TRC
Results you can rely on

6312 NW 18th Drive
Suite 100
Gainesville, FL 32653

352.378.0332 PHONE
352.378.0354 FAX

www.TRCsolutions.com

September 4, 2018

Ms. Lori Simmons
Arkansas Department of Health
4815 West Markham Street
Little Rock, Arkansas 72205
Via email Lori.Simmons@arkansas.gov

Re: Georgia-Pacific, Crossett Mill - Biweekly Air Monitoring Report for Hydrogen Sulfide

Dear Ms. Simmons,

Please find the following biweekly report for the Georgia-Pacific (GP) Crossett Mill hydrogen sulfide (H_2S) and meteorological monitoring program covering the calendar period of August 8, 2018 through August 21, 2018.

Summary of Results

Included in this report are three plots presenting H_2S concentrations across different rolling average periods (30-minute, 8-hour, and 24-hour), daily 1-point quality control (QC) checks with precision and bias estimates and time series plots for all recorded meteorological (met) parameters for the two week period.

Data Quality

The Quality Assurance Project Plan (QAPP) establishes measurement quality objectives (MQOs) for H_2S regarding precision and bias expressed as a coefficient of variation (CV) <10% and ± 10%, respectively. Precision and bias are calculated in accordance with 40 CFR Part 58 Appendix A, Section 4.1. Precision and bias calculations are presented on page six of this report.

Due to an extensive power outage automated calibration checks were not performed on August 21st. Results for available automated daily 1-point QC checks were within the accuracy objective, ± 10%, indicating the H_2S monitor was operating in accordance with MQOs as stated in the QAPP.

During this reporting period a single automated zero check was performed. The result for this zero checks is presented below.

TRC

Date	Zero Check Response (ppb)
8/8/2018	-0.6
8/15/2018	-0.8

Data Capture

There were multiple occurrences of H_2S data loss this monitoring period, in addition to those resulting from automated daily 1-point QC and weekly calibration checks. On August 14th, TRC personnel were on site to perform routine maintenance of the H_2S analyzer, responsible for approximately one hour of H_2S data loss. Approximately two hours of H_2S data was lost on August 19th, on account of power and communication interruptions. An extensive power outage beginning in the afternoon of August 20th is responsible for approximately 32 hours of H_2S loss. Power was restored the morning of August 22nd.

Fourteen-day time series plots for all recorded meteorological (met) parameters are presented in the final charts. All met parameters have 100% data capture for this report period, with the exception of precipitation on August 14th. Routine maintenance and cleaning of the tipping bucket was responsible for approximately 15 minutes of invalid precipitation data.

