Supporting Information

Hydrogeology and Methane Occurrence

Monitoring wells were installed in the two major Upper Devonian (UD) bedrock aquifers in the study area: the Catskill Formation and the underlying Lock Haven Formation. These formations, originally deposited in the late Devonian as part of the Catskill Alluvial Plain (1), have been buried and uncovered since as a result of orogenic and glacial events. These are, therefore, naturally fractured, dual-porosity aquifers close to the surface, and covered in some areas by unconsolidated sedimentary or glacial alluvium (2, 3). Water yield from domestic drinking water wells is higher in wells with fractures (3), indicating that fracture flow dominates flow patterns in these aquifers. Water table variability in the region is inversely correlated to temperature, rather than precipitation, and most recharge occurs after the spring thaw and in October, following first frost and prior to the ground freezing (3). In the shallow subsurface, groundwater flow is dominated by local flow systems (hilltop recharge zones and adjacent valley discharge zones), and the regional flow system, that underlies smaller local flow systems, is governed by a hydraulic gradient from south to north, and discharges in the Susquehanna River.

Stratigraphy in the UD is a series of interbedded sandstone, siltstone, and shale. Though some shales are known to comprise the UD (4) and generate natural gas in non-commercial volumes (5), the two economic gas production units that are thought to originate most of the stray thermogenic methane in the region include: 1) Ordovician/Silurian hydrocarbon traps hosting migrated hydrocarbons from Ordovician shales, and 2) Middle Devonian “tight gas” black shales, including the Marcellus Shale (2, 6, 7). It is thought that thermogenic methane, known to be present in the overlying UD aquifers and unrelated to SGD, genetically originated from one of these two economic sources, and has migrated towards the surface over geologic time (2). Conceptual models for migration include primary, secondary, and tertiary migration. Primary migration would be movement of the hydrocarbons out of source rock, and, in some cases, into an unconventional well. Secondary migration is the movement of hydrocarbons from the source rock to a structural trap. Tertiary migration is the movement of hydrocarbons away from structural traps, often induced by tectonic and climatic factors (2). Migration of gases through the subsurface can lead to changes in chemical (decrease in longer chain hydrocarbon concentrations) and isotopic composition owing to diffusive or solubility fractionation (8), and observations of gas shows in the UD have demonstrated a gradually depleted, though still thermogenic, signature (from -32.46 to -43.53 ‰) as distance to the surface decreases (5).

Sedimentary sequences of Upper Devonian bedrock dip approximately 1 to 3 degrees to the east and south (9). In this region, and elsewhere, it has been shown that regional stress regimes exhibit control on permeability in fractured rock terrains. In particular, normal faults and topographic lineaments generally oriented in the NNE-SSW direction in this region have been shown to be associated with the Cl-Br signatures of Appalachian Basin Brine (10). In addition, valley stress relief has led to fractures that can enhance vertical transport of ABB within valleys (3, 11). Within this region it is known that thermogenic methane can be naturally occurring, and that the highest concentrations of thermogenic methane occur in valley settings where the water well was completed in bedrock, and the bedrock well is confined on the surface by sedimentary

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or glacial till (12). It is thought that the enhanced methane concentrations in these valley wells are related to vertical stress-relief fracturing, the closer proximity to the methane-laced ABB, and the confining sediment preventing methane from degassing to the atmosphere.

Monitoring Well Installation

Groundwater monitoring wells (MWs) were sited to investigate water quality and hydrologic changes during a two year period in which seven shale gas wells were drilled, hydraulically fractured, and entered production (Figure 1). The MWs were located on private properties, and well placement was contingent on landowner permission, which placed some constraints on well locations. Landowner agreements allowed for unregulated access to the monitoring wells, and landowners were compensated in the amount of $1000.

Vertical portions of gas wells targeting the Marcellus Shale in this study are drilled to depths of ~2000 m, and the average depth of drinking water wells is between 35 and 90 m (2, 3, 9). To drill the MWs, 10 cm steel casing was spun through unconsolidated material into the top of bedrock, whereupon the bedrock was cored to depths of 90 to 120 meters below ground surface with an HQ wireline coring system using potable water as the drilling fluid. Following drilling and coring, borehole geophysics and straddle packer tests were used to determine location and hydraulic conductivity, respectively, of fracture zones supplying water to the borehole. Borehole geophysics included temperature, conductivity, optical televiewer, acoustic televiewer, acoustic caliper, natural gamma ray, and heat-pulsed flow meter logging.

Solinist Waterloo 401 multi-level systems were installed in each borehole to isolate one to four fracture zones. This system consists of stainless steel sampling ports, each with dedicated pressure transducers and double-valve sampling pumps. The sampling ports draw water from 3-m intervals (zones) that are isolated by permanent packers. Attempts were made to distribute the ports over the entire depth of the bedrock portion of the borehole, while constraining placement to fracture zones that would yield water. In total, 24 screened intervals were installed in eight wells. Ports within each well were numbered from deepest to most shallow. For example, ports in well A were numbered consecutively starting with the deepest port, A1. Details on depths of wells and intervals are available in Table S1.

Sampling Methodology and Sample Analyses

Samples were collected via the low-flow purging and sampling method in which groundwater is purged from sampling equipment, and then water is pumped at a rate <1L/min while monitoring field parameters for stabilization (13). Low-flow purging and sampling has been shown to be effective in wells with short screens and dedicated pumps (14), similar to the Waterloo 401 system. Following purging of the sampling equipment, groundwater was pumped at a rate between 0.1 and 0.3 L/min while temperature, pH, DO, and specific conductance were monitored at three minute intervals. When parameters stabilized across three time intervals, samples were collected. Pressure data were collected continuously on an hourly basis from the time of well installation. Samples were collected on a bi-weekly basis through July 2015, and continued, on approximately a monthly basis, through May of 2017. From January 2015 to May 2017, 542 groundwater samples were collected, and each of the 24 intervals was sampled between 20 and 25 times. All samples collected were analyzed for methane and ethane concentrations, major anions, major cations, trace metals, dissolved inorganic carbon (DIC), and dissolved organic

carbon (DOC). A subset of samples were analyzed for stable carbon isotopes of methane, $\delta^{13}C$-C_2H_6, $\delta^{13}C$ -DIC, $^{87}Sr/^{86}Sr$, $\delta^{2}H$-H_2O, $\delta^{18}O$-H_2O, ^{3}H and CFC/SF_6 concentrations for dating.

Dissolved hydrocarbon samples were collected via the direct-fill method in 60-mL VOA vials with Teflon-lined septa and preserved with 1:1 HCl to a pH <2. The direct-fill method from Waterloo 401 sampling tubing likely leads to underestimation of methane concentrations near methane saturation level at atmospheric pressure (25-30 mg/L) as there is no option to use a back-pressure regulator in this system (15). Therefore, the decrease in pressure from formation depth to the surface may allow for degassing of methane from saturated samples. Processing of samples by creating headspaces and transferring the headspace to exetainers was accomplished <7 days after collection. Filled exetainers were stored in water prior to analysis. Total and dissolved metals and cation samples were collected in 125-mL HDPE bottles and preserved with 1% 1:1 HNO_3. Dissolved metal and cation samples were filtered using an in-line filter and 0.45 μm filter membrane. Anion samples were also filtered in-line using a 0.45 μm membrane, and frozen. Dissolved inorganic carbon and dissolved organic carbon samples were collected in glass vials without headspace and in-line filtered using a 0.2 μm membrane.

Methane and ethane concentrations were determined using a modified version of RSK-175 standard operating procedure (16, 17). The procedure was modified in that there was a 20-mL headspace added to the 60-mL VOA vial. Headspace samples were then analyzed using GC-FID. Samples found to have a dissolved methane concentration ≥0.01 mg/L were sent to UC Davis Stable Isotope Facility for analysis of $\delta^{13}C$-CH_4 and $\delta^{2}H$-CH_4. In some cases, where results warranted it, lower [CH_4] samples were sent for $\delta^{13}C$-CH_4, but results could not always be obtained for these lower concentrations. Samples with ≥0.001 mg/L ethane were analyzed for $\delta^{13}C$-C_2H_6 by Woods Hole Isotope Laboratories. Anion concentrations were determined using suppressed ion chromatography. Cation and iron analyses were performed using ICP-OES, and trace metals concentrations were determined using standard addition method (18) with ICP-MS. Strontium isotopes were measured on a Thermo-Finnegan Multi-Collector ICP-MS, and the mean $^{87}Sr/^{86}Sr$ of Standard Reference Material-987 equaled 0.71026 ± 0.000004 (SD). Water isotopes were analyzed with a High Temperature Conversion Elemental Analyzer connected to a Thermo Delta Plus Advantage Isotope Ratio Mass Spectrometer. Samples were analyzed along with calibrated reference materials on the SMOW scale. Instrument precision is ±2 ‰ and ±0.2 ‰ for hydrogen and oxygen respectively. DIC and DOC concentrations were analyzed using a Shimadzu TOC-V. $\delta^{13}C$ -DIC were analyzed on a GasBench II coupled to a Thermo Delta Plus Advantage IRMS. $\delta^{13}C$ -DIC samples are analyzed using calibrated in house standards on the PDB scale. Tritium, CFC, and SF_6 samples were analyzed by University of Miami School of Marine and Atmospheric Science.

Table S1. Monitoring well topographic location and land-surface elevation; bedrock and water-table depth at monitoring wells; and sampling port depths and elevations.

Well	Topographic Location	Distance to Center of Closest Gas Well Pad	Elevation of Closest Gas Well Pad (m)	Monitoring Well Elevation above sea level (m)	Depth to consolidated bedrock (m)	Water table depth after borehole completion BGS (m)	Port	Port depth BGS (m)	Port elevation above sea level (m)	Interval Hydraulic Conductivity* (cm/s)
A	valley	920 m from center of well pad 2	470	395.7	34.2	18.3	A1	78.6	317.1	1.8E-5
							A2	65.3	330.4	6.0E-4
							A3	48.4	347.3	7.3E-4
							A4	40.9	354.8	9.9E-4
B	hilltop	64 m from center of well pad 3	465	464	8.1	43.5	B1	59.7	404.0	5.4E-4
							B2	49.8	413.9	3.2E-4
D	valley	1147 m from center of well pad 3	465	372	32.8	6.3	D1	51.7	319.9	4.7E-5
							D2	46.7	324.9	2.9E-5
							D3	38.0	333.6	4.6E-5
F	hilltop	83 m from center of well pad 4	498	498	20.0	74.9	F0	101.3	396.2	3.0E-4
H	valley	1274 m from center of well pad 3	465	301	15.5	19.3	H1	90.3	210.3	5.2E-6
							H2	64.5	236.1	ND

L	valley	1178 m from center of well pad 3	465	350	19.4	2.0	L1	82.5	267.5	9.8E-5
							L2	61.6	288.4	6.2E-5
							L3	41.3	308.7	5.3E-5
							L4	23.5	326.5	3.8E-4
R	hilltop	96 m from center of well pad 1	492	492	32.1	39.5	R1	95.6	396.5	4.3E-5
							R2	73.8	418.3	1.1E-4
							R3	61.1	431.0	2.6E-4
							R4	49.4	442.7	2.9E-5
O	valley	1434 m from center of well pad 1	492	448	30.7	15.6	O1	75.6	372.5	4.9E-4
							O2	63.9	384.3	1.5E-3
							O3	54.6	393.6	9.0E-6
							O4	43.8	404.4	3.4E-4

*Hydraulic conductivity was measured for each interval using straddle packer tests.

123 **Table S2.** Well pad elevations; dates for top-hole drilling, lateral drilling, and completion; and casing details for the seven shale gas
124 wells monitored in this study. Gas wells are identified by the well pad number and direction the laterals extend away from the well
125 pad. Each gas well has its own top hole.

Gas well	Elevation of gas well pad (m above MSL)	Start date of tophole drilling	Start date of lateral drilling	Start date of HVHF	Conductor casing depth (m bgs)	Surface casing depth (m bgs)	Intermediate casing depth (m bgs)	Production casing measured depth (m)	Estimated Cement Top (m)[1]
1 North	492	1/14/2015	3/6/2015	6/27/2015	53	193	490	4781	1137
1 South	492	1/23/2015	3/23/2015	7/16/2015	52	192	490	4825	573
2 North	470	7/17/2015	8/10/2015	9/15/2015	61	187	498	3480	830
2 South	470	7/8/2015	7/30/2015	9/5/2015	66	202	498	4601	769
3 North	465	4/22/2015	5/26/2015	9/23/2015	12	193	491	3457	623
3 South	465	4/15/2015	5/16/2015	9/26/2015	12	184	490	4276	653
4 South	498	2/4/2015	5/8/2015	10/4/2015	12	199	504	3972	678

126 [1]Estimated cement top is the depth of the top of the cement that fills the annular space surrounding the production casing.

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Table S3. Distances of groundwater monitoring wells from center of the four gas well pads in the study area.

Groundwater Monitoring Well	Gas Well Pad	Distance of MW to center of gas well pad (m)*
A	2	920
A	3	2548
A	4	3515
A	1	4703
B	3	64
B	4	1241
B	2	1904
B	1	7152
D	3	1147
D	4	1359
D	2	2853
D	1	8240
F	4	84
F	3	1276
F	2	3085
F	1	7850
H	3	1274
H	2	1700
H	4	2397
H	1	7306
L	3	1178
L	2	1221
L	4	1995
L	1	5934
R	1	96
R	2	5520
R	3	7026
R	4	7697
O	1	1434
O	2	4226
O	3	5824
O	4	6594

* Distances calculated in ArcGIS using Geographic Coordinate System WGS 1984.

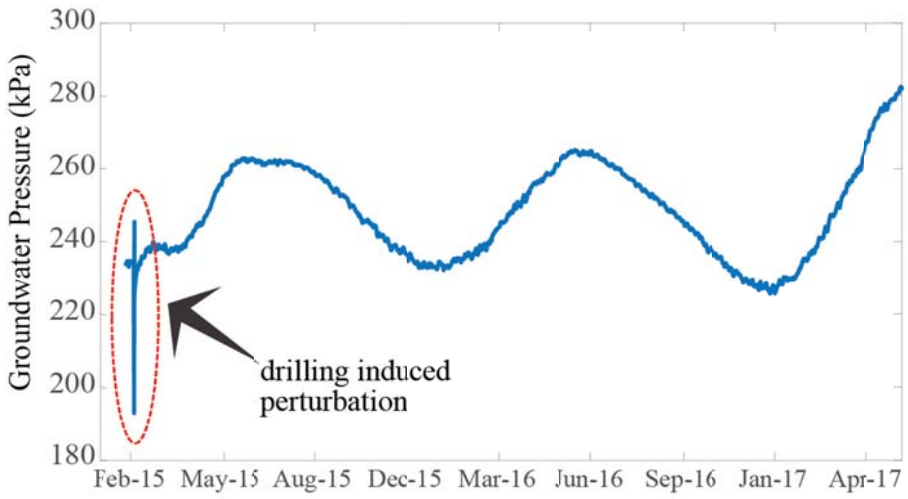


Figure S1. Measurements of groundwater pressure at the single sampling port of MW F. See Table S1 for port elevation. The perturbation in groundwater pressure that occurred in response to top-hole drilling is circled in red.

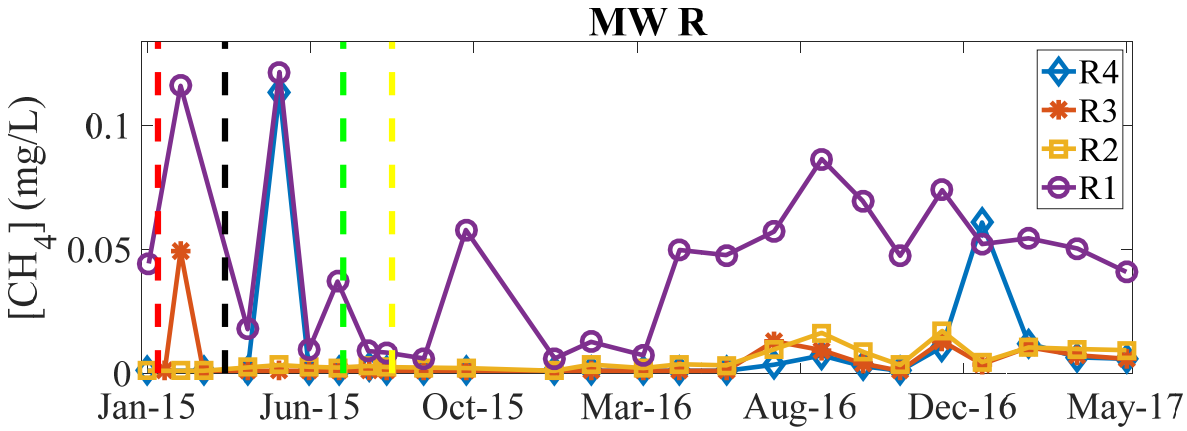


Figure S2. Methane concentrations ([CH_4]) at hilltop monitoring well R. Each solid line represents [CH_4] measured in water samples collected from a particular port, numbered from deepest (R1) to shallowest (R4). See Table S1 for port elevations. The dashed red, black, and green lines respectively designate the times of top-hole drilling, horizontal drilling, and hydraulic fracturing of the gas well drilled first on the adjacent well pad, while the dashed yellow line designates the start of production (Table S2).

