SUPPORTING STATEMENT FOR BLS QUARTERLY CENSUS OF EMPLOYMENT AND WAGES PROGRAM

OMB CONTROL NO. 1220-0012

B. COLLECTION OF DATA EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

1a. Universe

The universe of respondents to the U.S. Bureau of Labor Statistics (BLS) for the Quarterly Census of Employment and Wages (QCEW) are the 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. The ultimate source of data for these 53 entities is the Quarterly Contribution Reports (QCR) submitted to State Workforce Agencies (SWAs) by employers subject to State Unemployment Insurance (UI) laws. The QCEW data, which are compiled for each calendar quarter, provide a comprehensive business name and address file with monthly employment and quarterly wage information by industry, at the six-digit North American Industry Classification System (NAICS) level, and at the national, State, Metropolitan Statistical Area (MSA), and county levels for employers subject to State UI laws. Similar data for Federal Government employees covered by the Unemployment Compensation for Federal Employees program (UCFE) also are included.

The QCEW program provides a virtual census of nonagricultural employees and their wages, with about 44% of the workers in agriculture covered as well. As shown in Table 1 in December 2019, the number of covered private business establishments (worksites) is about 9.84 million, and the number of covered employment is about 128.27 million. Additionally, about 60,000 Federal Government, 70,000 State government, and 170,000 local government establishments are covered. In December 2019, the total number of covered establishments is about 10.29 million, and the total number of covered employment is about 150.85 million. The QCEW series has broad economic significance in measuring labor trends and major industry developments, in time series analyses and industry comparisons, and in special studies, such as analyses of establishments, employment, and wages by size of establishment.

The BLS role in the QCEW program is to establish and enforce uniform methods and processes that yield a consistent level of data quality for the multifaceted uses of QCEW data. The BLS role is to take in raw UI administrative data, to understand error components, to address each

with methods and processes to reduce resulting error, and to yield high quality economic data and sample frame. The improvement processes include but are not limited to: efficiency in data collection from large multi-establishment employers through Electronic Data Interchange (EDI); statistically valid procedures for editing, estimating missing reports and data elements, record linkage and standardized processing systems, training of staff; and quality controls procedures for data review (see Sections 2b and 2c on estimation procedures and reliability for details). After the data have gone through extensive review at the State, regional, and national levels, the BLS summarizes these data to produce totals for all counties, MSAs, the States, and the Nation by various industrial levels.

1b. Sample

The QCEW is a census of establishments; hence, every unit is in the sample and represents itself only. That is, each unit has a sampling weight of one.

2. Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**
- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

2a. Sample Design

The QCEW is a census of establishments. Thus, its sample design is simple since all establishments are included with certainty. Because all establishments are certainty units representing only themselves, each unit carries a sampling weight of one.

2b. Estimation Procedure

The aggregated totals of employment and wages for each sub-domain (e.g., industry, geography, and size) are simply the sum of the micro records belonging to that sub-domain. Averages and other statistics for each sub-domain are derived by performing the appropriate arithmetic functions.

As mentioned above, the BLS role is to add quality to the raw data. One of these processes involves editing the data and conducting validation checks. The basic monthly employment edit consists of a six-step statistical test that includes the use of multiple t-test for: month-to-month change, over-the-year change, and a 12-month variation in data; some tests are conducted on levels while others are conducted on rate of change. The wage edit includes the use of an inter-quartile test developed by Hoaglin, Iglewicz, and Tukey. The Edit Conditions and Formulas are described in Appendix-F of the QCEW Operating Manual (2007).

Although the BLS receives the QCEW files from all 53 entities in a timely manner, the files contain estimates for late and missing respondents. Therefore, a step in the data process is

estimation for late respondents and for missing respondents (i.e., unit non-response) and data elements (i.e., item non-response). As shown in Table 2a, about three to four percent of the establishments respond late or fail to respond to the QCEW in a timely manner; the corresponding figure for employment is about two to three percent as shown in Table 2b. The non-response rates for wages are about two to three percent as shown in Table 2c.

The current method of imputation applies the missing establishment a-year-ago change to the previous month's employment or quarterly wages to estimate the current month's employment or quarterly wages. That is, missing establishment current month's employment is equal to the previous month's employment multiplied by its a-year-ago change; a similar procedure is applied to estimate total quarterly wages. A drawback to this procedure is that it uses a-year-ago trend rather than the current trend. The current Imputation Formulas are described in Chapter 8 and Appendix-J of the QCEW Operating Manual.

Usually, non-respondents account for a minor portion of QCEW employment and wages. However, BLS anticipates that the number of non-responding employers will be substantially higher than usual in the second quarter of 2020 as a result of the business response to the coronavirus (COVID-19) pandemic. The existing imputation methods would likely understate the impact of the pandemic on the US economy.

