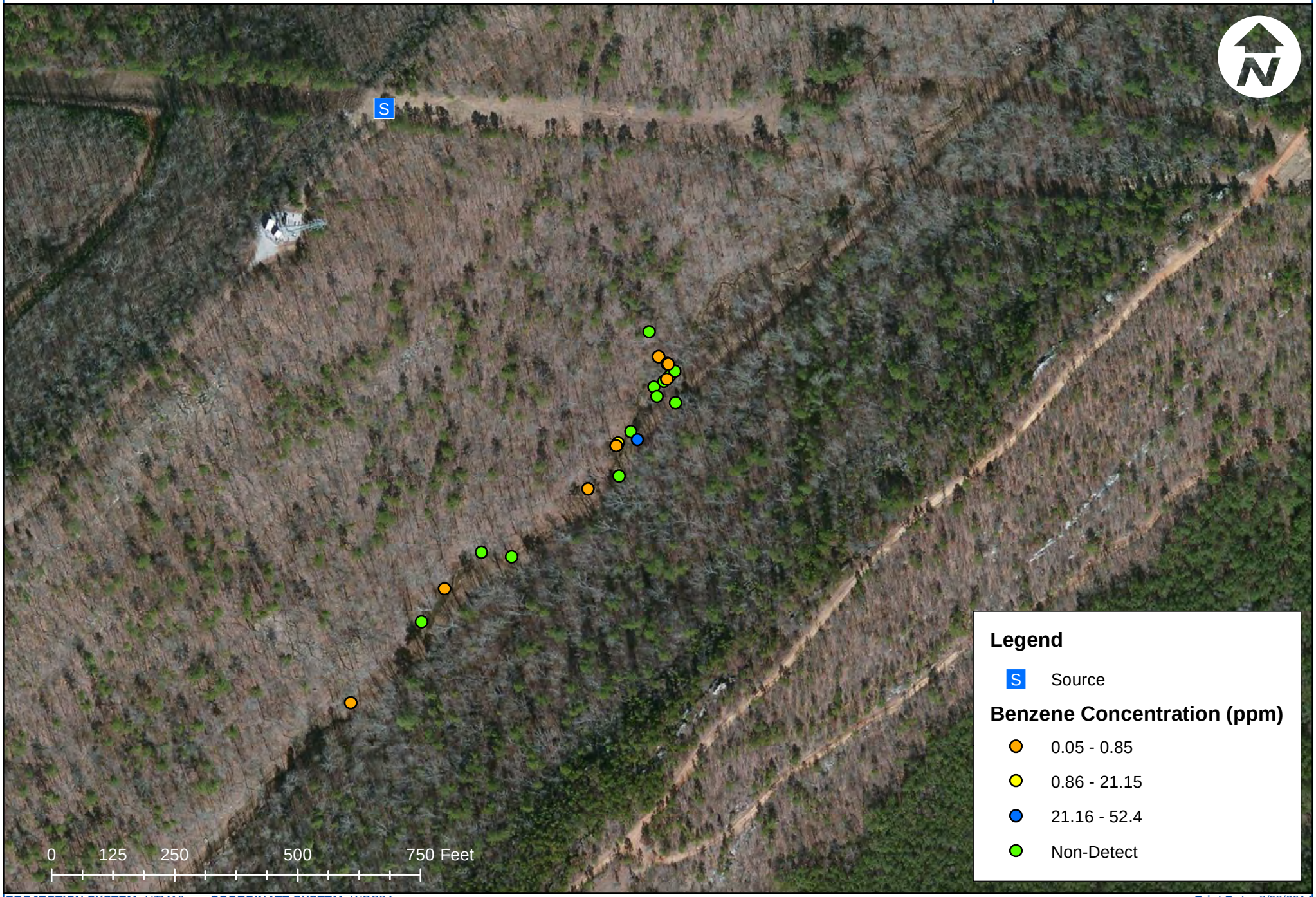
Project: #106608
Client: Plantation Pipe Line
City: Double Oak Mountain, AL
County: Shelby