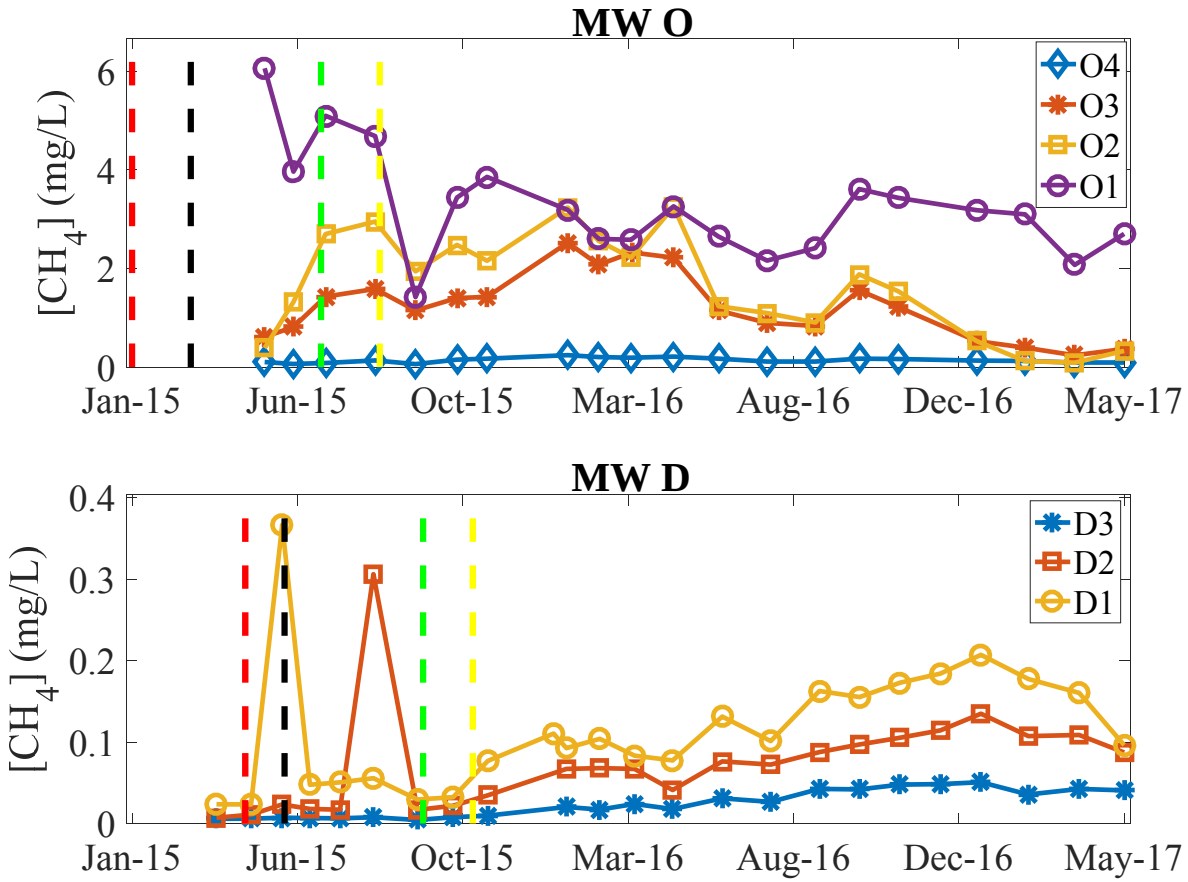


Figure S3. Methane concentrations ([CH_4]) at valley monitoring wells O and D. Each solid line represents [CH_4] measured in water samples collected from a particular port, numbered from deepest (e.g., O1) to shallowest (e.g., O4). See Table S1 for port elevations. The dashed red, black, and green lines respectively designate the times of top-hole drilling, horizontal drilling, and hydraulic fracturing of the nearest underlying gas well lateral, while the dashed yellow line designates the start of production.

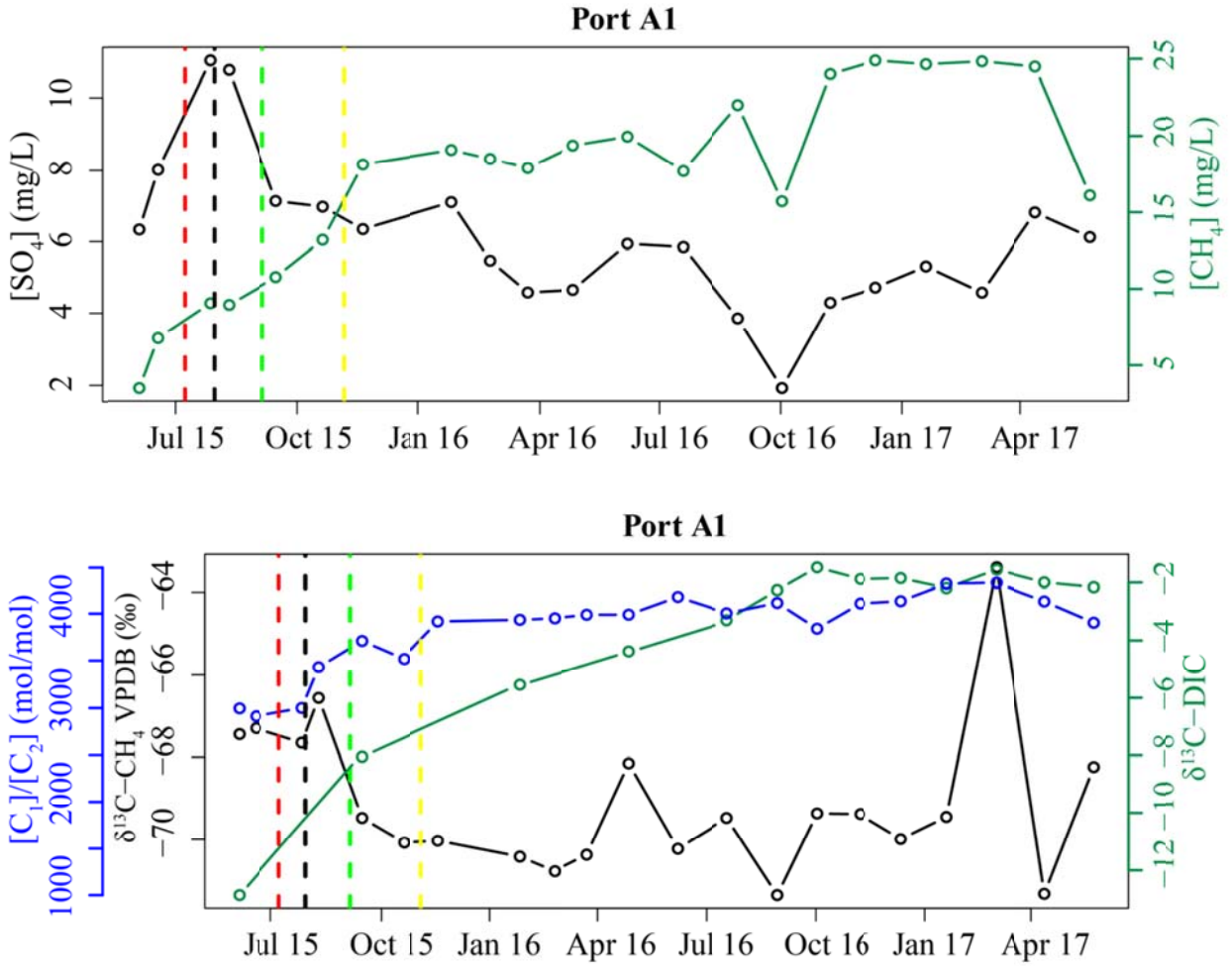


Figure S4. Time series measurements of $[SO_4]$ and $[CH_4]$ for the deepest port at MW A (top), and corresponding measurements of δ^{13}C-CH_4, $[C_1]/[C_2]$, and δ^{13}C-DIC (bottom). The dashed red, black, and green lines respectively indicate times of top-hole drilling, horizontal drilling, and hydraulic fracturing of the nearest underlying gas well lateral, while the dashed yellow line designates the start of production.

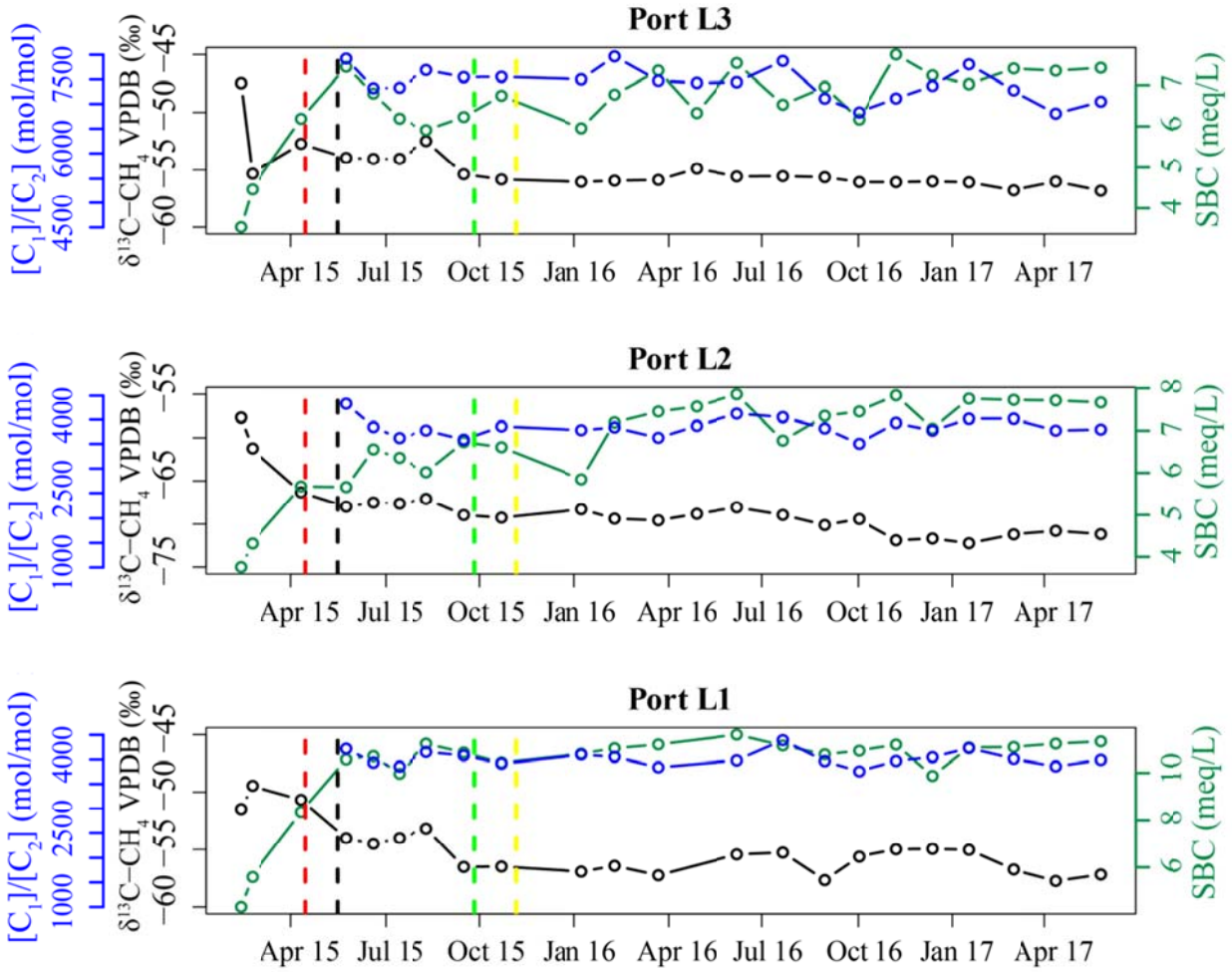


Figure S5. Time-series measurements of δ^{13}C-CH_4, $[C_1]/[C_2]$, and salinity (as sum of the base cations (SBC); Ca, Mg, Na, K) at the three deepest ports in valley well L. The dashed red, black, and green lines respectively designate the times of top-hole drilling, horizontal drilling, and hydraulic fracturing of the nearest underlying gas well lateral, while the dashed yellow line designates the start of production. The sum of base cations constituted ≥ 99% of positive charge in groundwater samples.

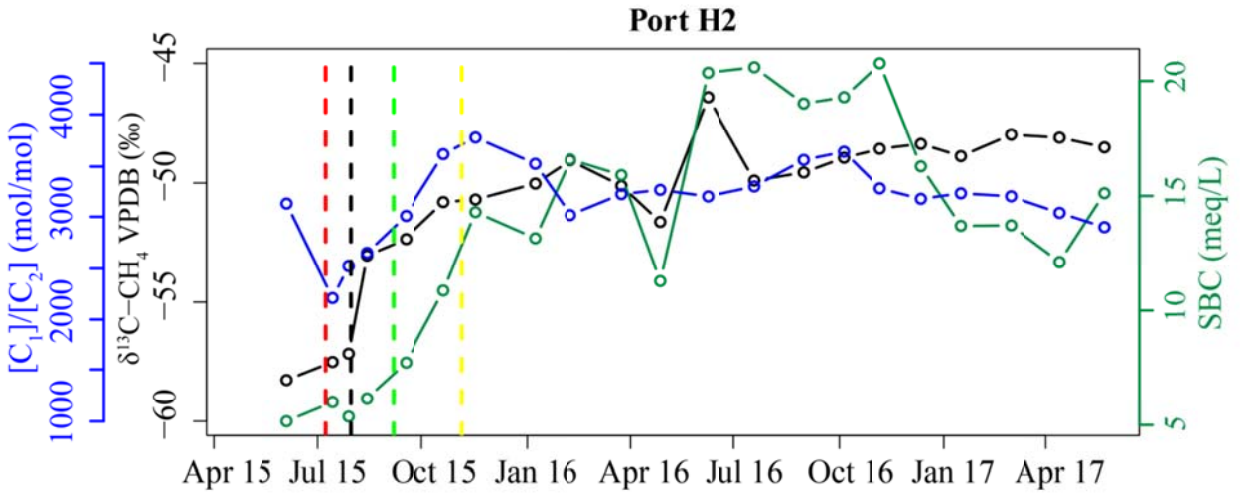


Figure S6. Time-series measurements of δ^{13}C-CH_4, C_1/C_2, and salinity (as sum of the base cations (SBC); Ca, Mg, Na, K). The dashed red, black, and green lines respectively designate the times of top-hole drilling, horizontal drilling, and HVHF of the nearest underlying gas well lateral, while the dashed yellow line designates the start of production (Table S2). The sum of base cations constituted ≥ 99% of positive charge in groundwater samples.

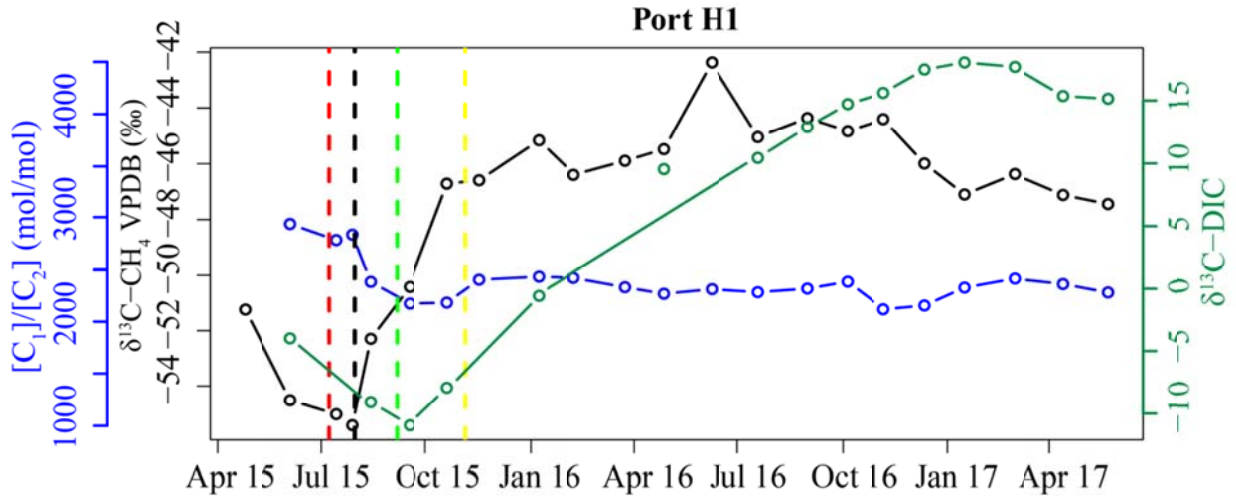


Figure S7. Time-series measurements of δ^{13}C-CH_4, $[C_1]/[C_2]$, and δ^{13}C-DIC for the deepest port at MW H. The dashed red, black, and green lines respectively designate the times of top-hole drilling, horizontal drilling, and hydraulic fracturing of the nearest underlying gas well lateral, while the dashed yellow line designates the start of production.

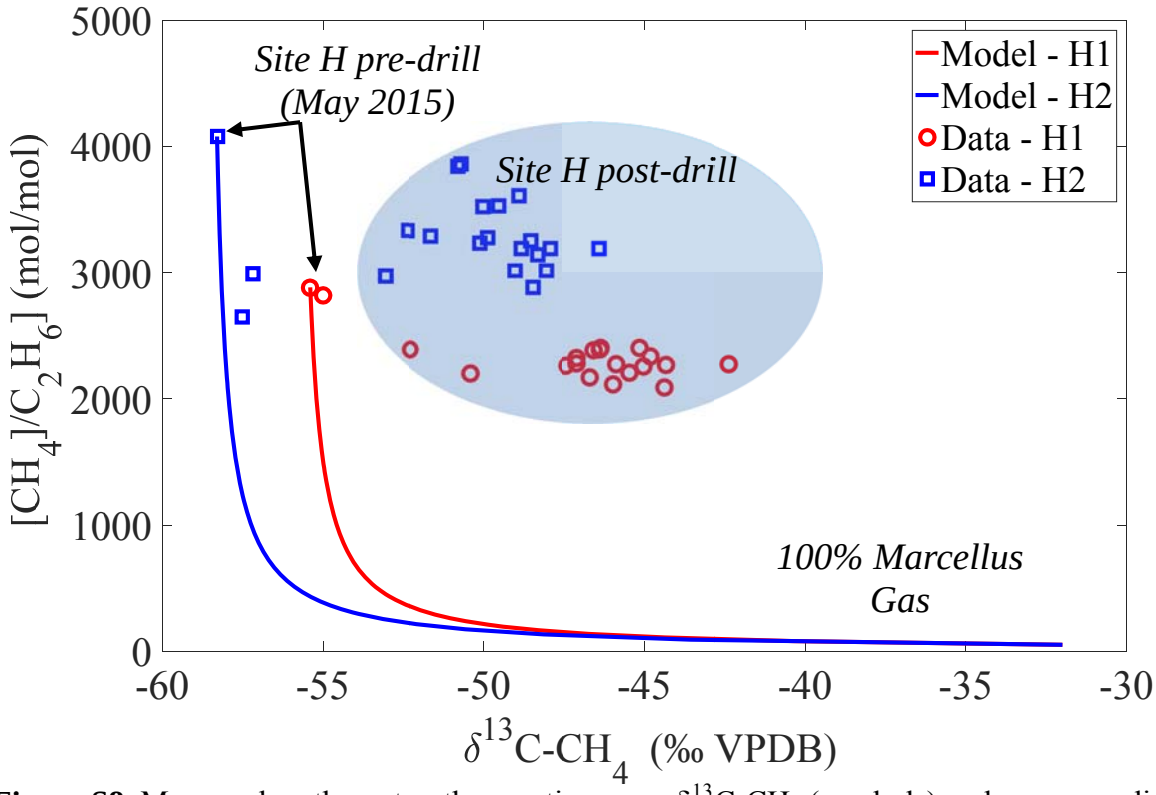


Figure S8. Measured methane-to-ethane ratio versus δ^{13}C-CH_4 (symbols) and corresponding mixing-model calculations (lines) for port 1 and port 2 at MW H. The end members of the mixing model are baseline (pre-drill) samples from MW H and production gas sampled from the closest gas well. The large deviations between measured and modeled results suggests that increases in [CH_4] at MW H are unlikely due to the addition of Marcellus gas.