In response to the pandemic BLS implemented three improvements to imputation methods in October 2020. The first improvement implements the ratio method of imputation, discussed immediately below. The second and third improvements use summary counts of claims for unemployment benefits as a supplement to existing QCEW imputation. This is discussed following the section on the ratio method.

The BLS conducted extensive research on alternative imputation methods for both employment and wages. The findings of the research indicate improved results when using current trends from responding establishments with characteristics similar to the non–respondents. The BLS defines this procedure as the ratio method. The ratio of a particular estimation cell is computed as the sum of the current month's reported employment divided by the sum of the previous month's reported employment. To impute this month's employment for a non-respondent, the ratio is then multiplied by the non-respondent's previous month employment. A similar procedure is applied to impute average quarterly wages. The details of the method including various exceptions are available in Attachment 1.

The ratio method of imputation will be implemented in the redesigned state QCEW processing system. Implementation of this system is scheduled to begin in September of 2021. A simplified version of the ratio method was implemented in BLS QCEW processing in October 2020. The BLS accelerated the implementation of the ratio method due to the economic disruption caused by the coronavirus (COVID-19) pandemic, in order to provide the most accurate QCEW data possible.

The second and third improvements to imputation methods use summary counts of claims for unemployment benefits as a supplement to existing QCEW imputation. This is a new use of

claims counts, which are collected by the BLS Local Area Unemployment Statistics (LAUS) program. Most states supply these data to the LAUS program; California and Florida are exceptions. As of October 2020, not all states shared LAUS claims count files for QCEW use. California was unable to provide the file for technical reasons, and Massachusetts declined to share the LAUS file with the BLS QCEW program. Florida was able to produce a substitute file suitable for this QCEW use.

The QCEW system at BLS matches summary counts of claims for the regular state unemployment insurance benefits per employer to missing employers. This match identifies employers who are likely to have ceased operations. These non-responding employer records are immediately dropped from the QCEW file. These employer records otherwise would have been imputed for two quarters before being dropped.

State QCEW staff are provided with summary claims counts. State staff members may use this information as a supplement to their review of imputed and reported QCEW data.

QCEW data are also used to tabulate data on Business Employment Dynamics. In order to develop these statistics, data are linked across quarters. Data processing for this purpose includes: 1) additional editing and imputation; 2) separation of establishments into new establishments (openings or births), continuous establishments (existing businesses), and out-of-business establishments (closings or deaths); and 3) longitudinal research. The BLS employs the Method described in the paper "A simplified Approach to Administrative Record Linkage in the Quarterly Census of Employment and Wages" by Justin McIllece and Vinod Kapani (October, 2014), JSM 2014-Survey research Methods Section, 4392:4404.

2c. Reliability

Since the QCEW is a census, the data are only subject to non-sampling errors. To control for these non-sampling errors, the BLS has extensive quality control procedures that include: 1) improved data collection methods especially for large multi-establishment employers through EDI; 2) standardized data processing systems that include edits, imputation, record linkages including address standardization and industrial classification coding; and 3) standardized training of staff at State, regional, and national levels in the review of data according to the guidelines provided by the QCEW policy council and stated in official memorandums (available upon request). Records that fail these edits are individually reviewed. Respondent contact is frequently used to validate significant movements or to correct the data.

The three most important initiatives undertaken by the BLS to enhance the quality of QCEW data are the establishment of the Multiple Worksites Report (MWR) Survey, the Annual Re-filing Survey (ARS), and the development of a new comprehensive processing system for States use. Two separate OMB clearances are obtained for the ARS and MWR Survey. The MWR survey is sent quarterly to multi-establishment employers for the purpose of asking them to break out their consolidated UI reports to the establishment level. For example, some employers provide data for all of their operations within a State or at the county level; the MWR asks the employer to provide information for each establishment so that all records on the file can be at

the establishment level, which is generally the sampling unit for most BLS surveys. This also improves the quality of local economic data by more accurately reporting the location and type of economic activity.

The ARS is conducted annually on about one-third of the establishments on the frame for the purpose of updating the industrial classification, business name, reporting and physical location addresses, and auxiliary status. Establishments with more than 3 employees are eligible for the ARS. Each eligible establishment is placed into a three-year cohort using a random selection process. In order to ensure data quality, state and regional staff are trained extensively in industrial classification coding. Additionally, standardized systems are provided to the State and regions to process the data.

2d. Revisions

For the first quarter of each year, QCEW data are published five times; the original data are first released in September of the same year followed by revisions in the following December, March, June, and September. For example, March 2015 data were first published in September 2015, then in December 2015, and subsequently in March, June, and September of 2016. The 2nd quarter data are published four times; the 3rd quarter data are published three times; and the 4th quarter data are published twice. Table 3a provides data for the initial publication of each quarter in 2015 to their final publication in September 2016. As shown in Table 3b, the largest revision generally occurs from initial publication to the first revision, as missing reports, including out-of-business reports, for late responding employers come in. The magnitude of revisions is relatively small; that is, less than 0.05 percentage point.