PROJECTION SYSTEM: *UTM16* COORDINATE SYSTEM: *WGS84* Print Date: *8/28/2014*

Manually-Logged Real-Time Air Monitoring - Benzene

August 27, 2014 17:00 - August 28, 2014 17:00

Project: #106608
Client: Plantation Pipe Line
City: Double Oak Mountain, AL
County: Shelby

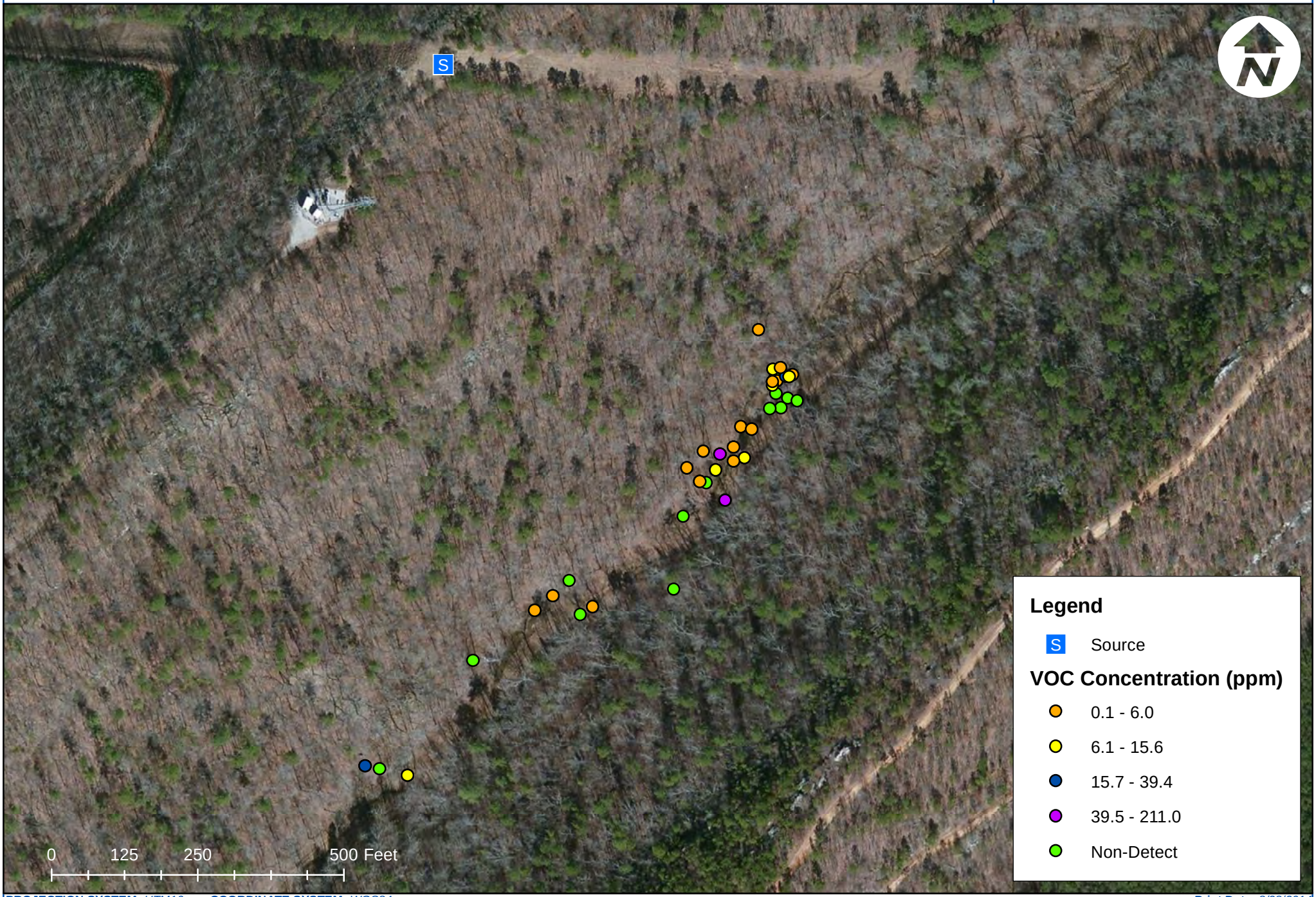


PROJECTION SYSTEM: *UTM16* **COORDINATE SYSTEM:** *WGS84* **Print Date:** *8/28/2014*

Manually-Logged Real-Time Air Monitoring - VOCs

August 27, 2014 17:00 - August 28, 2014 17:00

Project: #106608
Client: Plantation Pipe Line
City: Double Oak Mountain, AL
County: Shelby