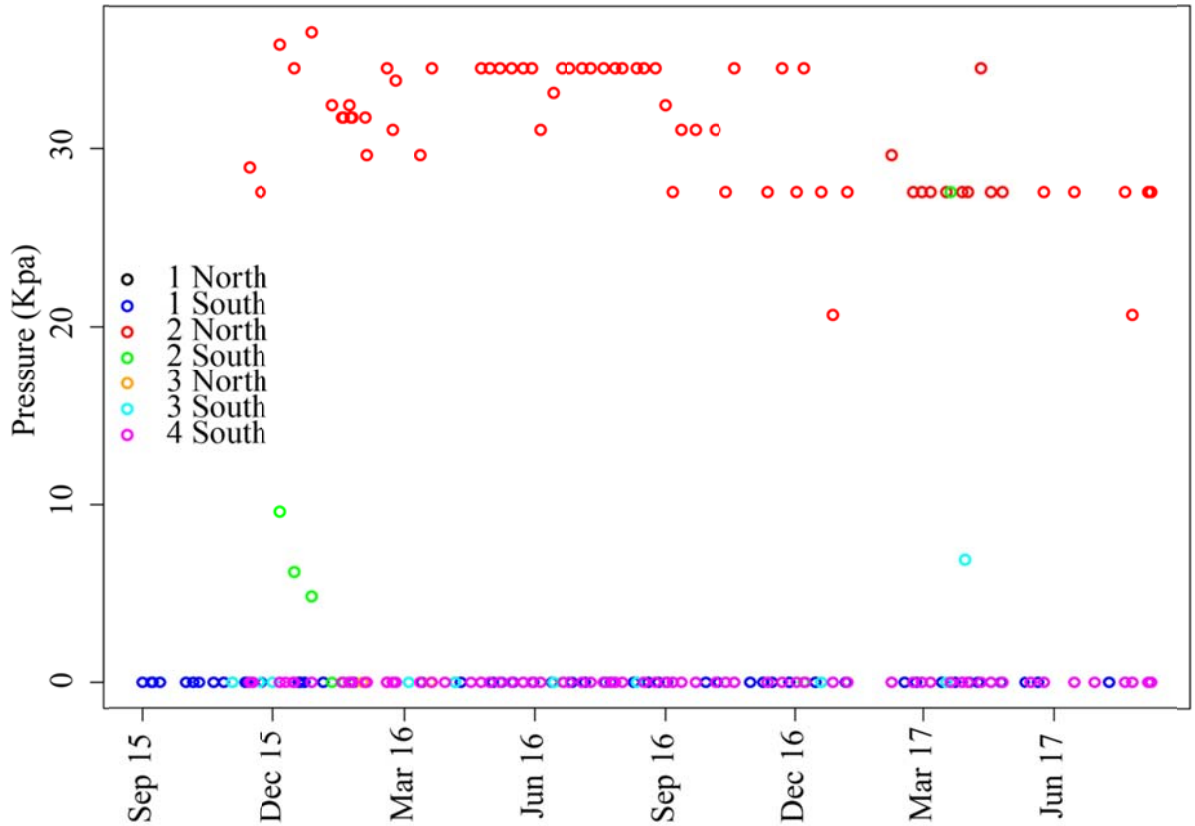


Figure S9. Annular pressures, measured by the operator, at the seven shale gas wells completed in the study area. Measurements were not taken at 3 South for two months when the gas well was plugged for repair following a casing rupture in which annular pressures temporarily rose to 9,000 kPa.

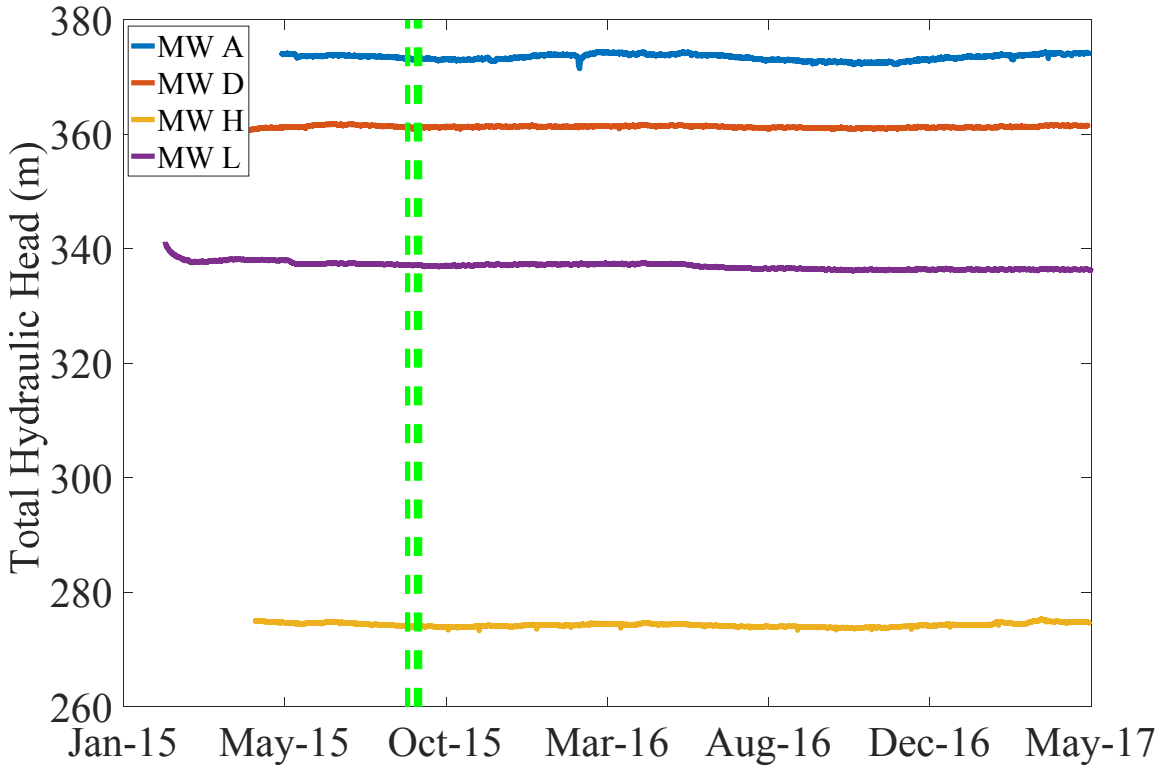


Figure S10. Hydraulic heads measured in the deepest port (port 1) of monitoring wells A, D, H, and L. The laterals of the four gas wells that underlie MWs A, D, H, and L were hydraulically fractured during the interval bracketed by the dashed green lines. Hydraulic heads within a port show little variation, which is indicative of steady groundwater flow.

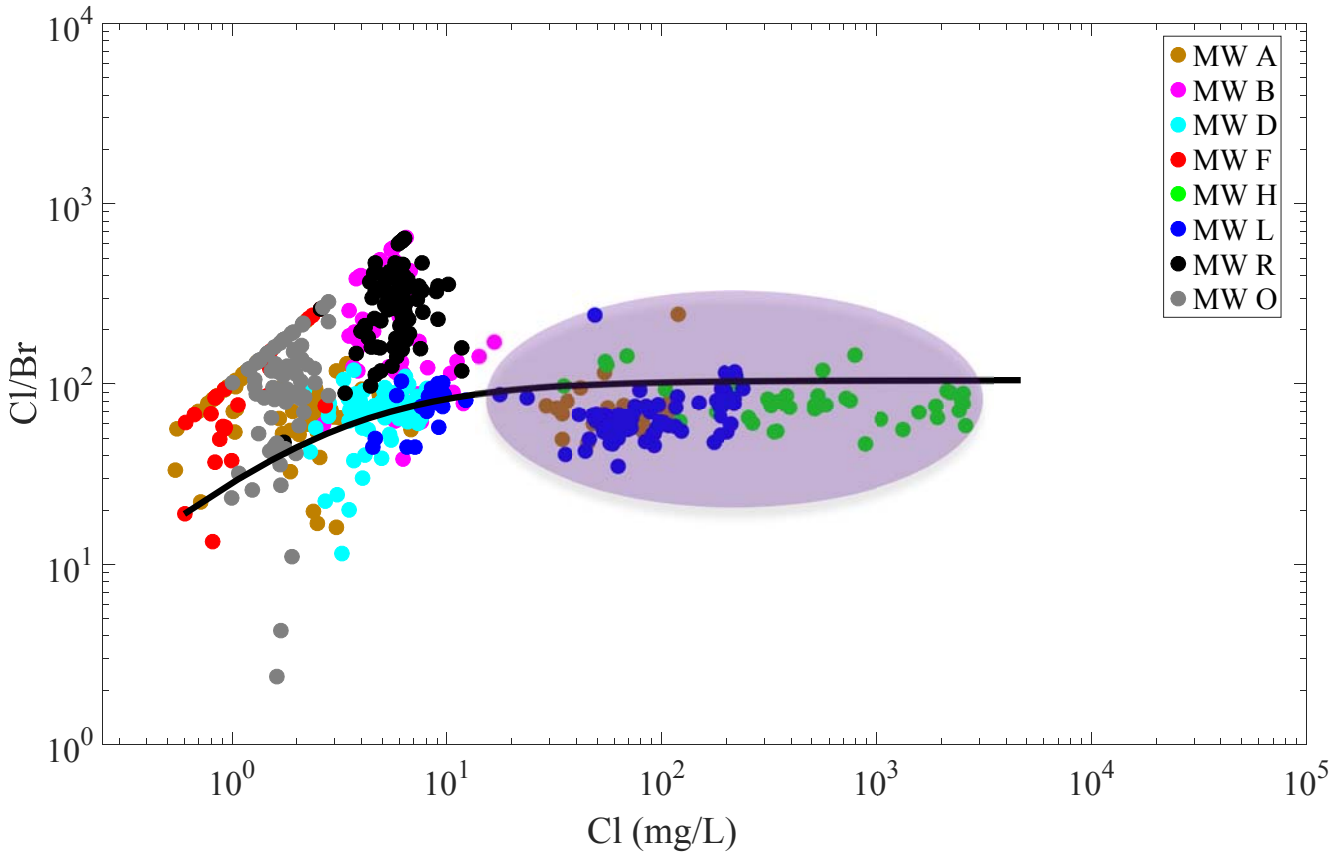
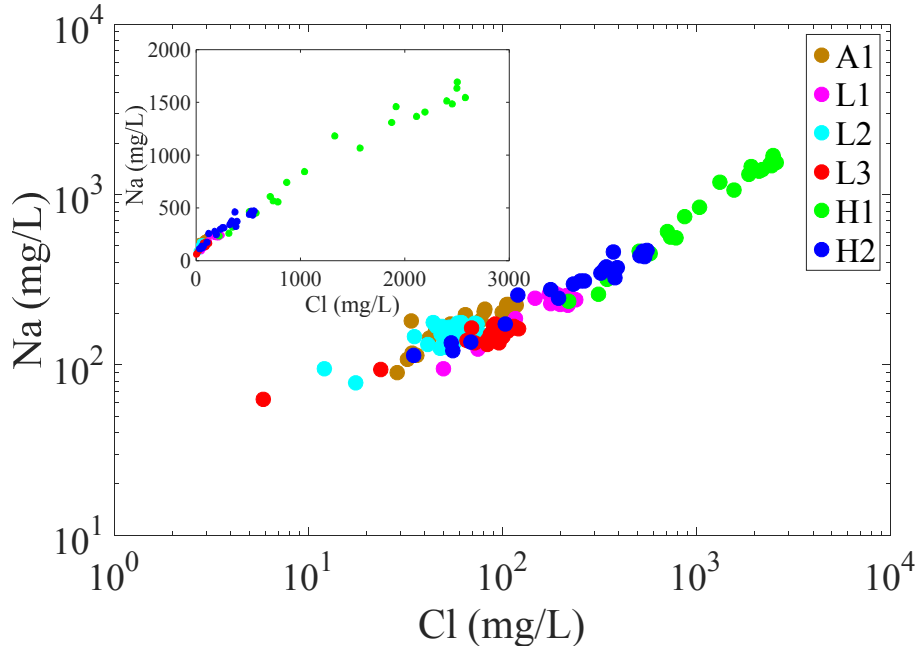


Figure S11. Measured Cl to Br mass ratios (symbols) and a two-end-member mixing curve (black line). Valley-well samples from ports A1, H1, H2, and L1-L3, where median [CH_4] exceeded 5 mg/L, are enclosed by the ellipse. These samples fall near the curve computed by mixing an Appalachian Basin Brine (ABB) with dilute groundwater from site F, a hilltop site located within an aquifer recharge area. Concentrations of Br and Cl for the ABB end member were set equal to those of a brine-containing sample from Salt Springs State Park, Susquehanna County, PA (19). Samples forming the straight line in the northwest corner of the plot represent minimum [Cl]/[Br] because [Br] in these samples were below the detection limit (0.01 mg/L).



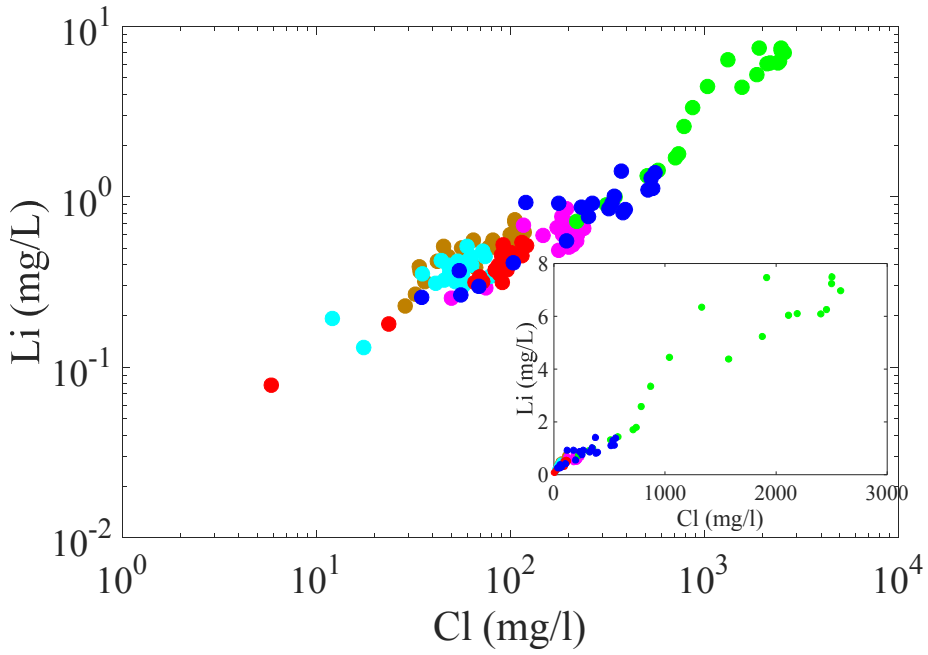


Figure S12. Concentrations of Na and Li versus concentrations of Cl (log-log scale) for valley-well samples from ports A1, H1, H2, and L1-L3. Insets show relationships on a linear scale. These linear relationships, together with the [Cl]/[Br] as depicted in Figure S11, are consistent with conservative mixing associated with dilution of an ABB.

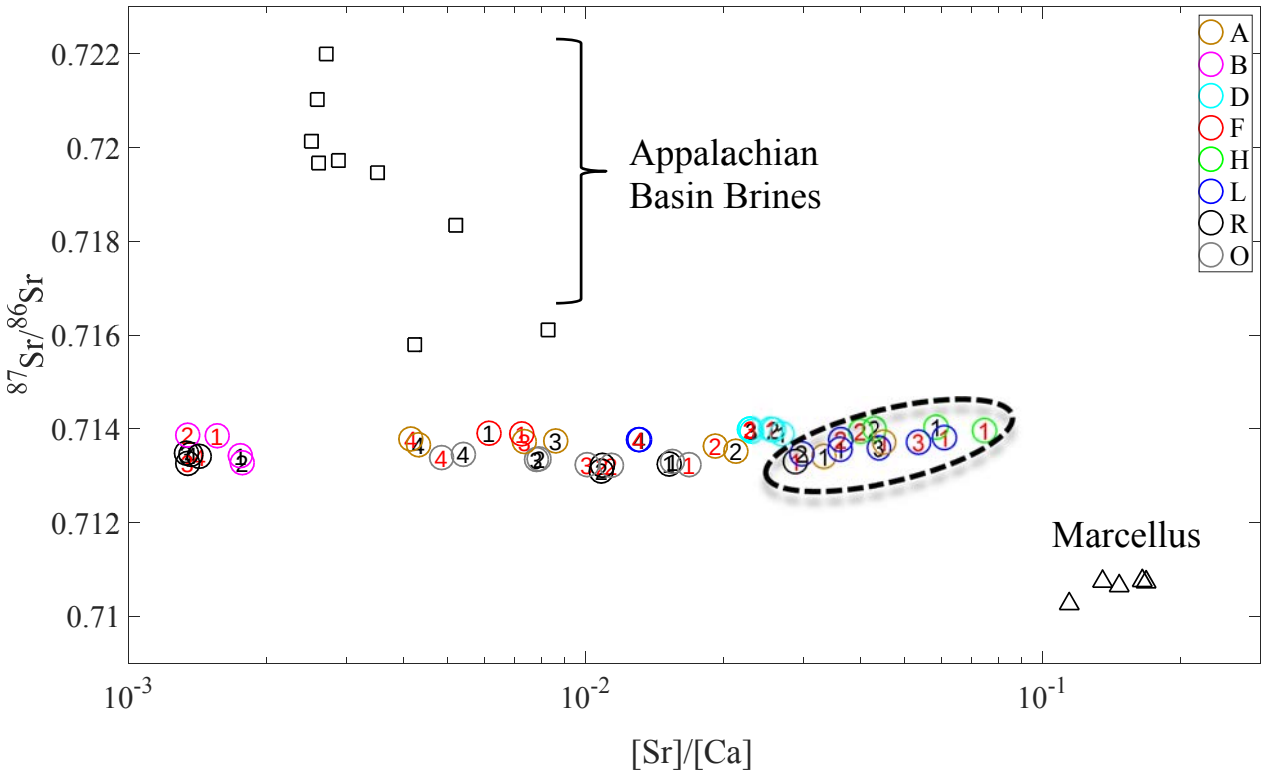


Figure S13. $^{87}Sr/^{86}Sr$ versus strontium-to-calcium molar ratio for groundwater collected in June 2015 prior to HVHF (circles with black port numbers) and in June 2016 after HVHF (circles with red port numbers). Marcellus brine (Bradford County, PA) (20) and Appalachian Basin brines from upper Devonian formations (Venango Group, Bradford Group, Organic-rich shale) (9, 21) are represented by triangles and squares, respectively. Samples enclosed by the ellipse were collected from valley MWs and have [Sr]/[Ca], $^{87}Sr/^{86}Sr$, [Cl], and [Br]/[Cl] characteristic of shallow groundwaters that possibly contain small proportions (<1%) of Marcellus brine (9). The small differences in [Sr]/[Ca] and $^{87}Sr/^{86}Sr$ between pre- and post-HVHF samples suggest that HVHF did not increase the proportion of Marcellus brine within any of the MWs.