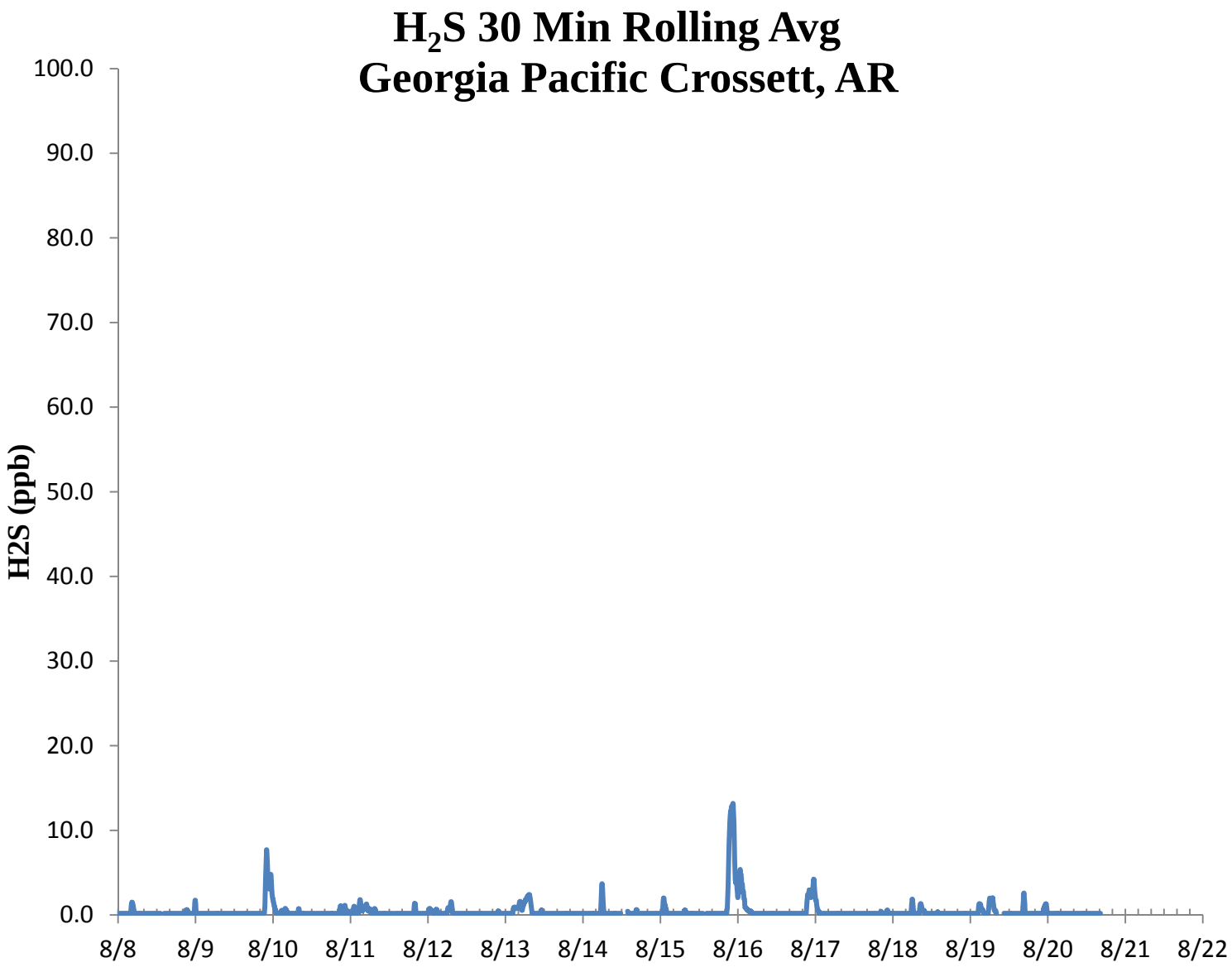
Please feel free to contact me if you have any questions or need any additional data.