PROJECTION SYSTEM: *UTM16* **COORDINATE SYSTEM:** *WGS84* **Print Date:** *8/28/2014*

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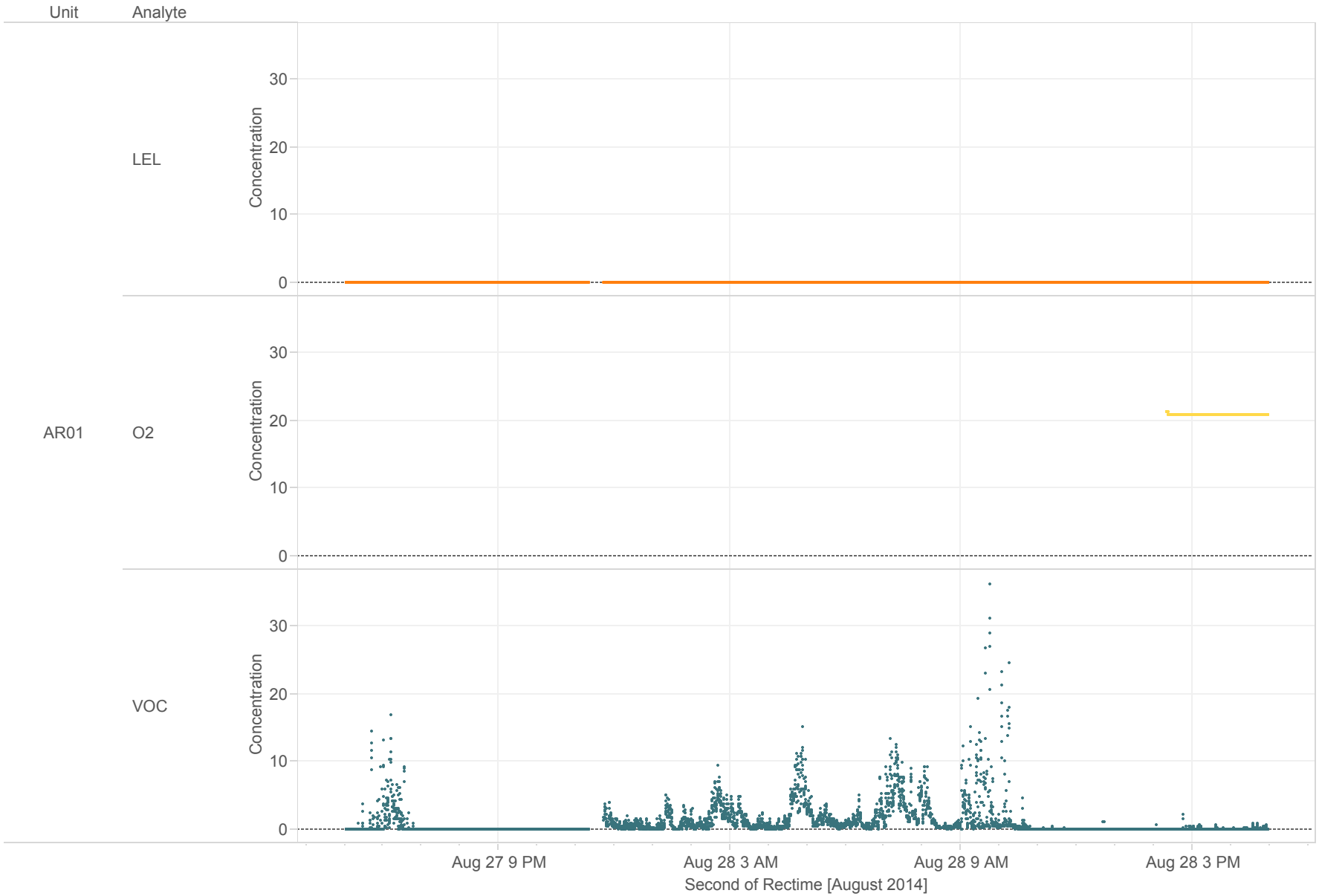
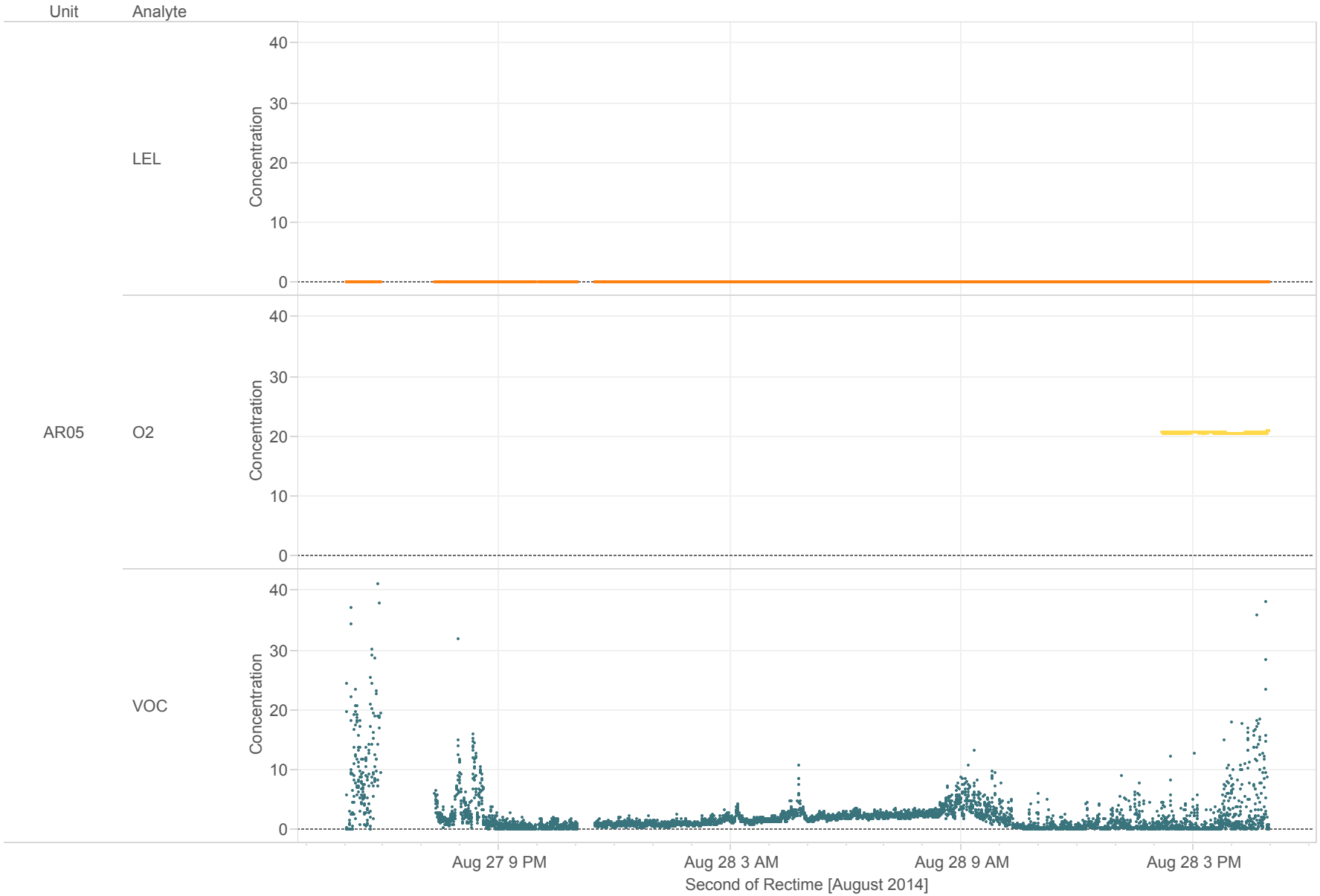
Appendix B: Remote-telemetering Air Monitoring Graphs