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255 **Table S4.** Tabulated results for major anions, major cations, methane, ethane, hydrocarbon isotopes, Li, Sr, and DIC isotopes in 542 groundwater
256 samples. Detection limits are 0.002 and 0.0004 mg/L for methane and ethane, respectively.

Port	Date	Cl (mg/L)	Br (mg/L)	SO4 (mg/L)	Na (mg/L)	Mg (mg/L)	K (mg/L)	Ca (mg/L)	CH4 (mg/L)	d13C.CH4	d2H.CH4	C2H6 (mg/L)	d13C.C2H6	Li (ug/L)	Sr (ug/L)	Sr87toSr86	d13C.DIC
A1	6/4/2015	28.8	0.38	6.3	90.0	0.9	2.0	2.6	3.505	-67.44	-231.29	0.0022		229.5	146.2		-12.86
A1	6/18/2015	32.4	0.44	8.0	107.7	0.4	2.3	2.2	6.771	-67.30	-241.18	0.0044		269.6	157.7	0.713409	
A1	7/27/2015	36.4	0.45	11.0	113.8	0.3	2.2	1.4	9.063	-67.65	-241.15	0.0057		317.2	126.8		
A1	8/10/2015	34.3	0.70	10.8	117.8	0.4	2.7	1.7	8.952	-66.56	-240.41	0.0049		364.5	132.2		
A1	9/15/2015	42.0	0.44	7.1	144.3	0.2	1.9	2.0	10.772	-69.47	-240.81	0.0054		419.9	235.5		-8.05
A1	10/20/2015	48.1	0.80	7.0	152.7	0.2	2.7	1.6	13.201	-70.07	-239.00	0.0070		444.6	154.9		
A1	11/19/2015	54.4	0.47	6.3	174.7	0.2	5.8	1.8	18.129	-70.03	-239.98	0.0087		324.9	177.6		
A1	1/26/2016	66.4	0.87	7.1	159.8	0.1	1.6	1.8	19.079	-70.41	-245.36	0.0091		383.5	171.9		-5.54
A1	2/24/2016	56.0	0.76	5.5	156.8	0.2	1.5	1.9	18.494	-70.77	-248.04	0.0088		502.7	191.3		
A1	3/23/2016	34.1	0.50	4.6	181.9	0.2	1.5	2.1	17.895	-70.37	-245.91	0.0084		387.6	175.2		
A1	4/27/2016	45.5	0.97	4.6	159.7	0.1	1.4	1.7	19.368	-68.15	-244.63	0.0091		509.6	192.0		-4.38
A1	6/7/2016	64.7	1.14	5.9	198.0	0.3	2.4	2.2	19.949	-70.23	-246.40	0.0089	-37.22	556.6	212.1	0.713717	
A1	7/19/2016	77.7	1.17	5.8	183.2	0.4	1.7	2.1	17.699	-69.47	-262.35	0.0083	-36.19	507.8	200.7		-3.30
A1	8/30/2016	81.5	1.36	3.8	212.5	0.4	2.0	2.5	22.005	-71.35	-261.30	0.0100	-36.20	559.7	244.5		-2.26
A1	10/2/2016	81.0	1.46	1.9	206.6	0.4	1.9	2.4	15.713	-69.36	-260.01	0.0076	-35.96	505.5	235.0		-1.48
A1	11/7/2016	106.0	1.57	4.3	223.9	0.4	2.2	2.7	24.001	-69.38	-255.08	0.0109	-36.28	731.3	293.8		-1.88
A1	12/12/2016	118.5	0.49	4.7	225.1	0.3	2.3	2.6	24.894	-69.99	-250.61	0.0113	-36.09	617.7	292.5		-1.85
A1	1/19/2017	100.3	1.41	5.3	203.6	0.4	1.6	2.4	24.648	-69.45	-257.15	0.0107	-36.25	599.8	297.2		-2.19
A1	3/2/2017	107.3	1.56	4.6	226.3	0.6	2.1	2.7	24.832	-63.41	-241.06	0.0107	-36.17	639.0	274.5		-1.56
A1	4/12/2017	106.1	1.53	6.8	226.0	0.6	2.0	2.5	24.492	-71.31	-243.74	0.0111	-38.43	712.3	288.3		-2.00
A1	5/23/2017	108.2	1.35	6.1	216.1	0.5	2.0	2.3	16.104	-68.24	-240.05	0.0077	-36.15	545.1	220.7		-2.16
A2	6/4/2015	6.8	0.12	7.5	41.9	5.1	1.7	14.2	0.296	-57.23	-170.70	b.d.l.		97.0	507.8		
A2	6/18/2015	3.0	0.05	10.0	55.8	2.5	1.4	6.8	0.449	-59.47	-208.86	b.d.l.		102.4	317.2	0.713528	
A2	7/27/2015	2.6	0.07	9.7	52.8	2.3	2.1	7.5	0.688	-57.89	-199.53	0.0006		97.2	302.5		
A2	8/10/2015	3.7	0.05	10.0	51.7	3.4	1.7	10.1	0.176	-59.22	-205.08	b.d.l.		88.2	348.5		
A2	9/15/2015	3.4	0.03	9.4	41.9	4.8	1.6	13.9	0.343	-59.20	-201.04	b.d.l.		58.5	367.3		
A2	10/20/2015	2.6	0.03	10.5	46.3	3.8	1.7	11.3	0.453	-61.39	-214.42	b.d.l.		77.6	317.1		
A2	11/19/2015	1.3	0.01	7.7	44.2	3.9	2.2	11.0	0.566	-60.91	-215.73	b.d.l.		66.4	356.8		

A2	1/26/2016	2.3	0.03	11.7	47.7	4.3	1.3	12.1	0.557	-61.71	-226.78	b.d.l.	62.5	361.6		
A2	2/24/2016	2.2	0.03	10.8	54.0	1.8	1.5	5.8	0.702	-62.20	-224.97	0.0006	79.8	252.8		
A2	3/23/2016	1.7	0.03	6.3	52.9	2.9	1.3	8.3	0.599	-62.27	-225.31	b.d.l.	76.5	276.6		
A2	4/27/2016	2.3	0.04	8.0	42.9	2.8	1.0	7.9	0.598	-61.10	-214.38	0.0005	89.5	311.5		
A2	6/7/2016	2.3	0.03	8.9	55.7	2.5	1.8	7.3	0.676	-61.43	-220.37	0.0005	101.4	306.1	0.713636	
A2	7/19/2016	2.5	0.15	10.1	43.4	4.1	1.3	11.2	0.576	-63.03	-223.51	0.0004	75.7	346.4		-17.09
A2	8/30/2016	2.4	0.12	10.7	49.8	3.5	1.5	9.5	0.680	-62.04	-218.76	0.0007	92.8	342.9		-16.88
A2	10/2/2016	3.1	0.03	10.4	46.7	3.9	1.5	10.7	0.514	-62.09	-228.56	b.d.l.	76.6	329.5		-16.64
A2	11/7/2016	3.1	0.19	7.5	48.2	4.1	1.4	11.3	0.771	-62.45	-209.23	0.0006	92.1	364.4		-17.20
A2	12/12/2016	3.2	0.05	9.9	44.8	4.0	1.5	11.0	0.785	-61.62	-212.36	0.0004	93.4	397.9		-17.26
A2	1/19/2017	4.8	0.06	8.3	43.9	5.1	1.4	13.7	0.738	-62.78	-209.83	0.0004	84.3	434.9		-17.28
A2	3/2/2017	4.0	0.04	7.9	50.6	3.4	1.4	9.3	0.622	-61.93	-231.98	0.0005	89.4	277.0		-17.25
A2	4/12/2017	5.4	0.08	9.3	48.0	3.7	1.5	9.9	0.724	-62.23	-231.44	b.d.l.	100.6	386.6		-17.00
A2	5/23/2017	4.2	0.06	9.1	49.8	3.3	1.3	9.0	0.259	-61.95	-233.43	b.d.l.	98.5	321.4		-17.16
A3	6/4/2015	2.6	0.04	11.8	26.9	7.5	2.0	21.9	0.007			b.d.l.	45.6	421.1		
A3	6/18/2015	2.9	0.04	10.9	29.0	8.1	2.3	23.4	0.016	-53.28	-10.45	b.d.l.	43.1	440.0	0.713737	
A3	7/27/2015	2.2	0.03	10.4	25.7	8.1	1.9	23.0	0.175	-49.48	-151.34	b.d.l.	39.5	374.1		
A3	8/10/2015	2.3	0.03	12.3	26.7	8.8	1.5	25.4	0.240	-54.32	-115.37	b.d.l.	32.9	364.1		
A3	9/15/2015	1.7	0.02	12.5	22.8	9.0	1.5	25.0	0.009	-53.63		b.d.l.	24.3	313.2		
A3	10/20/2015	2.1	0.02	12.5	24.8	8.3	1.1	23.1	0.012	-57.18	-111.47	b.d.l.	29.4	332.0		
A3	1/26/2016	1.9	0.03	14.8	27.2	9.1	1.4	24.2	0.019	-61.18	-148.38	b.d.l.	30.3	384.5		
A3	2/24/2016	1.7	0.03	16.9	23.0	7.9	0.7	22.2	0.020	-61.79	-153.76	0.0004	30.8	355.3		
A3	3/23/2016	1.9	0.02	10.1	23.6	9.1	1.2	24.0	0.024	-65.42	-192.40	0.0004	30.9	326.7		
A3	4/27/2016	1.9	0.03	10.2	24.5	8.9	1.3	23.2	0.025	-64.66	-180.03	0.0004	39.7	354.2		
A3	6/7/2016	2.4	0.04	10.5	25.1	9.1	1.6	24.0	0.024	-63.55	-169.29	b.d.l.	41.9	385.5	0.713722	
A3	7/19/2016	b.d.l.	0.06	12.2	23.5	8.2	1.3	21.7	0.060	-69.65	-208.75	0.0004	39.0	365.3		-17.13
A3	8/30/2016	1.9	0.06	10.5	20.0	7.0	1.1	18.5	0.052	-68.91	-210.08	0.0004	41.4	354.9		-16.96
A3	10/2/2016	2.2	0.01	13.0	23.3	8.3	1.2	21.8	0.041	-66.52	-208.45	b.d.l.	35.2	340.9		-16.49
A3	11/7/2016	0.1	0.14	9.7	25.1	8.7	1.2	22.7	0.040	-69.49	-218.04	0.0004	41.8	342.1		-17.18
A3	12/12/2016	2.1	0.04	12.9	19.4	7.9	1.2	20.3	0.053	-54.90	-218.76	0.0004	37.9	364.6		-17.17
A3	1/19/2017	2.4	0.03	11.1	21.3	8.0	1.0	20.7	0.053	-70.19	-216.71	0.0004	39.2	394.8		-17.25
A3	3/2/2017	2.6	0.03	11.6	24.1	8.8	1.1	22.6	0.037	-66.39	-216.57	0.0004	40.6	332.4		-17.19
A3	4/12/2017	2.6	0.04	12.1	23.1	8.4	1.2	21.9	0.047	-67.23	-221.80	0.0004	42.5	418.0		-16.91
A3	5/23/2017	2.5	0.05	12.2	24.3	8.4	1.2	21.4	0.036	-65.28	-195.71	b.d.l.	39.1	338.6		-17.05

A4	6/4/2015	1.1	0.01	13.0	18.5	10.3	1.3	27.9	0.002			b.d.l.		14.5	269.9		
A4	6/18/2015	0.8	b.d.l.	12.9	20.4	10.7	1.6	30.5	0.004			b.d.l.		14.1	287.5	0.713664	
A4	7/27/2015	1.0	0.01	13.1	19.4	9.9	1.4	29.0	0.007			b.d.l.		13.2	271.2		
A4	8/10/2015	1.0	0.02	13.2	20.0	9.1	1.4	25.8	0.003			b.d.l.		13.2	275.8		
A4	9/15/2015	0.9	b.d.l.	13.1	18.5	10.6	1.1	29.5	0.003	-62.32	-209.45	b.d.l.		10.6	256.9		
A4	10/20/2015	1.0	b.d.l.	13.2	20.3	10.4	b.d.l.	29.7	0.003	-61.24	-235.58	b.d.l.		13.0	254.2		
A4	1/26/2016	0.6	0.01	13.6	20.7	11.5	1.0	31.1	0.006	-59.92	-231.83	b.d.l.		12.8	264.2		
A4	2/24/2016	0.5	0.02	18.6	20.1	10.8	1.1	29.2	0.006	-66.37	-240.82	0.0004		12.8	262.2		
A4	3/23/2016	0.9	0.01	10.1	17.5	11.2	0.9	30.0	0.008	-67.09	-242.01	0.0004		12.6	247.7		
A4	4/27/2016	0.8	b.d.l.	9.8	17.3	11.2	1.0	29.3	0.009	-68.00	-245.46	0.0004		14.9	260.0		
A4	6/7/2016	0.7	0.01	11.1	16.7	11.5	1.4	30.5	0.009	-67.24	-246.54	0.0004		15.1	276.9	0.713778	
A4	7/19/2016	b.d.l.	0.04	12.9	16.7	10.4	1.0	27.2	0.010			0.0004		12.3	256.4		-16.55
A4	8/30/2016	0.7	0.03	12.3	12.9	7.5	1.0	20.9	0.015	-69.10	-250.82	0.0004		14.3	260.4		-16.17
A4	10/2/2016	1.0	b.d.l.	13.9	15.9	10.6	1.0	27.6	0.017	-68.51	-255.29	b.d.l.		14.5	239.0		-15.92
A4	11/7/2016	0.1	0.03	10.0	17.1	11.0	0.9	28.6	0.019	-69.35	-249.65	0.0004		18.9	290.8		-16.63
A4	12/12/2016	0.8	b.d.l.	14.7	14.6	10.2	1.0	26.8	0.019	-40.44	-248.84	0.0004		15.7	257.2		-16.49
A4	1/19/2017	1.2	b.d.l.	11.7	17.1	10.9	1.1	28.1	0.022	-70.36	-247.07	0.0004		16.2	282.8		-16.68
A4	3/2/2017	1.1	0.01	11.1	17.1	10.7	1.0	28.0	0.018	-69.28	-239.77	0.0004		13.7	208.0		-16.68
A4	4/12/2017	1.0	0.01	13.0	16.1	10.3	1.1	27.1	0.017	-69.52	-239.03	b.d.l.		16.6	288.8		-16.33
A4	5/23/2017	1.0	0.01	12.9	16.5	10.5	1.0	27.0	0.018	-69.31	-243.93	b.d.l.		16.0	251.7		-16.54
B1	3/28/2015	4.6	0.02	18.2	5.7	9.8	1.9	30.3	0.005					10.9	110.8		
B1	4/12/2015	3.8	b.d.l.	16.5	2.9	9.4	1.6	25.5	0.002					9.2	90.2		
B1	5/11/2015	5.7	0.01	15.7	3.4	9.7	1.0	27.6	0.010	-44.27	-175.08	b.d.l.		7.7	83.5		
B1	6/5/2015	4.9	b.d.l.	15.2	1.3	9.8	1.2	26.2	0.061	-55.96	-256.03	b.d.l.		7.3	91.1		
B1	6/18/2015	3.9	0.01	15.3	1.3	10.1	1.4	27.1	0.003			b.d.l.		7.6	104.3	0.713429	
B1	7/13/2015	6.2	0.03	15.4	4.5	9.6	1.5	28.0	0.002			b.d.l.		7.2	86.8		
B1	8/12/2015	6.8	0.02	15.8	4.7	9.2	1.4	27.0	0.002			b.d.l.		6.3	89.2		
B1	9/17/2015	5.7	0.01	15.1	2.7	10.3	1.7	30.2	0.002			b.d.l.		7.1	92.9		
B1	10/21/2015	5.5	0.01	16.7	4.8	9.9	0.2	29.9	0.002	-32.20		b.d.l.		7.7	93.1		
B1	1/7/2016	3.7	0.02	15.4	5.3	9.6	1.2	26.4	0.003	-35.00	-407.70	b.d.l.		5.8	102.2		
B1	1/14/2016	4.0	0.02	22.4	6.7	9.5	1.7	26.5	0.005	-62.98	-321.11	b.d.l.		4.8	101.1		
B1	1/26/2016	3.7	0.03	21.5	5.0	10.8	1.2	30.5	0.002	-48.49	-350.69	b.d.l.		6.9	97.8		
B1	2/9/2016	3.5	0.02	27.3	4.8	10.4	1.5	29.1	b.d.l.	-36.47		0.0004		6.1	90.5		
B1	3/24/2016	3.8	0.02	9.6	1.1	10.3	1.1	28.1	0.002	-47.03	-197.02	0.0004		7.5	90.8		