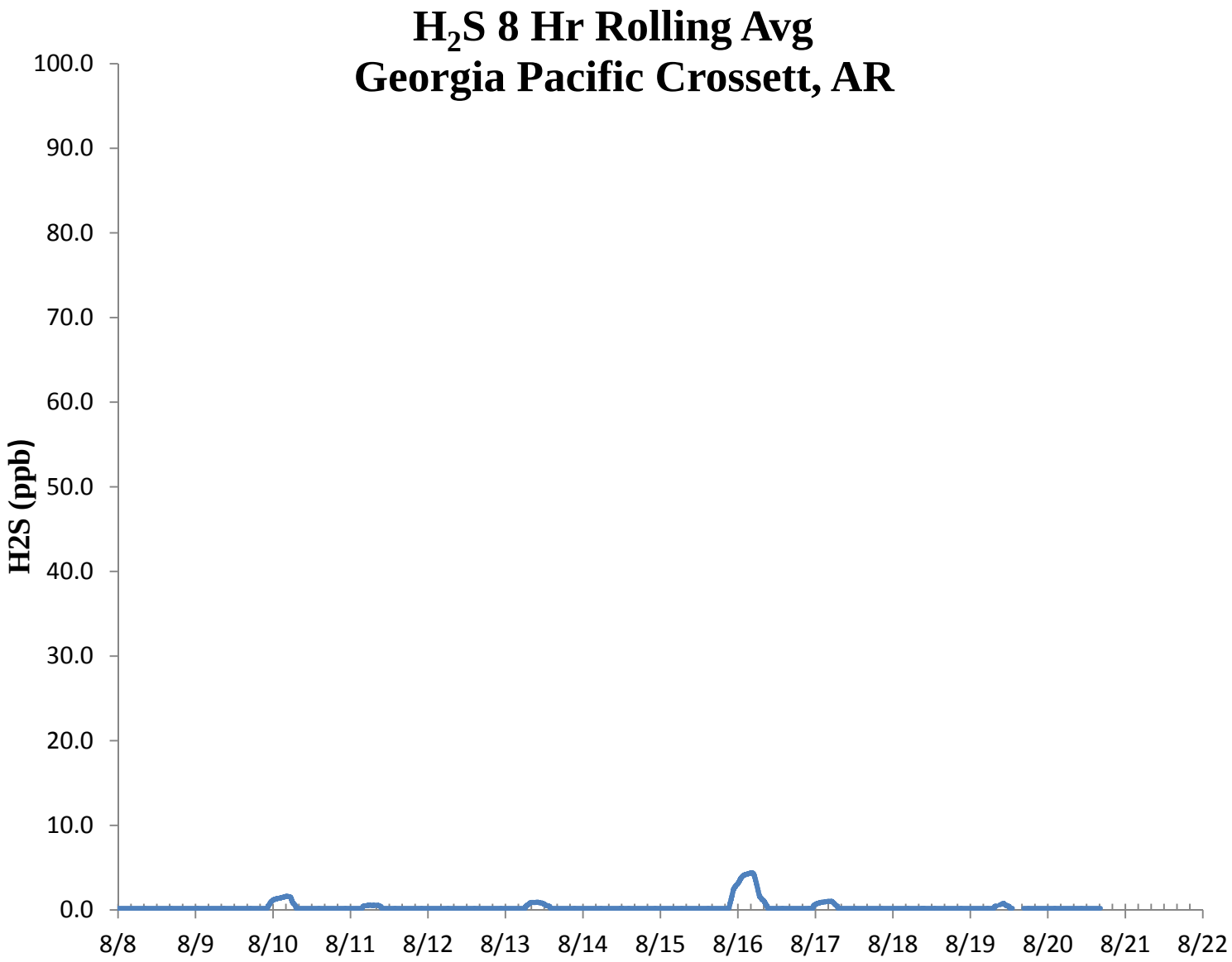
Sincerely,

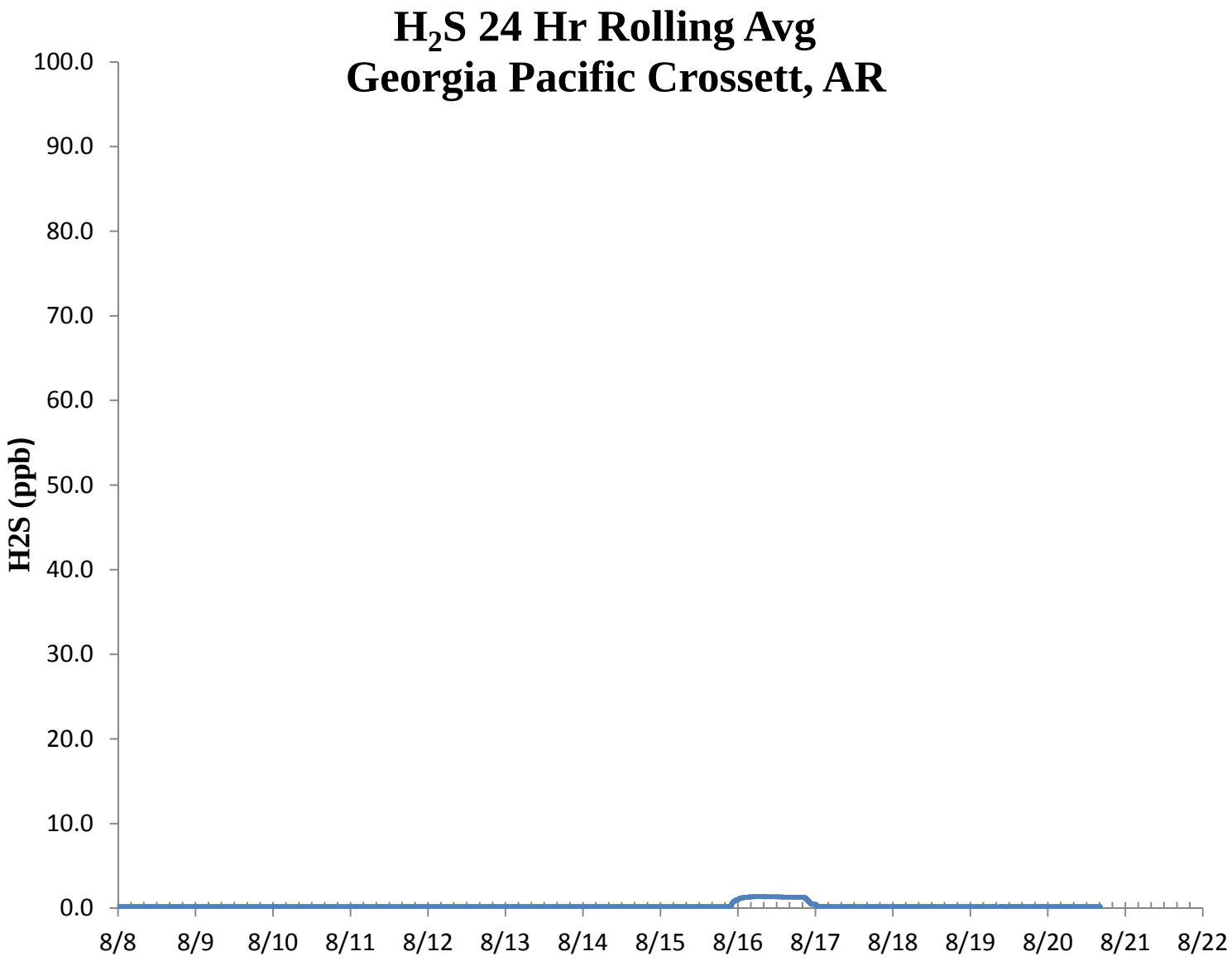
Jonathan Bowser
Manager, Air Quality and Meteorological Monitoring