Remote-telemetering Air Monitoring - Double Oak Mountain, AL - 8/27/2014 17:00 - 8/28/2014 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 - Double Oak Mountain, AL - 8/27/2014 17:00 - 8/28/2014 17:00



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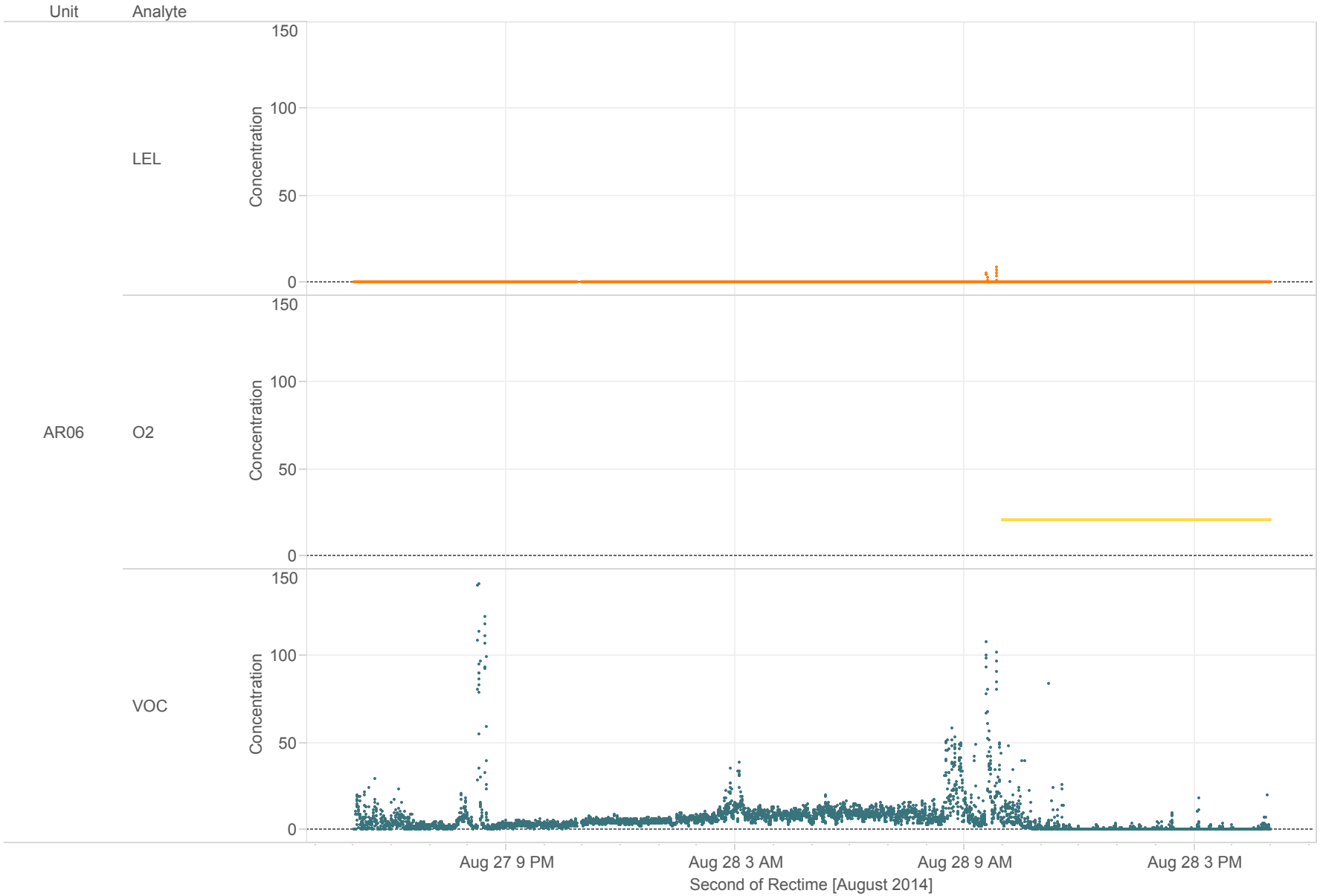
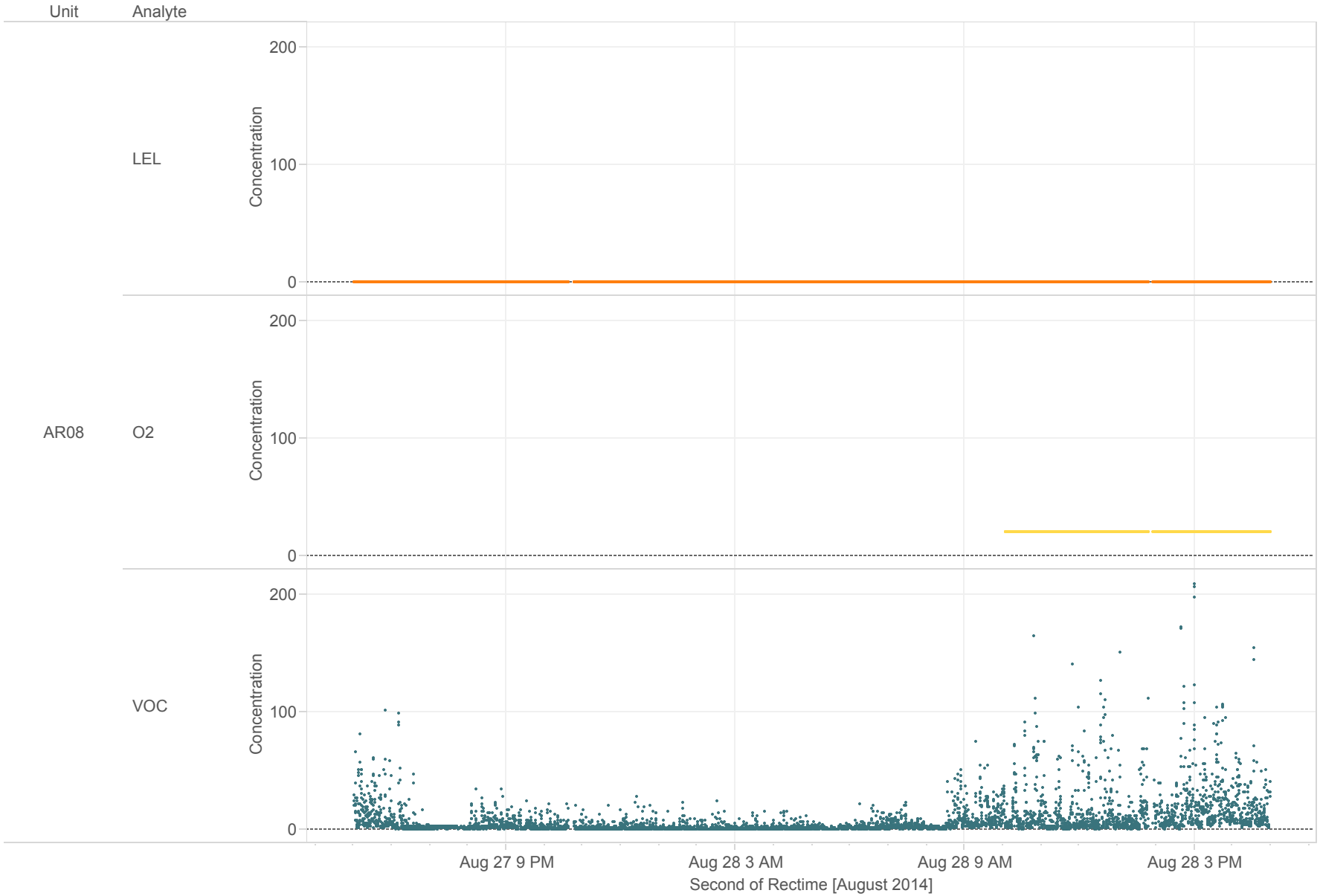
Remote-telemetering Air Monitoring - Double Oak Mountain, AL - 8/27/2014 17:00 - 8/28/2014 17:00