B1	4/29/2016	6.2	0.04	11.0	0.7	10.4	1.2	28.6	0.002	-56.95	-274.00	0.0004		7.0	94.9		
B1	6/8/2016	7.4	0.04	13.9	0.6	10.3	1.2	28.1	0.009	-45.66	-252.81	0.0004		8.5	96.0	0.713846	
B1	7/20/2016	7.6	0.12	16.7	1.1	10.7	1.3	30.4	0.022	-42.95	-337.44	0.0004		8.9	94.3		-18.22
B1	8/31/2016	8.1	0.07	26.1	0.9	10.2	1.3	28.3	0.107	-20.24	-52.54	0.0009		6.9	94.3		-18.30
B1	10/5/2016	2.7	0.04	17.6	0.8	10.9	1.0	30.3	0.022	-28.37	-197.32	0.0004		7.3	93.4		-11.61
B1	11/8/2016	6.2	0.16	21.1	1.8	11.2	1.3	30.5	0.028	-32.12	-164.75	0.0004		10.1	102.3		-18.14
B1	12/14/2016	10.7	0.12	17.9	b.d.l.	9.8	1.4	26.9	0.011	-43.55	-302.47	0.0004		10.5	96.0		-17.85
B1	1/18/2017	5.7	0.07	11.4	0.8	10.6	1.1	27.9	0.008			0.0004		9.8	101.0		-18.37
B1	2/28/2017	5.9	0.05	14.5	0.5	9.8	1.0	26.5	0.005			0.0004		7.9	86.6		-18.52
B1	4/13/2017	6.1	0.07	17.3	1.5	9.9	1.2	27.0	0.006			0.0004		9.9	101.5		-18.81
B1	5/23/2017	5.4	0.04	17.1	1.3	10.0	1.2	26.5	0.009			b.d.l.		8.6	78.5		-18.37
B2	3/31/2015	4.0	0.01	18.6	6.2	10.4	1.8	30.4						1.5	81.0		
B2	4/12/2015	5.5	b.d.l.	15.2	2.1	7.3	1.2	20.4						6.2	61.4		
B2	5/11/2015	6.5	0.01	14.7	2.6	7.2	0.8	20.6						5.3	58.5		
B2	6/5/2015	5.5	0.01	14.3	1.4	7.2	1.3	20.2						6.5	81.1		
B2	6/18/2015	6.0	0.03	14.6	1.3	7.5	1.3	20.7	0.002			b.d.l.		5.4	80.4	0.713278	
B2	7/13/2015	6.7	0.02	14.3	1.0	7.1	0.9	19.8	b.d.l.			b.d.l.		5.6	62.2		
B2	8/12/2015	6.8	0.02	16.0	0.7	7.6	1.1	20.7	b.d.l.			b.d.l.		5.2	61.4		
B2	9/17/2015	5.7	0.01	18.7	1.8	8.7	1.1	23.9	b.d.l.			b.d.l.		8.0	83.6		
B2	10/21/2015	5.4	0.02	17.9	4.2	8.3	b.d.l.	23.9	b.d.l.	-49.49	-223.83	b.d.l.		5.4	67.1		
B2	1/7/2016	3.9	0.03	21.3	4.6	7.4	0.7	20.3	0.002	-39.71	-194.29	b.d.l.		4.7	66.0		
B2	1/14/2016	4.0	0.02	24.3	5.7	7.9	1.4	21.4	0.003	-33.82	-185.32	b.d.l.		4.0	71.1		
B2	1/26/2016	3.5	0.01	22.3	0.8	7.7	0.9	21.4	0.017	-24.87	-69.18	b.d.l.		5.9	67.4		
B2	2/9/2016	4.0	0.02	28.2	3.1	8.2	1.0	23.2	b.d.l.	-20.92	-34.70	0.0004		5.4	65.3		
B2	3/24/2016	10.4	0.09	10.2	1.4	9.0	0.9	23.8	0.002	-53.23	-214.64	0.0004		5.4	69.4		
B2	4/29/2016	11.1	0.08	9.4	1.3	9.5	0.9	25.0	0.002	-62.05	-228.85	0.0004		6.0	72.6		
B2	6/8/2016	16.7	0.10	13.1	0.2	9.6	1.4	26.6	0.004	-50.24	-208.70	0.0004		2.5	78.4	0.713870	
B2	7/20/2016	14.1	0.10	17.8	1.7	9.2	1.1	25.1	0.015	-15.07	-10.06	0.0004		8.3	76.4		-18.84
B2	8/31/2016	8.3	0.10	17.8	1.3	8.6	1.2	23.8	0.006			0.0004		6.9	68.1		-18.55
B2	10/5/2016	9.7	0.11	19.4	1.0	9.1	0.9	24.8	0.002			0.0004		6.1	71.9		-18.56
B2	11/8/2016	5.7	0.09	14.0	1.0	9.3	0.9	24.6	0.005			0.0004		9.5	80.5		-18.34
B2	12/14/2016	11.9	0.15	17.4	b.d.l.	7.7	1.0	21.3	0.005			0.0004		8.3	66.9		-18.47
B2	1/18/2017	7.3	0.08	13.6	1.3	7.8	1.0	21.3	0.005			0.0004		7.8	68.3		-19.12
B2	2/28/2017	6.2	0.05	13.8	0.7	8.0	0.8	20.9	0.004			0.0004		8.3	58.8		-19.36

B2	4/13/2017	6.1	0.05	16.8	1.0	7.4	1.0	20.1	0.005			b.d.l.		7.2	67.8		-19.34
B2	5/23/2017	5.7	0.05	16.7	0.7	7.8	0.8	20.4	0.007			b.d.l.		6.4	57.7		-19.02
D1	3/28/2015	4.6	0.06	15.1	88.3	3.2	2.1	10.1	0.024	-61.06	-59.65			190.4	522.4		
D1	4/27/2015	5.6	0.06	13.0	96.8	2.2	2.5	6.8	0.024	-61.26	-85.65			240.4	400.7		
D1	5/24/2015	6.1	0.07	11.8	109.1	2.1	2.6	6.7	0.367	-65.68	-161.88	b.d.l.		215.6	399.1		
D1	6/17/2015	5.0	0.13	12.9	101.1	2.1	2.3	7.3	0.048	-67.66	-150.16	b.d.l.		229.0	427.1	0.713896	
D1	7/13/2015	6.5	0.07	12.5	98.4	1.8	2.1	6.6	0.051	-67.42	-157.73	b.d.l.		230.4	375.4		
D1	8/11/2015	7.3	0.09	12.6	98.6	2.1	2.7	6.7	0.056	-66.06	-151.22	b.d.l.		205.7	383.7		
D1	9/18/2015	6.1	0.07	10.2	95.1	2.0	2.0	7.2	0.030	-67.11	-148.43	b.d.l.		171.2	380.5		
D1	10/19/2015	5.9	0.09	13.6	92.0	2.1	1.0	7.2	0.032	-67.05	-143.18	b.d.l.		147.0	418.1		
D1	11/18/2015	6.4	0.06	18.0	95.7	2.3	2.1	7.6	0.077	-68.32	-185.70	b.d.l.		173.2	435.6		
D1	1/14/2016	6.6	0.08	12.9	101.4	2.4	1.9	7.7	0.110	-70.56	-232.03	b.d.l.		161.2	409.3		
D1	1/25/2016	6.6	0.07	12.7	107.8	2.5	2.1	7.9	0.093	-69.62	-214.92	b.d.l.		169.2	404.8		
D1	2/23/2016	4.4	0.06	12.4	100.3	2.2	1.8	7.3	0.104	-70.20	-235.82	0.0004		160.1	383.2		
D1	3/24/2016	4.4	0.06	8.4	105.7	2.4	1.4	7.8	0.083	-69.06	-246.51	0.0004		153.9	382.7		
D1	4/26/2016	4.9	0.07	9.0	105.8	2.5	1.5	7.7	0.078	-68.39	-247.14	0.0004		202.8	404.2		
D1	6/8/2016	6.8	0.09	10.8	108.3	2.3	2.0	7.7	0.131	-67.15	-249.79	0.0004		210.5	428.2	0.713986	
D1	7/20/2016	7.3	0.09	12.2	99.3	2.3	1.5	7.0	0.101	-64.95	-252.14	0.0004		212.0	394.1		-16.59
D1	8/31/2016	4.1	0.10	9.5	101.2	2.1	1.7	6.8	0.163	-64.57	-266.96	0.0004		201.2	365.6		-16.64
D1	10/5/2016	2.3	0.05	13.1	106.2	2.1	1.3	6.6	0.155	-65.25	-259.91	0.0004		187.6	362.9		-16.04
D1	11/9/2016	4.1	0.14	9.1	108.4	2.1	1.6	6.9	0.173	-64.43	-280.86	0.0004		235.6	411.7		-16.65
D1	12/14/2016	0.1	0.11	13.0	102.5	1.8	1.6	6.2	0.184	-64.27	-278.34	0.0004		220.9	345.3		-16.32
D1	1/18/2017	7.6	0.12	11.2	111.1	1.9	1.4	6.4	0.207	-63.02	-283.59	0.0004		221.0	379.5		-16.47
D1	2/28/2017	7.4	0.12	10.1	109.3	2.0	1.4	6.1	0.177	-63.79	-264.58	0.0004		220.8	336.6		-16.59
D1	4/13/2017	7.7	0.10	12.4	101.6	2.1	1.5	6.4	0.160	-63.37	-257.48	b.d.l.		239.0	411.3		-16.91
D1	5/22/2017	7.0	0.09	12.5	101.5	2.1	1.4	6.3	0.096	-63.42	-262.75	b.d.l.		202.8	332.8		-16.53
D2	3/28/2015	4.3	0.06	16.9	85.7	3.5	2.4	11.9	0.007					186.4	579.6		
D2	4/27/2015	5.5	0.07	13.3	102.9	2.7	3.0	8.8	0.011	-41.02	148.73			217.6	491.2		
D2	5/24/2015	5.2	0.06	12.8	98.6	2.9	2.2	8.5	0.023		-41.16	b.d.l.		193.7	455.7		
D2	6/17/2015	4.2	0.06	13.9	97.6	2.4	2.6	8.3	0.018	-53.00	9.89	b.d.l.		203.6	470.2	0.713971	
D2	7/13/2015	5.3	0.06	14.2	94.0	2.5	2.5	8.5	0.017	-53.07	-0.97	b.d.l.		192.7	476.7		
D2	8/11/2015	6.4	0.07	14.0	90.8	1.9	2.3	7.5	0.306	-52.55	-215.51	b.d.l.		196.8	415.2		
D2	9/18/2015	5.2	0.05	10.8	91.6	2.7	2.3	8.8	0.017	-57.90	-73.65	b.d.l.		189.0	423.5		
D2	10/19/2015	5.1	0.06	14.7	90.2	2.5	1.8	8.0	0.022	-58.58	-71.61	b.d.l.		184.3	446.4		

D2	11/18/2015	2.8	0.04	14.2	89.7	2.9	2.8	9.2	0.035	-56.34	-172.79	b.d.l.	132.6	493.3		
D2	1/25/2016	5.9	0.07	14.4	100.7	3.2	2.1	10.0	0.067	-68.71	-192.05	b.d.l.	153.1	512.5		
D2	2/23/2016	4.3	0.08	15.3	96.9	2.8	2.1	9.0	0.068	-68.41	-207.90	0.0004	151.3	463.5		
D2	3/24/2016	3.7	0.10	8.7	100.2	3.3	1.7	9.7	0.067	-67.71	-222.97	0.0004	135.9	434.1		
D2	4/26/2016	4.0	0.06	9.8	100.3	2.9	1.6	9.0	0.041	-66.32	-222.18	0.0004	192.1	436.8		
D2	6/8/2016	5.1	0.08	12.1	107.0	3.1	2.4	9.6	0.076	-64.22	-248.34	0.0004	191.6	477.0	0.713986	
D2	7/20/2016	5.5	0.07	14.8	85.3	3.0	1.7	8.8	0.072	-61.82	-254.79	0.0004	193.1	503.8		-16.75
D2	8/31/2016	3.1	0.13	9.9	93.3	2.6	1.9	8.1	0.088	-61.50	-269.34	0.0004	164.5	400.6		-16.83
D2	10/5/2016	3.7	0.03	15.8	89.9	2.8	1.5	8.7	0.097	-63.18	-254.56	0.0004	167.4	439.6		-15.96
D2	11/9/2016	3.3	0.28	10.5	97.8	3.2	1.8	9.4	0.105	-61.72	-275.38	0.0004	201.6	535.9		-16.93
D2	12/14/2016	0.1	0.10	15.2	93.4	2.3	1.8	7.5	0.114	-63.13	-263.50	0.0004	202.8	446.6		-16.48
D2	1/18/2017	6.0	0.09	11.9	103.3	2.6	1.7	7.9	0.135	-62.69	-274.82	0.0004	186.0	451.2		-16.88
D2	2/28/2017	6.4	0.10	12.0	97.7	3.4	1.7	9.6	0.107	-62.80	-259.77	0.0004	171.8	421.0		-16.77
D2	4/13/2017	8.0	0.08	18.0	94.6	3.2	1.7	9.2	0.109	-59.65	-268.08	0.0004	199.3	529.6		-17.21
D3	3/28/2015	4.0	0.07	17.9	86.5	4.5	2.5	13.8	0.006				153.3	633.3		
D3	4/27/2015	4.0	0.05	17.2	93.6	4.8	3.2	13.6	0.006				163.1	687.4		
D3	5/24/2015	3.8	0.04	17.4	78.8	4.3	2.0	12.7	0.007	-32.58		b.d.l.	153.7	624.9		
D3	6/17/2015	2.5	0.04	18.1	83.9	4.3	2.7	13.0	0.007			b.d.l.	152.0	658.4	0.713952	
D3	7/13/2015	3.6	0.06	17.7	83.5	4.1	2.6	12.8	0.006			b.d.l.	153.9	629.2		
D3	8/11/2015	3.7	0.05	18.0	79.7	4.0	2.3	12.4	0.008			b.d.l.	145.4	596.0		
D3	9/18/2015	3.5	0.04	15.0	83.1	4.3	2.6	13.0	0.004			b.d.l.	145.1	571.6		
D3	10/19/2015	3.5	0.05	18.1	81.5	4.1	2.2	12.7	0.008			b.d.l.	108.0	593.5		
D3	11/18/2015	2.2	0.02	16.2	83.4	4.3	3.0	13.0	0.010	-47.03		b.d.l.	112.3	679.9		
D3	1/25/2016	4.1	0.04	20.1	87.1	4.7	2.4	14.0	0.020	-57.35	-108.77	b.d.l.	125.2	648.3		
D3	2/23/2016	3.5	0.06	24.5	84.9	4.6	2.5	13.5	0.017	-55.28	-91.91	0.0004	121.7	637.7		
D3	3/24/2016	2.8	0.04	9.5	90.3	5.0	1.9	14.3	0.024	-61.02	-178.40	0.0004	115.3	620.4		
D3	4/26/2016	2.8	0.04	10.1	77.1	4.1	2.1	11.7	0.018	-56.46	-208.73	0.0004	163.7	668.2		
D3	6/8/2016	4.9	0.06	14.8	90.4	5.0	2.3	14.3	0.031	-57.41	-201.89	0.0004	163.2	719.6	0.713998	
D3	7/20/2016	5.5	0.11	17.0	78.7	4.5	1.7	12.3	0.027	-57.65	-244.34	0.0004	161.1	646.6		-17.09
D3	8/31/2016	2.7	0.12	11.6	84.5	4.7	2.0	13.2	0.042	-55.71	-241.49	0.0004	140.5	586.5		-17.15
D3	10/5/2016	3.3	0.03	19.3	77.7	4.4	1.7	12.4	0.042	-54.91	-248.80	0.0004	149.2	604.9		-16.65
D3	11/9/2016	3.5	0.17	13.7	90.5	5.1	2.0	14.2	0.048	-55.74	-237.44	0.0004	160.4	705.8		-17.33
D3	12/14/2016	0.1	0.09	19.3	73.3	3.9	1.8	11.5	0.048	-55.33	-229.54	0.0004	163.6	726.1		-16.87
D3	1/18/2017	5.4	0.10	13.6	92.1	5.1	1.9	14.7	0.051	-56.11	-232.90	0.0004	150.9	759.2		-17.38