Air Measurements – Gainesville Office
6312 NW 18th Drive, Suite 100
Gainesville, Florida 32653
(352) 260-1162
Email: jbowser@trcsolutions.com

CC: Becky Keough, ADEQ Director via email: keogh@adeq.state.ar.us
Kara Allen, Environmental Engineer, USEPA Region 6 via email Allen.Kara@epa.gov

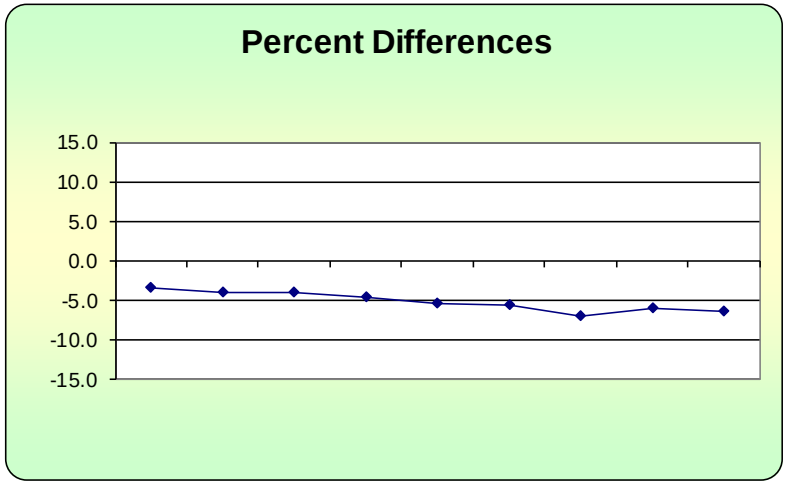

H2S 30 Min Rolling Avg
Georgia Pacific Crossett, AR
H2S (ppb)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
8/19
8/20
8/21
8/22


H2S 8 Hr Rolling Avg
Georgia Pacific Crossett, AR
H2S (ppb)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
8/19
8/20
8/21
8/22