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 - Double Oak Mountain, AL - 8/27/2014 17:00 - 8/28/2014 17:00



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

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Appendix C: Calibration Logs

Calibration Log

Date	Time	Instrument	Serial Number	Cal Gas	Concentration	Lot Number	Expiration/ Mfg. Date	Calibrated By
8/26	2230	AE01	292-504111	ISO/Quad	100ppm/20%/50%LEL	971552/970235	8/17 / 7/16	AR
8/26	2237	MX+	095-528039	〃	〃	〃	〃	AR
8/27	0445	PPB Rae	594-901451	ISO	10ppm	962891	12/15	AR
〃	0447	〃	594-901471	〃	〃	〃	〃	AR
8/27	0500	UltraRae	596-905842	Benzene	5ppm	956564	4/16	AR
8/27	0547	MX+	095-528039	ISO/Quad	100ppm/20.9%/50%LEL	955959/970235	4/16 / 7/16	AR
〃	〃	〃	095-527231	〃	〃	〃	〃	AR
〃	〃	〃	095-527887	〃	〃	〃	〃	AR
8/27	0649	MX+	095-527944	ISO/Quad	100ppm/20.9%/50%LEL	971552/970235	8/17 / 7/16	AR
8/27	0658	UltraRae	596-901284	Benzene	5ppm	956564	4/16	AR
8/27	2238	AE08	292-504133	ISO/Quad	100ppm/50%LEL	971552/970235	8/17/ 7/16	AR
〃	2252	AE06	292-500716	〃	〃	〃	〃	〃
〃	2307	AE05	292-504109	〃	〃	〃	〃	〃
〃	2323	AE01	292-504111	〃	〃	〃	〃	〃
8/28	0100	MX+	095-527231	ISO/Quad	100ppm/20.9%/50%LEL	971552/970235	8/17 / 7/16	AR
8/28	0107	UltraRae	596-901284	Benzene	5ppm	956564	4/16	AR
8/28	0524	PPB Rae	594-901451	ISO	10ppm	952062	12/15	AR
〃	0527	〃	594-901471	〃	〃	〃	〃	AR

Pelham AL

Calibration Log

Date	Time	Instrument	Serial Number	Cal Gas	Concentration	Lot Number	Expiration/ Mfg. Date	Calibrated By
8/28	0540	UltraRae	596-905842	Benzene	5ppm	9685641	5/17	AR
↓	0544	↓	596-901157	↓	↓	↓	↓	↓
8/28	0600	MX+	095-527915	ISO/Quad	100ppm/20.9%O 50%LEL	955451/910235	4/16 / 7/16	AR
↓	0602	↓	095-528005	↓	↓	↓	↓	↓
↓	0605	↓	095-528039	↓	↓	↓	↓	↓
↓	0607	↓	095-527887	↓	↓	↓	↓	↓
↓	0609	↓	095-527944	↓	↓	↓	↓	↓

10.6.08

Client Kinder Morgan

Location Pelham, AL