D3	2/28/2017	6.6	0.11	15.6	88.0	5.2	1.9	14.3	0.036	-51.59	-221.35	0.0004		166.9	727.1		-17.19
D3	4/13/2017	7.2	0.10	17.6	85.2	5.0	1.9	13.9	0.043	-52.46	-226.04	b.d.l.		172.3	735.8		-17.51
D3	5/22/2017	5.8	0.06	14.1	94.7	2.5	1.8	7.3	0.087	-60.76	-263.38	b.d.l.		201.6	392.3		-16.73
D3	5/22/2017	6.1	0.07	17.9	85.5	4.9	2.0	13.6	0.041	-52.99	-229.52	b.d.l.		147.7	584.9		-17.01
F1	1/30/2015	2.3	b.d.l.	26.4	16.7	15.4	1.9	37.3	0.002	-28.77	-146.36			23.2	424.2		
F1	2/12/2015	2.4	b.d.l.	16.0	18.8	13.5	1.9	37.4	0.003	-39.37	-263.12			24.3	462.2		
F1	3/29/2015	2.6	0.01	20.7	18.7	14.0	2.3	37.6	0.003	-30.32	-366.79			24.2	429.4		
F1	4/26/2015	2.7	0.04	12.7	22.7	15.9	3.0	40.7	0.006	-50.96	-185.78			26.4	521.0		
F1	5/23/2015	1.6	0.02	11.8	14.6	14.5	1.3	36.9	0.007	-54.36	-178.02	b.d.l.		25.3	538.3		
F1	6/17/2015	1.5	0.02	18.4	16.3	14.9	2.1	38.5	0.004	-39.92	-240.20	b.d.l.		24.3	518.5	0.713907	
F1	7/15/2015	1.5	0.01	17.4	18.7	12.6	2.5	32.9	0.004	-40.36	-221.01	b.d.l.		25.8	478.9		
F1	8/10/2015	1.5	0.01	17.5	15.9	14.2	2.1	36.7	0.003	-35.91	-208.46	b.d.l.		24.0	478.6		
F1	9/15/2015	1.1	0.01	16.5	14.0	13.9	2.7	36.2	0.003	-40.32	-177.26	b.d.l.		18.8	457.7		
F1	10/22/2015	1.0	0.03	16.2	17.6	13.5	1.3	35.1	0.006	-41.99	-191.13	b.d.l.		19.7	495.7		
F1	11/19/2015	0.8	0.01	18.9	17.2	13.5	2.7	35.1	0.003	-43.50	-151.02	b.d.l.		19.6	519.1		
F1	1/25/2016	0.9	0.01	16.4	11.8	13.2	1.6	32.4	0.004	-66.66	-213.02	b.d.l.		20.4	519.6		
F1	2/24/2016	0.9	0.02	25.7	16.9	14.0	1.8	34.7	0.005	-77.89	-269.75	0.0004		20.6	473.2		
F1	3/23/2016	b.d.l.	0.01	12.4	12.6	14.3	1.4	35.2	0.007	-84.89	-296.85	0.0004		22.0	455.4		
F1	4/29/2016	0.7	b.d.l.	10.3	12.5	13.1	1.8	31.8	0.010	-96.76	-328.30	0.0004		25.5	482.1		
F1	6/9/2016	0.6	0.01	12.3	10.8	13.4	1.6	32.4	0.012	-104.75	-340.17	0.0004		25.2	512.7	0.713886	
F1	7/20/2016	b.d.l.	0.01	14.3	11.2	12.2	1.4	29.8	0.012	-106.27	-330.83	0.0004		27.7	516.1		-17.42
F1	9/1/2016	0.8	0.06	20.0	10.7	12.8	1.7	31.0	0.018	-106.83	-355.03	0.0004		30.4	462.7		-17.54
F1	10/6/2016	0.8	0.02	15.5	9.5	12.0	1.2	29.4	0.017	-107.26	-357.18	0.0004		18.3	449.7		-17.12
F1	11/7/2016	0.6	0.03	12.0	12.3	13.9	1.7	33.9	0.020	-105.05	-343.49	0.0004		27.0	578.6		-17.42
F1	12/14/2016	0.8	b.d.l.	15.7	8.3	11.4	1.3	28.0	0.021	-108.42	-350.78	0.0004		25.1	531.6		-17.16
F1	1/18/2017	0.9	0.02	12.9	10.7	12.4	1.3	30.1	0.021	-108.53	-351.49	0.0004		23.4	542.6		-17.49
F1	2/28/2017	0.9	0.02	12.5	12.0	13.6	1.4	32.8	0.018	-109.24	-350.57	0.0004		25.7	531.8		-17.19
F1	4/14/2017	0.9	0.02	14.4	11.0	13.2	1.5	31.8	0.021	-109.35	-347.56	0.0004		25.7	561.8		-17.70
F1	5/22/2017	0.8	b.d.l.	14.6	10.8	13.1	1.5	31.7	0.020	-79.68	-279.15	b.d.l.		17.8	428.7		-17.16
H1	4/25/2015								3.907	-51.24	-219.58						
H1	6/4/2015	740.6	9.15	14.8	565.1	0.8	7.3	4.6	14.085	-54.51	-226.94	0.0090	-34.61	1788.0	587.9	0.714031	-3.98
H1	7/14/2015	711.6	8.46	11.0	607.7	1.2	4.0	5.0	24.055	-55.01	-220.60	0.0162		1703.9	568.9		
H1	7/28/2015	510.1	7.05	6.9	465.4	0.4	5.5	2.7	22.206	-55.41	-221.71	0.0146	-43.60	1323.9	249.6		
H1	8/13/2015	312.9	3.79	8.4	258.9	0.1	3.5	1.1	23.784	-52.29	-218.59	0.0187	-34.99	898.7	122.6		-9.09

H1	9/16/2015	220.2	2.33	7.3	235.5	b.d.l.	2.4	0.6	18.265	-50.42	-219.91	0.0157	-35.65	717.4	85.9		-10.93
H1	10/20/2015	348.5	4.33	8.4	318.1	0.2	4.6	0.9	29.663	-46.71	-220.68	0.0254	-34.87	996.9	144.6		-7.95
H1	11/17/2015	576.6	7.54	5.2	450.4	0.2	7.1	2.2	50.872	-46.59	-221.35	0.0396	-35.51	1434.8	261.6		
H1	1/8/2016	784.2	5.40	0.7	555.6	0.4	5.4	3.3	55.524	-45.16	-222.36	0.0427	-37.21	2588.6	457.8		-0.57
H1	2/8/2016	870.0	18.64	1.7	740.4	0.8	5.4	5.2	59.594	-46.40	-223.78	0.0461	-34.86	3351.1	666.7		
H1	3/24/2016	1040.4	16.29	0.8	842.8	1.1	7.9	6.9	52.294	-45.89	-224.12	0.0420		4442.5	939.2		
H1	4/27/2016	1572.1	22.44	0.9	1066.2	2.0	6.6	9.7	52.541	-45.48	-223.41	0.0434	-35.15	4388.1	1359.6		9.54
H1	6/8/2016	1329.6	23.78	0.1	1182.4	1.8	7.2	10.2	58.131	-42.37	-202.87	0.0470	-38.23	6344.2	1658.5	0.713960	
H1	7/19/2016	1874.9	24.84	b.d.l.	1309.2	2.5	7.3	13.4	48.781	-45.04	-233.25	0.0400	-35.06	5234.2	1762.4		10.44
H1	8/31/2016	2191.5	24.49	b.d.l.	1407.7	3.4	7.9	16.3	59.339	-44.36	-234.86	0.0479	-35.23	6108.4	2700.6		12.90
H1	10/5/2016	2455.0	30.21	b.d.l.	1484.6	3.5	9.3	17.3	57.288	-44.83	-234.98	0.0449	-34.96	6261.2	3350.5		14.71
H1	11/6/2016	2501.0	31.98	b.d.l.	1691.5	4.0	9.7	19.7	57.111	-44.40	-233.68	0.0505	-35.02	7494.7	3911.9		15.61
H1	12/12/2016	2579.4	43.92	b.d.l.	1546.5	4.0	9.8	19.9	65.161	-45.99	-236.35	0.0566	-34.90	6977.3	4533.2		17.47
H1	1/16/2017	2499.4	28.11	b.d.l.	1634.9	4.3	10.0	20.2	71.369	-47.10	-236.76	0.0574	-35.01	7235.3	3677.2		18.04
H1	3/1/2017	2400.8	33.73	b.d.l.	1514.2	3.9	9.2	18.4	66.532	-46.37	-225.92	0.0516	-34.78	6091.1	3519.7		17.68
H1	4/13/2017	1916.1	29.41	b.d.l.	1459.3	3.1	7.9	14.5	68.230	-47.12	-227.16	0.0541	-34.95	7474.9	2661.3		15.36
H1	5/22/2017	2111.7	22.91	0.1	1367.1	3.0	8.8	14.5	42.830	-47.44	-226.45	0.0351	-34.83	6042.3	3107.8		15.14
H2	6/4/2015	34.9	0.36	27.1	114.0	0.8	3.7	0.9	3.094	-58.28	-225.31	0.0019		258.4	87.0	0.713997	-13.86
H2	7/14/2015	54.6	0.41	27.7	134.5	0.3	3.3	0.7	3.926	-57.52	-229.30	0.0033		370.3	58.7		
H2	7/28/2015	55.5	0.43	26.2	120.7	0.4	2.5	0.5	4.698	-57.17	-228.82	0.0035		264.4	50.7		
H2	8/13/2015	68.6	0.48	24.2	136.8	0.9	2.7	1.1	5.257	-53.06	-226.35	0.0037		299.6	80.2		
H2	9/16/2015	103.5	1.10	20.1	174.4	0.2	2.3	1.1	8.180	-52.36	-221.23	0.0051		412.1	101.8		-13.27
H2	10/20/2015	195.7	2.45	20.2	246.3	b.d.l.	5.5	0.8	15.801	-50.80	-218.59	0.0082		551.3	98.9		
H2	11/17/2015	381.2	4.40	16.7	324.2	0.4	2.1	2.1	22.051	-50.70	-218.52	0.0109		810.6	170.7		
H2	1/8/2016	232.5	2.32	8.6	297.9	0.2	2.8	2.0	31.130	-50.03	-224.71	0.0166	-34.05	867.7	187.9		-10.36
H2	2/8/2016	344.0	6.28	21.5	376.2	0.2	3.5	2.6	26.403	-49.04	-224.26	0.0164	-34.34	1009.0	223.6		
H2	3/24/2016	335.3	6.22	10.2	360.6	0.1	4.1	2.3	26.220	-50.12	-223.94	0.0152	-35.19	921.8	186.7		
H2	4/27/2016	120.4	1.95	4.7	257.2	b.d.l.	1.7	1.3	24.594	-51.64	-225.35	0.0141		927.7	144.0		-9.98
H2	6/8/2016	373.1	4.82	6.6	461.4	0.3	3.6	3.4	30.126	-46.42	-216.52	0.0176	-32.48	1415.7	297.7	0.713942	
H2	7/19/2016	530.5	6.13	6.9	466.4	0.5	3.3	3.6	37.885	-49.90	-228.76	0.0215	-33.88	1291.3	338.7		-8.35
H2	8/31/2016	542.2	7.19	7.4	431.3	0.4	3.2	3.0	41.271	-49.56	-227.86	0.0217	-33.99	1118.3	292.2		-8.76
H2	10/5/2016	512.0	6.71	7.9	437.6	0.4	3.0	3.1	43.416	-48.94	-225.73	0.0224	-34.08	1098.5	291.5		-8.12
H2	11/6/2016	555.9	4.65	4.8	471.1	0.5	2.9	3.2	45.742	-48.56	-239.04	0.0261	-34.23	1383.4	355.7		-8.72
H2	12/12/2016	391.8	5.26	9.3	371.1	b.d.l.	2.4	2.0	45.869	-48.36	-236.07	0.0271		843.8	200.0		-9.97

H2	1/16/2017	266.3	4.38	7.3	312.2	b.d.l.	1.7	1.5	45.739	-48.87	-237.74	0.0265	-34.52	919.7	167.1		-10.51
H2	3/1/2017	253.7	3.89	7.4	311.9	0.2	1.9	1.6	41.106	-47.97	-228.14	0.0241	-34.37	762.3	166.5		-10.40
H2	4/13/2017	177.7	2.55	4.8	275.9	0.1	1.7	1.1	41.404	-48.09	-229.92	0.0255	-34.19	921.9	121.9		-11.36
H2	5/22/2017	322.9	4.26	3.4	344.3	b.d.l.	2.2	1.6	35.514	-48.50	-226.36	0.0230	-34.35	855.7	166.0		-8.38
L1	2/11/2015	49.9	0.73	9.8	95.4	0.2	1.5	2.3	6.530	-51.48				255.5	71.7		
L1	2/22/2015	75.1	0.99	10.5	124.3	0.4	3.0	1.5	7.081	-49.45				293.5	58.8		
L1	4/11/2015	117.4	1.38	4.1	188.0	0.4	2.8	1.4	8.868	-50.67				678.9	88.0		
L1	4/26/2015	177.5	2.20	3.2	229.5	0.2	4.6	1.7						487.8	97.5		
L1	5/24/2015	193.5	2.54	1.0	239.9	0.2	2.0	1.4	15.682	-54.01	-224.43	0.0070	-39.59	709.6	117.2		
L1	6/19/2015	240.6	2.54	0.4	242.3	0.3	2.3	1.8	16.527	-54.50	-225.75	0.0079	-35.74	656.5	139.8	0.713562	
L1	7/14/2015	217.5	2.61	0.3	225.2	0.1	3.9	1.2	21.441	-54.00	-223.41	0.0104		589.8	121.3		
L1	8/11/2015	213.4	2.68	0.3	254.5	0.1	3.6	1.4	16.238	-53.17	-224.06	0.0073	-38.43	581.6	118.0		
L1	9/16/2015	222.2	2.00	0.3	247.1	b.d.l.	2.9	1.1	15.255	-56.52	-222.24	0.0070		598.3	111.8		
L1	10/22/2015	218.6	2.79	0.4	238.0	b.d.l.	1.8	0.9	21.491	-56.49	-224.02	0.0103	-40.35	571.3	118.2		
L1	1/8/2016	147.8	1.88	0.2	246.1	b.d.l.	2.4	1.0	21.650	-56.93	-223.93	0.0099		593.1	113.0		
L1	2/9/2016	210.2	3.52	0.3	251.6	b.d.l.	2.5	0.9	23.565	-56.43	-228.77	0.0109		520.4	107.4		
L1	3/22/2016	219.8	1.88	0.1	255.5	b.d.l.	1.5	0.9	16.550	-57.25	-225.03	0.0081		552.8	104.0		
L1	4/28/2016	186.2	3.59	0.5	253.4	b.d.l.	1.9	0.8		-55.37	-228.08			727.5	106.2		
L1	6/7/2016	184.4	2.47	0.3	265.3	b.d.l.	2.2	0.8	22.040	-55.44	-229.11	0.0104	-37.59	767.0	108.2	0.713810	
L1	7/21/2016	214.2	2.72	0.4	254.8	b.d.l.	1.7	0.8	18.850	-55.27	-242.14	0.0081	-37.12	638.2	101.5		-6.55
L1	8/30/2016	201.2	2.28	0.2	246.4	b.d.l.	1.7	0.8	20.177	-57.67	-242.79	0.0095	-37.19	671.0	106.0		-6.39
L1	10/2/2016	187.0	2.83	0.2	250.0	b.d.l.	1.7	0.8	14.265	-55.63	-240.78	0.0071	-37.17	600.4	99.4		-5.70
L1	11/8/2016	187.6	1.98	0.3	256.0	b.d.l.	1.6	0.8	21.197	-54.99	-237.58	0.0100	-37.33	714.8	104.1		-6.61
L1	12/13/2016	198.2	2.16	0.3	226.1	b.d.l.	1.5	0.6	23.377	-54.95	-233.15	0.0108	-37.32	692.6	117.2		-6.53
L1	1/17/2017	205.1	3.47	0.5	252.9	b.d.l.	1.7	0.8	23.514	-55.04	-234.69	0.0104	-37.26	690.7	116.0		-6.58
L1	3/1/2017	201.5	3.73	0.4	253.1	b.d.l.	1.7	0.8	20.938	-56.74	-227.76	0.0098	-37.20	507.8	91.0		-6.60
L1	4/12/2017	194.9	1.68	0.6	256.5	b.d.l.	1.9	0.7	21.201	-57.74	-229.70	0.0103	-37.21	853.3	114.7		-6.17
L1	5/25/2017	174.1	3.67	0.3	258.9	b.d.l.	1.8	0.7	23.576	-57.18	-231.84	0.0111	-37.19	661.8	96.7		-6.85
L2	2/11/2015	17.7	0.20	8.7	78.8	0.8	2.2	4.3	1.925	-57.68				130.9	126.3		
L2	2/22/2015	12.2	0.15	6.6	95.0	0.2	2.3	2.3	1.951	-61.23				192.4	83.6		
L2	4/11/2015	47.9	0.71	8.3	125.8	0.2	3.5	1.9	1.673	-66.33				395.0	108.6		
L2	4/26/2015	49.5	0.79	6.0	129.1	0.2	3.1	1.7						347.7	99.3		
L2	5/24/2015	52.3	0.88	4.0	126.6	0.1	3.1	1.4	3.909	-67.98	-224.56	0.0017		318.8	107.5		
L2	6/19/2015	35.4	0.87	5.0	146.8	0.1	2.8	1.9	4.805	-67.51	-229.95	0.0023		353.9	121.5	0.713474	