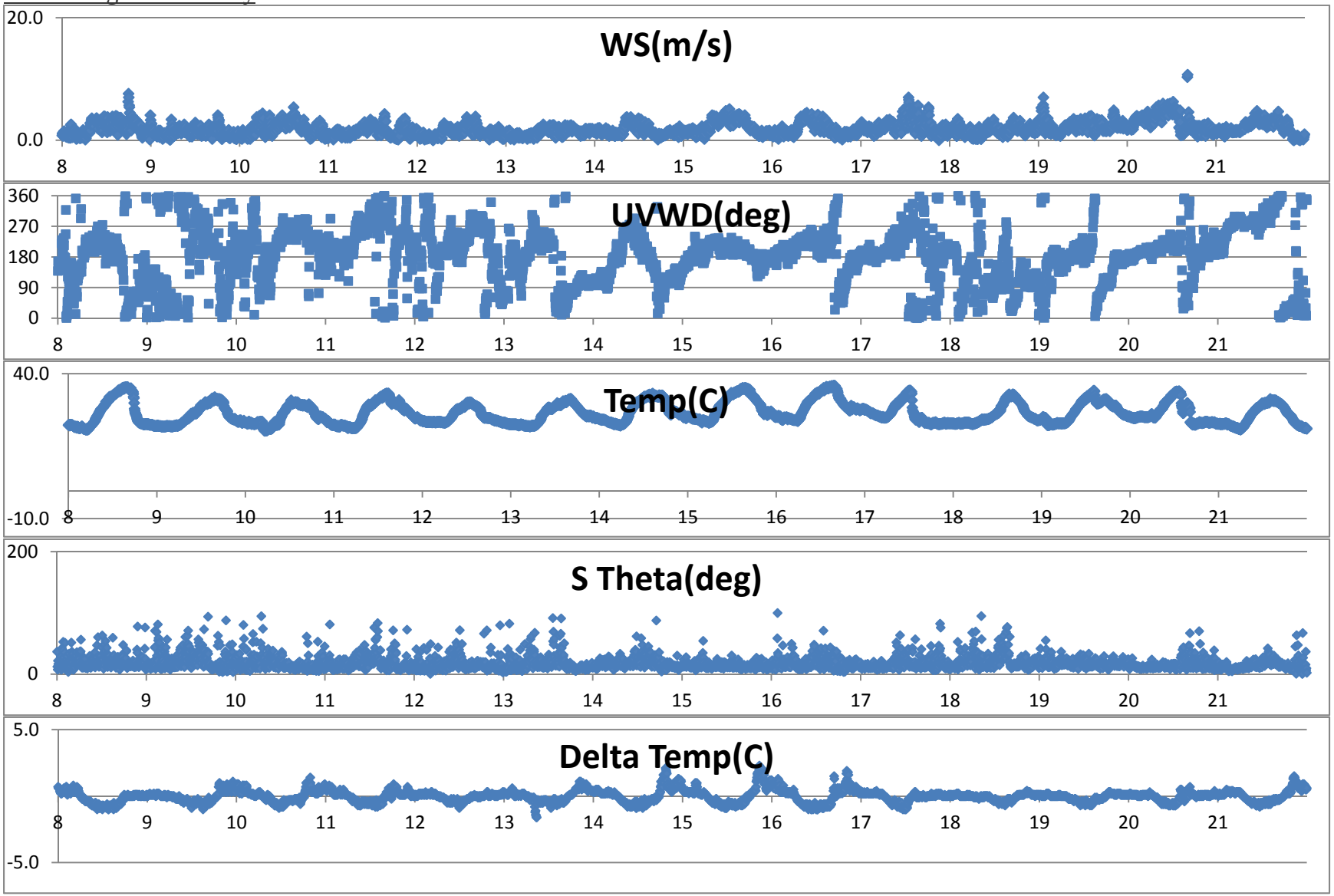

H2S 24 Hr Rolling Avg
Georgia Pacific Crossett, AR
H2S (ppb)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
8/19
8/20
8/21
8/22