L2	7/14/2015	54.0	0.80	3.1	142.4	0.1	3.3	1.5	4.146	-67.63	-230.28	0.0021		350.4	100.1		
L2	8/11/2015	56.6	0.86	3.1	134.7	0.1	3.0	1.4	3.412	-67.08	-221.20	0.0017		350.4	95.8		
L2	9/16/2015	48.3	0.75	1.8	152.0	b.d.l.	2.7	1.2	2.844	-68.95	-229.74	0.0015		343.6	92.3		
L2	10/22/2015	78.9	0.85	3.8	149.6	0.1	1.4	1.2	5.724	-69.26	-230.64	0.0028		344.2	95.4		
L2	1/8/2016	41.2	0.61	1.4	132.5	b.d.l.	1.5	1.1	5.601	-68.29	-234.24	0.0028		310.4	100.0		
L2	2/9/2016	57.3	1.22	2.8	162.6	b.d.l.	2.3	1.3	6.742	-69.38	-236.53	0.0033		300.7	90.1		
L2	3/22/2016	45.9	0.93	1.8	168.4	b.d.l.	2.6	1.4	4.361	-69.57	-240.73	0.0023		324.8	97.4		
L2	4/28/2016	63.2	0.94	2.0	171.5	b.d.l.	2.2	1.3	6.891	-68.82	-237.39	0.0033		395.1	98.7		
L2	6/7/2016	61.4	1.08	3.7	178.0	b.d.l.	2.2	1.3	7.454	-68.06	-235.68	0.0034	-35.44	429.3	103.9	0.713769	
L2	7/21/2016	62.8	1.26	3.2	153.3	b.d.l.	1.6	1.2	4.835	-68.94	-256.16	0.0022	-34.59	444.3	101.5		-11.90
L2	8/30/2016	53.6	0.99	1.6	166.4	b.d.l.	1.9	1.3	6.834	-70.12	-255.53	0.0034	-34.56	419.4	100.4		-11.71
L2	10/2/2016	48.9	0.20	1.4	169.1	b.d.l.	1.9	1.2	3.523	-69.42	-256.47	0.0019	-34.89	366.6	95.8		-11.38
L2	11/8/2016	44.3	1.04	1.5	177.7	b.d.l.	1.8	1.4	7.181	-71.89	-256.12	0.0034	-34.77	425.4	103.3		-12.27
L2	12/13/2016	62.3	1.77	1.9	160.2	b.d.l.	1.8	1.1	7.414	-71.68	-257.89	0.0037	-34.80	438.3	111.2		-12.16
L2	1/17/2017	58.9	1.26	1.6	175.8	b.d.l.	1.9	1.4	7.004	-72.23	-252.83	0.0033	-34.92	401.1	110.6		-12.30
L2	3/1/2017	60.0	1.05	2.1	174.9	0.1	1.9	1.3	6.511	-71.20	-245.19	0.0030	-34.59	512.9	111.7		-12.72
L2	4/12/2017	71.9	1.26	3.3	174.8	b.d.l.	1.8	1.2	7.093	-70.79	-244.01	0.0035	-34.93	479.3	114.2		-12.15
L2	5/25/2017	74.2	1.05	2.1	173.8	b.d.l.	2.0	1.2	6.952	-71.17	-241.79	0.0034	-34.52	444.1	95.6		-12.54
L3	2/11/2015	5.8	0.07	6.1	63.1	2.5	2.9	10.2	0.617	-47.47				78.3	292.1		
L3	2/22/2015	23.6	0.28	9.5	94.3	0.7	3.0	4.4	2.136	-55.33				179.2	201.5		
L3	4/11/2015	96.0	1.26	2.8	135.5	0.5	3.4	3.1	3.648	-52.73				372.2	283.4		
L3	5/24/2015	94.9	1.24	0.4	164.6	0.5	3.5	3.0	8.500	-53.95	-223.15	0.0020		380.0	230.5		
L3	6/19/2015	87.1	1.22	0.2	150.8	0.2	3.6	2.6	9.079	-54.04	-221.57	0.0023		397.5	244.4	0.713596	
L3	7/14/2015	85.2	1.15	0.2	137.3	0.3	3.3	2.1	11.885	-54.03	-221.95	0.0030					
L3	8/11/2015	84.1	1.12	0.2	131.5	0.1	3.0	2.0	7.718	-52.49	-222.79	0.0019		371.2	205.7		
L3	9/16/2015	65.6	0.99	0.2	139.8	b.d.l.	2.2	1.9	6.791	-55.38	-221.58	0.0017		314.9	208.1		
L3	10/22/2015	88.0	1.26	0.3	151.0	0.1	3.3	1.7	11.391	-55.83	-225.44	0.0028		354.1	195.9		
L3	1/8/2016	72.5	1.13	0.2	134.1	b.d.l.	2.0	1.6	11.524	-56.04	-226.63	0.0029		317.7	208.2		
L3	2/9/2016	91.5	1.73	0.1	152.1	0.1	2.3	1.7	12.905	-55.94	-226.94	0.0030		315.7	184.1		
L3	3/22/2016	69.3	1.24	0.1	165.1	b.d.l.	2.7	1.9	9.707	-55.88	-227.85	0.0024		339.8	191.7		
L3	4/28/2016	96.1	1.25	0.1	142.7	b.d.l.	1.8	1.4	12.070	-54.89	-225.17	0.0030		430.0	197.7		
L3	6/7/2016	90.1	1.71	0.1	169.5	0.1	2.4	1.8	13.602	-55.57	-226.06	0.0034		456.2	205.2	0.713718	
L3	7/21/2016	100.9	1.64	0.1	147.1	0.1	1.7	1.6	9.940	-55.55	-237.80	0.0024	-29.41	471.7	193.5		-10.00
L3	8/30/2016	97.7	1.58	0.1	156.7	b.d.l.	2.2	1.6	11.226	-55.64	-238.51	0.0030	-29.73	463.6	194.0		-10.04

L3	10/2/2016	83.8	1.75	0.1	139.5	b.d.l.	1.4	1.4	7.482	-56.06	-240.09	0.0021	-29.44	372.4	190.1		-9.38
L3	11/8/2016	91.6	2.01	0.1	174.5	b.d.l.	2.1	1.8	11.776	-56.07	-242.74	0.0031	-29.47	522.5	215.4		-9.95
L3	12/13/2016	122.1	2.23	0.1	163.4	b.d.l.	2.1	1.6	12.206	-56.01	-242.99	0.0031	-29.24	518.2	230.4		-9.90
L3	1/17/2017	107.1	1.83	0.1	158.5	b.d.l.	1.7	1.6	12.556	-56.09	-241.40	0.0030	-29.48	452.6	234.1		-10.21
L3	3/1/2017	94.0	1.65	0.1	166.8	0.1	1.9	1.6	10.653	-56.79	-226.79	0.0027	-29.37	476.8	213.7		-10.35
L3	4/12/2017	114.8	1.97	0.1	165.7	0.1	2.0	1.5	12.058	-56.02	-229.22	0.0033	-29.77	541.1	238.9		-9.93
L3	5/25/2017	115.0	1.54	0.1	167.5	0.1	2.1	1.4	11.188	-56.82	-231.78	0.0030	-29.40	449.8	175.9		-10.42
L4	2/11/2015	8.5	0.09	8.8	31.4	7.5	2.7	26.7	0.088	-52.37	-142.44			26.9	628.8		
L4	2/22/2015	8.6	0.10	8.8	34.4	7.1	3.0	25.6	0.087	-53.61	-146.10			38.4	718.2		
L4	4/11/2015	8.2	0.10	8.9	32.4	7.7	3.0	27.2	0.112	-50.17				33.4	730.7		
L4	5/24/2015	8.2	0.10	8.2	28.4	7.6	1.9	26.1	0.089	-54.22	-152.87	b.d.l.		31.3	802.8		
L4	6/19/2015	4.6	0.09	8.4	31.7	7.5	3.0	26.5	0.286	-54.53	-165.55	b.d.l.		30.4	760.7	0.713776	
L4	7/14/2015	8.7	0.10	8.0	32.5	6.5	2.8	23.4	0.439	-54.04	-163.68	b.d.l.		32.0	736.8		
L4	8/11/2015	9.5	0.09	8.2	33.1	7.0	2.6	25.3	0.109	-53.55	-158.07	b.d.l.		22.5	653.9		
L4	9/16/2015	9.0	0.09	8.3	26.6	5.9	2.4	21.7	0.062	-48.64	-187.68	b.d.l.		29.6	759.9		
L4	10/22/2015	4.5	0.10	8.4	31.6	6.9	1.7	25.9	0.118	-53.93	-141.13	b.d.l.		22.2	706.6		
L4	1/8/2016	8.1	0.11	8.6	28.9	6.8	1.4	23.5	0.326	-53.94	-167.20	b.d.l.		22.3	736.3		
L4	2/9/2016	8.7	0.11	11.1	28.8	7.2	1.8	25.1	0.386	-53.37	-172.66	b.d.l.		25.3	625.6		
L4	3/22/2016	7.6	0.10	6.7	28.1	7.8	1.8	26.1	0.328	-53.92	-166.53	b.d.l.		26.5	724.2		
L4	4/28/2016	8.9	0.11	6.9	27.9	7.6	1.4	25.7	0.441	-52.79	-162.88	b.d.l.		36.3	682.3		
L4	6/7/2016	8.9	0.10	6.8	28.9	7.5	2.0	25.7	0.515	-53.88	-206.95	0.0004		41.0	735.6	0.713763	
L4	7/21/2016	9.2	0.16	7.1	27.4	6.8	1.5	22.7	0.350	-52.69	-157.05	0.0004		42.7	678.0		-17.64
L4	8/30/2016	7.1	0.16	8.6	26.5	7.2	1.7	24.2	0.399	-53.61	-170.07	0.0004		36.0	663.0		-17.60
L4	10/2/2016	6.2	0.06	8.5	27.0	7.3	1.6	24.4	0.311	-52.59	-164.39	0.0004		32.9	627.1		-17.16
L4	11/8/2016	6.5	0.15	6.9	28.6	7.4	1.6	24.7	0.394	-53.36	-158.48	0.0004		42.0	694.5		-17.55
L4	12/13/2016	9.5	0.13	8.9	24.0	6.6	1.6	22.6	0.396	-53.60	-158.31	0.0004		41.9	812.0		-17.56
L4	1/17/2017	9.4	0.12	7.3	27.7	7.0	1.4	23.4	0.171	-52.77	-158.49	0.0004		38.6	781.0		-17.72
L4	3/1/2017	9.6	0.11	7.3	28.7	7.2	1.5	24.2	0.171	-51.66	-139.35	0.0004		46.9	728.0		-17.76
L4	4/12/2017	9.8	0.11	7.9	28.6	7.0	1.4	23.2	0.194	-52.01	-151.63	b.d.l.		44.1	667.9		-17.88
L4	5/25/2017	8.7	0.11	7.5	29.0	6.9	1.6	23.2	0.204	-52.23	-152.55	b.d.l.		45.6	625.0		-17.88
O1	5/9/2015	2.6	0.01	0.3	47.4	2.7	1.2	9.0	6.064	-46.04	-215.53	0.0016		115.5	308.1		
O1	6/3/2015	1.8	0.01	1.3	50.4	2.4	1.9	8.1	3.967	-46.88	-216.06	0.0011		114.5	275.4		
O1	7/1/2015	1.9	0.02	1.9	49.8	2.0	1.5	7.0	5.098	-47.04	-217.68	0.0021		80.3	267.0		
O1	8/13/2015	2.0	0.05	3.0	52.3	2.1	1.6	7.1	4.688	-47.33	-215.40	0.0023		78.5	238.0		

O1	9/17/2015	1.6	0.02	1.9	48.6	2.0	1.5	7.4	1.419	-48.05	-212.39	0.0007		82.5	237.6		
O1	10/23/2015	1.7	0.06	3.4	48.6	2.1	0.6	7.4	3.441	-48.10	-209.49	0.0017		81.7	259.7		
O1	11/18/2015	1.3	0.01	1.5	47.4	2.3	1.2	7.6	3.859	-48.35	-207.54	0.0018		79.1	256.5		
O1	1/27/2016	1.7	0.02	1.9	46.1	2.3	1.6	7.6	3.188	-48.53	-212.02	0.0018		79.8	302.3		
O1	2/23/2016	1.9	0.01	1.5	49.6	2.5	1.8	8.0	2.602	-48.55	-212.05	0.0017		77.1	269.7		
O1	3/22/2016	1.3	0.01	1.7	49.0	2.6	1.5	8.4	2.582	-48.32	-213.51	0.0016		82.1	275.0		
O1	4/28/2016	1.6	0.01	3.6	49.1	2.6	1.3	8.2	3.260	-47.23	-212.53	0.0018		102.7	294.0		
O1	6/6/2016	1.7	b.d.l.	3.6	50.7	2.6	1.7	8.5	2.648	-48.13	-214.48	0.0015	-40.12	105.2	314.0	0.713242	
O1	7/18/2016	b.d.l.	2.90	3.8	47.4	2.5	1.3	7.6	2.160	-46.68	-227.50	0.0015	-32.54	104.0	281.4		-16.63
O1	8/29/2016	1.5	0.04	1.7	48.5	2.6	1.5	8.1	2.413	-46.71	-227.39	0.0015		105.5	301.0		-16.25
O1	10/6/2016	1.9	b.d.l.	b.d.l.	44.7	2.4	1.0	7.6	3.613	-47.84	-218.76	0.0021	-32.92	100.6	284.2		-16.49
O1	11/9/2016	1.3	0.02	1.6	48.6	2.6	1.4	8.2	3.432	-48.65	-228.30	0.0020	-32.89	113.1	314.4		-16.72
O1	1/16/2017	2.0	0.03	2.5	46.0	2.5	1.3	7.9	3.183	-46.66	-227.80	0.0018	-32.75	101.7	346.8		-16.65
O1	2/27/2017	2.1	0.03	2.7	46.0	2.7	1.1	8.2	3.100	-47.28	-217.79	0.0017	-32.73	113.1	351.0		-16.73
O1	4/11/2017	2.2	0.03	3.7	47.0	2.9	1.3	8.5	2.073	-48.09	-211.33	0.0014	-32.67	91.1	280.9		-16.33
O1	5/24/2017	2.0	0.02	3.3	45.1	2.7	1.4	8.3	2.704	-46.69	-208.22	0.0016	-32.55	96.0	288.8		-16.81
O2	5/9/2015	2.8	0.01	5.3	16.9	7.4	1.6	24.9	0.383	-43.11	-171.54	b.d.l.		34.2	454.7		
O2	6/3/2015	1.7	0.05	4.4	25.0	6.5	2.0	22.2	1.318	-45.20	-205.55	b.d.l.		52.2	385.0		
O2	7/1/2015				33.8	5.6	2.0	19.2	2.699	-46.50	-208.48	0.0010		64.1	421.4		
O2	8/13/2015	2.1	0.03	3.6	36.8	5.0	1.7	17.3	2.951	-47.59	-209.58	0.0012		69.4	356.3		
O2	9/17/2015	1.7	0.01	3.7	33.5	4.8	1.3	16.4	1.942	-47.65	-207.81	0.0005		66.1	374.8		
O2	10/23/2015	1.7	b.d.l.	4.4	31.3	5.1	0.6	17.6	2.477	-47.92	-208.47	0.0009		54.8	435.3		
O2	11/18/2015	1.3	b.d.l.	2.6	28.5	5.7	1.2	19.1	2.156	-47.35	-206.30	b.d.l.		52.3	438.6		
O2	1/27/2016	1.8	0.02	3.6	33.5	5.4	1.0	17.6	3.239	-48.14	-212.89	0.0013		59.7	413.9		
O2	2/23/2016	1.6	0.04	4.0	30.9	5.6	1.0	17.3	2.559	-48.26	-214.44	0.0010		50.5	393.8		
O2	3/22/2016	1.3	0.01	3.7	32.9	5.5	1.3	17.5	2.223	-48.02	-213.17	0.0010		57.0	374.7		
O2	4/28/2016	1.6	0.01	4.5	33.5	5.4	1.1	17.3	3.251	-46.68	-211.46	0.0011		71.1	387.4		
O2	6/6/2016	1.9	0.01	4.9	24.3	6.9	1.6	21.5	1.234	-46.80	-202.61	0.0005		54.1	536.1	0.713223	
O2	7/18/2016	b.d.l.	1.04	5.7	22.4	6.4	1.1	20.1	1.095	-45.90	-214.88	0.0004		50.6	473.4		-17.08
O2	8/29/2016	1.7	0.39	5.2	20.3	6.8	1.3	21.4	0.903	-45.62	-209.73	0.0005		47.4	497.9		-16.87
O2	10/6/2016	2.1	b.d.l.	5.4	23.4	6.3	1.0	19.7	1.881	-46.24	-211.43	0.0004		59.4	429.9		-16.93
O2	11/9/2016	1.6	0.68	5.1	22.8	6.8	1.3	21.4	1.535	-46.84	-210.64	0.0004		53.2	546.0		-17.32
O2	1/16/2017	2.1	0.02	5.0	17.2	6.8	1.1	21.2	0.525	-45.01	-194.33	0.0004		40.0	596.0		-17.28
O2	2/27/2017	2.1	0.01	5.4	13.8	7.7	1.2	23.8	0.120	-38.35	-92.65	0.0004		39.5	611.4		-17.31

O2	4/11/2017	2.4	0.02	7.0	14.6	7.9	1.2	24.5	0.088	-38.72	-88.07	b.d.l.		33.1	625.4		-16.93
O2	5/24/2017	2.1	0.02	6.2	15.1	7.4	1.1	22.8	0.327	-45.26	-177.71	b.d.l.		41.9	497.5		-17.45
O3	5/9/2015	2.8	0.03	5.1	17.7	7.2	1.5	24.1	0.609	-44.97	-188.79	b.d.l.		35.9	450.0		
O3	6/3/2015	2.1	0.03	4.9	24.6	7.7	1.5	24.8	0.811	-45.41	-197.38	b.d.l.		44.5	422.9		
O3	7/1/2015	2.1	0.01	4.6	23.9	6.6	1.8	22.3	1.428	-46.01	-199.19	b.d.l.		46.1	455.0		
O3	8/13/2015	1.9	0.02	4.1	29.1	6.0	1.6	20.6	1.585	-45.50	-202.66	0.0004		51.4	424.0		
O3	9/17/2015	1.9	0.01	4.3	25.7	5.7	1.5	19.7	1.148	-47.01	-203.78	0.0004		53.9	410.9		
O3	10/23/2015	1.8	0.01	5.0	23.4	5.9	b.d.l.	20.5	1.400	-47.40	-199.11	b.d.l.		42.9	451.5		
O3	11/18/2015	1.2	b.d.l.	2.1	24.7	6.3	1.5	21.2	1.423	-47.31	-199.03	b.d.l.		43.0	461.2		
O3	1/27/2016	1.8	0.04	4.8	30.5	5.7	1.0	19.1	2.524	-47.95	-212.26	0.0011		51.7	416.5		
O3	2/23/2016	1.6	0.02	3.3	28.1	5.6	1.2	18.6	2.074	-47.84	-213.99	0.0010		45.4	398.6		
O3	3/23/2016	1.3	0.01	3.9	31.7	5.7	1.3	18.2	2.327	-47.90	-211.15	0.0010		52.8	370.2		
O3	4/28/2016	1.6	0.01	4.7	27.9	6.2	1.1	19.6	2.218	-46.69	-207.09	0.0009		58.5	419.4		
O3	6/6/2016	1.9	0.02	4.9	22.8	7.1	1.7	22.6	1.146	-46.80	-198.31	0.0004		52.2	497.6	0.713232	
O3	7/18/2016	b.d.l.	2.16	5.7	22.1	6.4	1.1	20.0	0.896	-45.45	-209.01	0.0004		49.9	465.8		-17.22
O3	8/29/2016	1.9	0.17	6.6	20.8	6.7	1.3	20.9	0.832	-45.14	-204.50	0.0004		51.0	491.6		-17.03
O3	10/6/2016	1.5	b.d.l.	0.8	21.9	5.9	1.0	18.7	1.556	-45.34	-202.49	0.0008		55.8	407.7		-17.14
O3	11/9/2016	1.1	0.03	3.2	23.2	6.6	1.2	21.0	1.218	-45.14	-207.68	0.0004		53.0	466.4		-17.68
O3	1/16/2017	2.1	0.02	5.1	17.4	6.5	0.9	20.3	0.527	-44.30	-189.54	0.0004		38.7	553.9		-17.46
O3	2/27/2017	2.4	0.02	6.2	17.1	7.1	1.1	22.1	0.394	-44.54	-171.48	0.0004		43.2	499.7		-17.46
O3	4/11/2017	2.2	0.02	6.7	17.5	7.4	1.1	23.0	0.238	-42.58	-147.28	b.d.l.		38.2	568.8		-17.08
O3	5/24/2017	2.0	0.02	5.9	17.0	7.1	1.2	21.8	0.367	-44.88	-168.33	b.d.l.		41.2	478.5		-17.53
O4	5/9/2015	2.8	0.01	9.2	10.5	8.5	1.6	29.6	0.100	-39.99	-160.93	0.0028		15.9	314.8		
O4	6/3/2015	1.7	b.d.l.	9.3	8.6	9.1	1.1	27.0	0.063	-41.13	-138.00	0.0018		15.4	319.3		
O4	7/1/2015	1.8	0.01	9.0	11.7	8.8	1.6	28.9	0.082	-40.48	-134.29	0.0021		10.2	330.5		
O4	8/13/2015	1.8	0.02	7.9	11.9	9.0	1.5	30.0	0.134	-40.01	-155.26	0.0010		11.8	291.6		
O4	9/17/2015	1.5	0.01	8.2	8.8	8.8	1.8	28.6	0.058	-41.91	-193.29	b.d.l.		12.6	321.7		
O4	10/23/2015	1.4	b.d.l.	8.6	11.0	8.5	b.d.l.	29.3	0.149	-45.81	-233.01	0.0007		11.4	315.0		
O4	11/18/2015	1.2	b.d.l.	8.5	14.1	7.9	2.4	26.1	0.168	-46.54	-246.14	b.d.l.		10.2	267.9		
O4	1/27/2016	1.4	0.02	9.1	10.9	9.4	1.0	30.9	0.242	-48.19	-275.54	0.0005		13.9	297.1		
O4	2/23/2016	1.5	0.01	12.3	8.4	9.2	0.8	28.1	0.201	-48.80	-267.82	0.0004		12.5	300.1		
O4	3/22/2016	1.0	0.01	5.7	8.6	9.4	1.0	29.5	0.190	-49.46	-274.65	b.d.l.		13.6	312.0		
O4	4/28/2016	1.3	0.01	8.0	8.4	9.4	0.9	29.3	0.213	-49.43	-282.26	b.d.l.		15.8	322.8		
O4	6/6/2016	1.4	0.01	7.8	8.9	10.1	1.7	31.9	0.170	-49.94	-281.82	0.0004		14.6	337.2	0.713458	

O4	7/18/2016	b.d.l.	2.44	9.6	7.5	9.2	1.1	29.0	0.112	-52.51	-289.43	0.0004		13.6	312.5		-17.13
O4	8/29/2016	1.2	0.05	9.5	7.4	8.6	1.2	27.4	0.112	-53.07	-288.99	0.0004		16.6	311.9		-16.80
O4	10/6/2016	1.5	0.02	9.7	6.9	8.3	0.8	26.6	0.171	-55.65	-306.70	0.0004		9.0	291.7		-16.89
O4	11/9/2016	1.0	0.04	6.8	8.6	9.1	1.0	28.9	0.162	-57.35	-335.06	0.0004		15.5	312.8		-17.50
O4	1/16/2017	1.6	0.02	8.1	7.7	8.5	0.9	26.7	0.129	-56.41	-307.39	0.0004		13.8	352.0		-16.98
O4	2/27/2017	1.6	0.03	7.7	8.1	8.9	0.9	28.0	0.125	-59.51	-324.06	0.0004		14.9	326.4		-16.97
O4	4/11/2017	1.8		10.1	8.6	9.2	1.0	28.9	0.091	-57.49	-292.07	b.d.l.		14.8	349.9		-16.79
O4	5/24/2017	1.6	0.03	9.5	7.2	8.8	1.0	27.3	0.093	-57.56	-276.02	b.d.l.		15.4	257.7		-17.18
R1	1/15/2015	4.5	0.01	5.6	26.9	2.6	1.9	15.1	0.044	-55.31	-195.51			42.4	778.0		
R1	2/12/2015	4.4	0.01	5.0	29.3	1.9	2.0	11.7	0.116	-52.53				49.5	730.2		
R1	4/12/2015	4.5	0.03	6.6	22.9	4.1	2.4	19.4	0.018	-53.73	-127.22			41.0	1016.9		
R1	5/10/2015	4.6	0.02	6.9	14.7	4.1	1.2	19.2	0.121	-45.67	-209.05	b.d.l.		31.5	1147.9		
R1	6/5/2015	4.0	0.02	8.1	11.2	5.3	1.0	21.7	0.010			b.d.l.		26.0	722.5	0.713251	
R1	6/30/2015	6.1	0.02	8.3	13.7	4.9	1.7	23.0	0.037	-56.43	-196.31	b.d.l.		23.5	542.8		
R1	7/27/2015	5.6	0.02	8.4	10.7	4.7	1.2	22.5	0.009			b.d.l.		21.5	519.4		
R1	8/12/2015	6.4	0.02	8.6	12.3	4.5	1.5	21.5	0.008			b.d.l.		19.4	522.3		
R1	9/14/2015	5.8	0.01	8.5	10.1	5.0	1.0	23.1	0.006			b.d.l.		19.6	570.1		
R1	10/21/2015	6.1	0.01	8.5	8.6	4.9	1.0	20.4	0.058	-57.51	-170.65	b.d.l.		21.0	563.4		
R1	1/7/2016	4.9	0.02	10.2	15.3	4.4	1.1	18.8	0.006			b.d.l.		21.0	521.2		
R1	2/8/2016	5.7	0.02	10.8	16.0	4.5	1.3	20.1	0.013	-54.09	-128.36	0.0004		24.9	525.0		
R1	3/25/2016	5.5	0.02	7.0	20.3	4.2	1.6	18.8	0.007			0.0004		31.0	533.3		
R1	4/26/2016	4.7	0.01	4.6	32.5	2.5	1.5	12.7	0.050	-62.55	-158.93	0.0004		67.3	652.6		
R1	6/6/2016	4.7	0.01	4.8	34.9	2.4	2.0	12.7	0.048	-67.02	-161.92	0.0004		82.1	797.2	0.713305	
R1	7/18/2016	4.6	0.01	4.6	33.1	2.1	1.7	11.1	0.057	-67.46	-165.83	0.0004		82.5	709.7		-17.43
R1	8/29/2016	4.1	0.02	4.0	33.7	2.2	1.8	11.7	0.086	-66.97	-157.64	0.0004		76.2	729.2		-17.19
R1	10/4/2016	1.7	0.04	5.5	31.4	2.6	1.7	13.4	0.070	-65.97	-167.46	b.d.l.		61.4	691.0		-17.15
R1	11/6/2016	3.4	0.04	3.0	31.7	2.6	1.8	13.6	0.047	-54.47	-154.98	0.0004		75.7	809.5		-17.55
R1	12/13/2016	9.1	0.04	5.6	26.6	2.4	1.8	12.7	0.074	-62.64	-176.96	0.0004		73.5	939.7		-17.60
R1	1/17/2017	5.2	0.02	3.8	27.7	2.6	1.5	12.8	0.052	-62.46	-162.97	0.0004		67.3	1041.9		-17.51
R1	2/27/2017	5.6	0.04	4.3	29.4	2.9	1.8	14.1	0.054	-60.56	-177.22	0.0004		75.8	993.2		-17.69
R1	4/11/2017	6.2	0.02	5.8	26.2	3.0	1.9	14.9	0.050	-60.48	-179.14	0.0004		60.8	1077.3		-17.34
R1	5/24/2017	5.4	0.01	5.8	24.0	3.2	1.9	15.5	0.041	-59.32		b.d.l.		56.4	829.4		-17.78
R2	1/14/2015	4.9	0.04	8.6	9.2	5.3	1.2	25.3	b.d.l.	-51.66				16.1	693.6		
R2	2/12/2015	4.9	0.03	8.8	8.8	5.5	1.0	25.5	0.002					31.7	678.5		

R2	3/4/2015	5.2	0.02	9.1	7.9	5.3	1.1	24.6	0.002				16.0	642.8		
R2	4/12/2015	5.1	0.01	8.9	8.1	6.1	1.4	25.9	0.002				18.0	681.4		
R2	5/10/2015	5.1	0.01	9.1	6.4	5.8	0.5	24.5	0.003			b.d.l.	14.4	590.7		
R2	6/5/2015	4.3	0.02	9.1	5.7	5.8	1.4	24.0	0.003			b.d.l.	16.3	568.4	0.713104	
R2	6/30/2015	6.2	0.01	9.1	9.0	5.5	1.5	25.0	0.002			b.d.l.	16.1	501.1		
R2	7/27/2015	5.8	0.01	9.1	6.3	5.3	0.7	24.2	0.003			b.d.l.	13.3	511.1		
R2	8/12/2015	6.5	0.03	9.2	7.9	5.0	1.3	22.4	0.002			b.d.l.	12.3	480.9		
R2	9/14/2015	6.0	0.02	9.1	5.9	5.7	1.1	25.3	0.002			b.d.l.	11.9	493.5		
R2	10/21/2015	6.3	0.01	9.3	4.5	5.6	1.0	23.8	0.002			b.d.l.	14.5	540.1		
R2	1/7/2016	5.5	0.04	11.8	8.5	5.4	0.9	22.0	0.002			b.d.l.	10.1	507.2		
R2	2/8/2016	6.2	0.02	13.3	6.2	5.7	0.9	24.4	0.003			0.0004	14.7	444.9		
R2	3/25/2016	6.3	0.02	9.2	4.9	5.9	0.9	24.7	0.002			0.0004	10.9	404.4		
R2	4/26/2016	6.2	0.01	8.3	4.3	6.0	0.9	25.4	0.004			0.0004	14.5	491.3		
R2	6/6/2016	5.9	0.01	8.2	4.3	5.7	0.9	24.3	0.003			0.0004	15.5	578.0	0.713223	
R2	7/18/2016	6.1	0.03	9.2	7.0	5.9	1.3	25.1	0.010			0.0004	23.1	823.2		-17.85
R2	8/29/2016	5.8	0.02	14.0	6.4	6.2	1.5	26.6	0.016	-55.95	-152.71	0.0004	21.9	859.8		-17.74
R2	10/4/2016	2.6	b.d.l.	10.0	6.5	6.4	1.3	27.3	0.009			b.d.l.	23.3	846.7		-17.89
R2	11/6/2016	4.1	0.02	8.5	7.0	6.4	1.4	27.3	0.003			0.0004	23.9	905.9		-17.81
R2	12/13/2016	10.1	0.03	9.9	4.5	6.0	1.5	26.2	0.017	-46.38	-214.10	0.0004	20.6	873.4		-18.09
R2	1/17/2017	6.2	0.02	7.1	6.5	6.1	1.4	25.4	0.004			0.0004	22.6	1068.2		-18.08
R2	2/27/2017	6.4	0.02	8.0	6.9	6.4	1.3	26.7	0.010	-51.74	-204.30	0.0004	26.6	1067.7		-18.17
R2	4/11/2017	7.3	0.02	10.3	6.2	6.3	1.3	26.3	0.010			0.0004	23.4	1120.3		-17.42
R2	5/24/2017	6.4	0.03	9.9	5.6	6.1	1.3	25.0	0.009	-53.31	-163.84	b.d.l.	22.4	748.5		-18.11
R3	1/29/2015	5.5	0.02	9.1	3.5	5.0	0.6	21.8	b.d.l.				5.6	53.8		
R3	2/12/2015	6.2	0.03	9.1	3.6	5.0	0.7	21.7	0.049	-50.91	-195.23		12.0	36.8		
R3	3/4/2015	6.2	0.02	9.2	3.5	5.0	0.6	21.2	b.d.l.				7.8	41.6		
R3	4/12/2015	6.0	0.02	8.1	1.0	5.0	0.5	19.8	b.d.l.				6.6	57.4		
R3	5/10/2015	5.3	0.02	9.4	3.0	5.4	0.5	21.6	b.d.l.			b.d.l.	6.0	60.8		
R3	6/5/2015	4.4	0.05	9.4	0.9	5.3	0.3	20.2	b.d.l.			b.d.l.	6.5	59.2	0.713477	
R3	7/1/2015	6.3	0.02	9.4	0.9	5.4	0.3	20.5	b.d.l.			b.d.l.	6.2	59.5		
R3	7/28/2015	5.8	0.01	9.5	1.0	5.4	0.3	20.9	0.002			b.d.l.	5.7	59.0		
R3	8/12/2015	6.6	0.02	9.4	1.3	4.9	0.6	19.7	b.d.l.			b.d.l.	5.4	56.6		
R3	9/14/2015	6.0	0.02	9.3	0.7	4.9	0.5	19.6	b.d.l.			b.d.l.	5.2	59.3		
R3	10/21/2015	6.3	0.01	9.4	0.6	4.9	0.5	19.5	b.d.l.			b.d.l.	6.2	56.4		

R3	1/7/2016	5.8	0.03	11.2	0.5	5.0	0.4	19.7	b.d.l.			b.d.l.		5.6	60.6		
R3	2/8/2016	6.7	0.03	13.2	0.6	5.1	0.6	20.1	0.002			0.0004		5.9	56.8		
R3	3/25/2016	6.2	0.02	9.1	1.2	5.4	0.5	21.9	b.d.l.			0.0004		5.9	56.1		
R3	4/26/2016	6.3	0.02	7.7	0.5	5.0	0.3	20.0	0.002			0.0004		6.3	57.0		
R3	6/6/2016	6.2	b.d.l.	8.1	1.0	5.3	0.4	20.7	b.d.l.			0.0004		5.2	60.9	0.713265	
R3	7/18/2016	6.2	b.d.l.	9.0	0.4	5.1	0.4	20.0	0.013	-54.58	-220.29	0.0004		6.8	55.1		-19.77
R3	8/29/2016	4.6	0.04	9.9	0.9	5.3	0.4	20.6	0.009			0.0004		7.2	56.4		-15.95
R3	10/4/2016	7.6	0.02	9.2	1.0	5.4	0.4	21.0	0.004			b.d.l.		6.1	57.5		-19.62
R3	11/6/2016	6.4	0.03	8.7	1.4	5.4	0.6	22.0	0.002			0.0004		7.0	55.3		-19.82
R3	12/13/2016	11.7	0.07	9.2	b.d.l.	5.1	0.8	20.8	0.013	-49.33	-232.65	0.0004		6.5	64.4		-19.95
R3	1/17/2017	6.4	0.03	7.4	1.6	5.0	0.6	20.1	0.004			0.0004		7.0	64.9		-19.89
R3	2/27/2017	7.7	0.02	7.8	0.4	5.3	0.5	20.9	0.010	-46.98	-223.75	0.0004		9.1	64.0		-19.91
R3	4/11/2017	9.0	0.03	9.4	1.0	5.6	0.5	21.3	0.007			0.0004		6.0	69.5		-19.49
R3	5/24/2017	7.4	0.02	9.2	0.9	5.5	0.6	21.1	0.006	-51.05	-172.94	b.d.l.		7.2	57.1		-19.91
R4	1/14/2015	5.8	0.02	9.7	3.9	6.7	0.7	27.5	b.d.l.	-32.78				7.5	75.2		
R4	3/4/2015	6.2	0.01	9.2	3.6	5.1	0.5	22.8	b.d.l.					6.9	64.2		
R4	4/12/2015	5.8	0.01	9.2	0.8	5.2	0.5	21.2	b.d.l.					7.0	64.2		
R4	5/10/2015	5.4	0.01	9.4	3.4	5.8	0.5	24.0	0.114	-45.21	-215.48	b.d.l.		6.8	72.1		
R4	6/5/2015	4.5	0.01	9.3	1.1	6.2	0.4	24.0	b.d.l.			b.d.l.		6.5	71.9	0.713453	
R4	7/1/2015	6.2	0.04	9.5	4.9	6.3	1.0	27.2	b.d.l.			b.d.l.		6.7	80.8		
R4	7/28/2015	5.5	0.02	8.9	4.1	6.3	0.7	28.0	0.003			b.d.l.		7.7	81.6		
R4	8/12/2015	6.5	0.04	9.1	1.2	5.7	0.6	22.9	b.d.l.			b.d.l.		6.2	72.3		
R4	9/14/2015	6.0	0.02	9.2	0.7	5.2	0.4	20.7	b.d.l.			b.d.l.		5.2	61.4		
R4	10/21/2015	6.3	0.02	9.3	0.6	5.1	0.5	20.5	0.002			b.d.l.		6.1	54.7		
R4	1/7/2016	5.9	0.04	11.4	0.8	5.4	0.5	21.3	b.d.l.			b.d.l.		5.2	64.8		
R4	2/8/2016	6.7	0.03	12.9	0.7	5.4	0.5	21.4	0.002			0.0004		6.0	61.8		
R4	3/25/2016	6.0	0.02	7.9	0.7	5.4	0.5	21.6	b.d.l.			0.0004		6.1	63.5		
R4	4/26/2016	6.3	0.01	8.3	0.4	5.1	0.5	20.3	0.002			0.0004		6.7	59.4		
R4	6/6/2016	6.0	0.02	8.1	0.9	5.4	0.3	21.0	b.d.l.			0.0004		5.2	65.6	0.713409	
R4	7/18/2016	6.3	0.02	9.1	0.3	5.1	0.4	20.2	0.003			0.0004		6.8	55.2		-20.05
R4	8/29/2016	4.7	0.03	9.4	1.0	5.4	0.4	21.0	0.007			0.0004		6.8	56.4		-19.74
R4	10/4/2016	3.8	0.03	9.3	1.0	5.6	0.4	21.1	0.003			b.d.l.		6.4	56.3		-19.90
R4	11/6/2016	7.5	0.05	10.8	1.5	5.4	0.6	21.9	0.002			0.0004		8.6	59.4		-19.93
R4	12/13/2016	11.7	0.10	9.2	b.d.l.	5.1	0.8	20.8	0.011	-54.20	-232.28	0.0004		6.9	63.3		-20.09

R4	1/17/2017	7.0	0.02	8.3	1.5	5.0	0.5	20.5	0.061	-42.21	-218.65	0.0004		7.2	65.2	-20.01
R4	2/27/2017	7.7	0.03	8.0	1.1	5.7	0.5	21.9	0.012	-46.59	-217.17	0.0004		8.2	61.8	-19.97
R4	4/11/2017	9.1	0.03	9.5	1.0	5.6	0.6	21.6	0.006			0.0004		5.5	63.4	-19.62
R4	5/24/2017	7.4	0.02	9.2	1.0	5.6	0.4	21.4	0.006	-53.28	-212.34	b.d.l.		7.1	56.2	-19.79

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