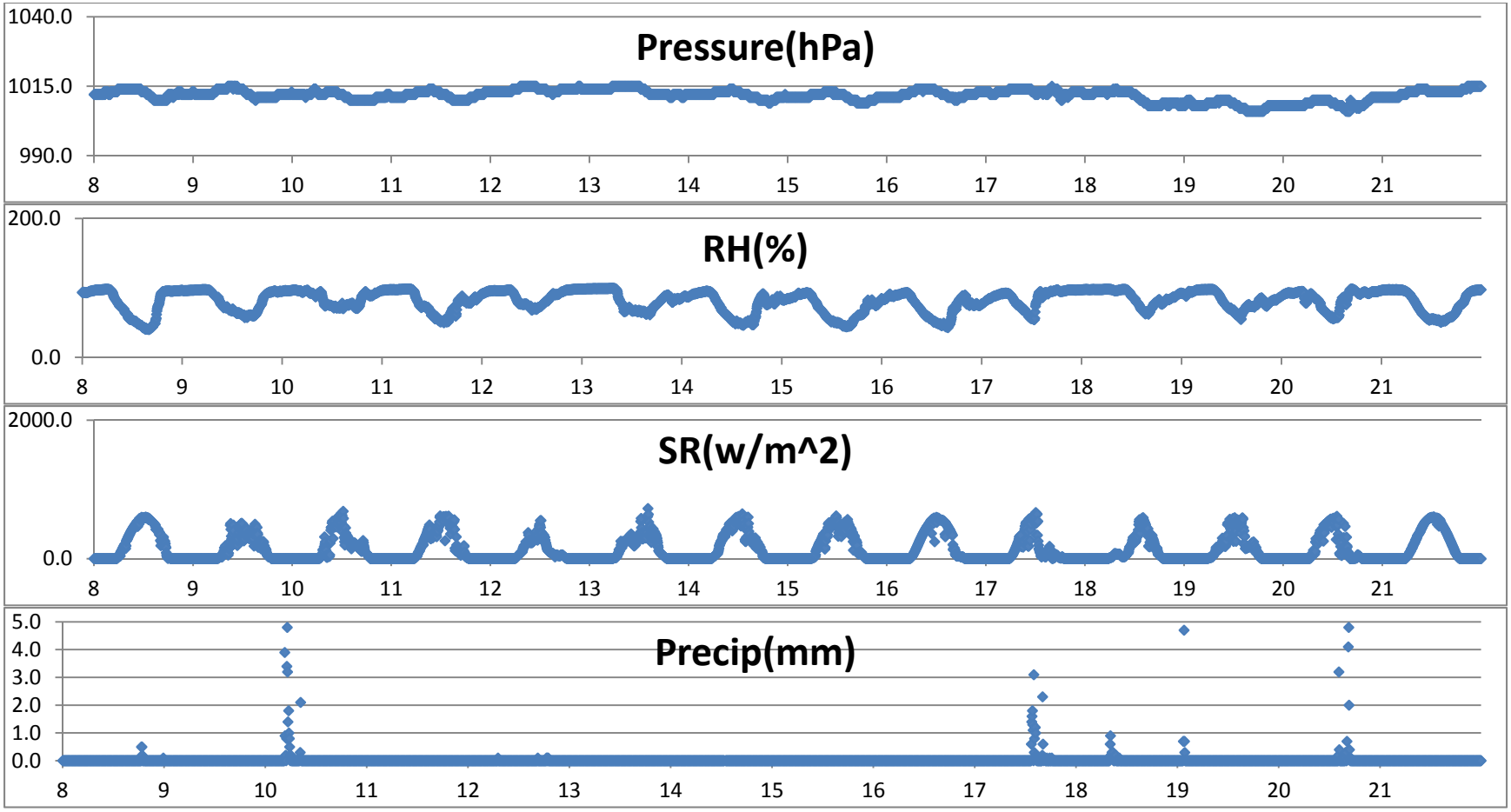
H_2S Assessment

GP - Crossett, AR			Compound of Interest: H_2S					CV_{ub} (%)		Bias (%)	
Date	Meas Val (Y)	Input Val (X)	d (Eqn. 1)	25th Percentile	d^2	|d|	$\|d\|^2$				
8/8/2018 13:00	67.6	70.0	-3.4	-7.143	11.755	3.429	11.755				
8/9/2018 13:00	67.2	70.0	-4.0	75th Percentile	16.000	4.000	16.000	n	S_d	S_{d2}	$\sum\|d\|$	"AB" (Eqn 4)
8/10/2018 13:00	67.2	70.0	-4.0	-4.571	16.000	4.000	16.000	13	1.741	21.343	78.571	6.044
8/11/2018 13:00	66.8	70.0	-4.6		20.898	4.571	20.898	n-1	$\sum d$	$\sum d^2$	$\sum\|d\|^2$	"AS" (Eqn 5)
8/12/2018 13:00	66.2	70.0	-5.4		29.469	5.429	29.469	12	-78.571	511.265	511.265	1.741
8/13/2018 13:00	66.1	70.0	-5.6		31.041	5.571	31.041					
8/14/2018 13:00	65.1	70.0	-7.0		49.000	7.000	49.000			Bias (%) (Eqn 3)	Both Signs Positive
8/15/2018 13:00	65.8	70.0	-6.0		36.000	6.000	36.000			6.9	FALSE
8/16/2018 13:00	65.5	70.0	-6.4		41.327	6.429	41.327	CV (%) (Eqn 2)		Signed Bias (%)	Both Signs Negative
8/17/2018 13:00	65.0	70.0	-7.1		51.020	7.143	51.020	2.4		-6.9	TRUE
8/18/2018 13:00	64.4	70.0	-8.0		64.000	8.000	64.000				
8/19/2018 13:00	63.8	70.0	-8.9		78.449	8.857	78.449	Upper Probability Limit		Lower Probability Limit	
8/20/2018 13:00	64.3	70.0	-8.1		66.306	8.143	66.306	-2.63		-9.46	



Meteorological Summary




Pressure(hPa)
1040.0
1015.0
990.0
RH(%)
200.0
0.0
SR(w/m^2)
2000.0
0.0
Precip(mm)
5.0
4.0
3.0
2.0
1.0
0.0
8
9
10
11
12
13
14
15
16
17
18
19
20
21