2e. Specialized Procedures

None.

2f. Data Collection Cycles

The QCEW program is quarterly, as employers are required to file Quarterly Contribution reports (i.e. UI reports) on a quarterly basis.

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

Since employers are required to file Quarterly Contributions Reports under the UI law for each State, the response rates are generally very high. The unit response rates for employment are about 96 percent (Table 2a) and about 97 percent (Table 2c) for wages as reporting of wages are required by UI law. The response rates based on total covered employment are about 97 percent (Table 2b), as the non-response is mostly concentrated among smaller establishments.

Growth of Electronic Data Interchange (EDI), the direct transfer of data from the firm to the BLS, also provides a high level of response and stability. The BLS currently collects over 80,000 reports from nearly 100 large firms with about 10 million employees via EDI. For final estimates, virtually all of these firms provide data.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of test may be submitted for approval separately or in combination with the main collection of information.

The BLS has undertaken several initiatives in the area of research on control and measurement of non-sampling error. The 1991 benchmark of Current Employment Statistics Survey's (CES) estimate of employment to the QCEW revealed a substantial non-sampling error problem caused by payroll processing firms. The American Statistical Association formed a committee to review BLS procedures and issued a report in January 1994 (American Statistical Association, 1994). The BLS adopted most of the report's recommendations. The BLS also conducted a Response Analysis Survey of Payroll Processing Firms (Goldenberg, Moore, and Rosen, 1994). The purpose of the survey was to identify practices that can affect the data collected by the CES and QCEW programs (the benchmark source data) and educate payroll processors on proper reporting procedures. The BLS also conducted a Response Analysis Survey (RAS) of CES and QCEW covering employment reporting (Werking, Clayton, and Rosen, 1995). The survey identified factors affecting both CES and QCEW reporting within the same firm. Based on these RAS studies, the BLS undertook an extensive education program with CES respondents. This included highlighting correct reporting of problem items on the CES report form and the inclusion of special notices on correct reporting on the monthly advance notice fax message. Another RAS was conducted in 2008; an Executive Summary of the report detailing those findings is in Attachment 2.

5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze person(s) who will actually collect and/or analyze the information for the agency.

Mr. Edwin Robison, Chief, Statistical Methods Staff of the Office of Employment and Unemployment Statistics (phone: 202-691-6363), is responsible for the statistical aspects of the QCEW program. As mentioned in the above paragraph, the BLS seeks consultation with other outside experts on an as needed basis. The QCEW Policy Council, composed of ten state representatives and BLS staff, has been consulted on the content, uses, and methodology of the program.

6. References

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Table 1 – QCEW Summary Data for 50 States, D.C., Puerto Rico, and Virgin Island on NAICS Basis					
October, November, December 2019 (in thousands)					
Industry Code	**Industry Description**	**No. of Establishments**	**Employment Oct, 2019**	**Employment Nov, 2019**	**Employment Dec, 2019**
Total		*10364*	*149527*	*150260*	*150005*
Total Private		*9303*	*127321*	*127943*	*127781*
11	Agriculture, forestry, fishing and hunting	108	1361	1251	1164
21	Mining	33	665	653	643
22	Utilities	19	548	548	548
23	Construction	840	7661	7575	7438
31	NDR manufacturing	135	4812	4801	4802
33	DUR manufacturing	222	7971	8018	8026
42	Wholesale trade	618	5894	5906	5914
45	Retail Trade	1047	15588	16072	16150
49	Transportation and Warehousing	266	5612	5818	5944
51	Information	190	2842	2900	2865
52	Finance and insurance	503	6055	6071	6084
53	Real estate and rental and leasing	424	2322	2318	2325
54	Professional, Scientific and Technical Services	1289	9626	9684	9699
55	Management of companies and enterprises	71	2408	2414	2420
56	Administrative and support and waste management services	578	9484	9518	9366
61	Educational services	130	3038	3063	3016
62	Health care and social assistance	1659	20325	20415	20440
71	Arts, entertainment, and recreation	158	2414	2304	2320
72	Accommodation and food services	733	14046	13964	13956
81	Other services, except public administration	869	4574	4574	4575
91	Federal Government	61	2854	2861	2866
92	State Government	71	4871	4877	4854
93	Local Government	171	14688	14786	14711
99	Unclassified	171	147	152	156

Table 2a – U.S. Percentage of Imputed Establishments by Year and Month												
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
2001	5.96	5.96	5.99	5.72	5.73	5.81	5.04	5.06	5.08	5.02	5.04	5.09
2002	5.57	5.58	5.57	5.12	5.12	5.19	4.98	4.99	5.04	4.75	4.78	4.82
2003	6.25	6.26	6.26	5.65	5.62	5.70	5.27	5.27	5.29	5.49	5.51	5.57
2004	5.98	5.97	5.98	5.83	5.80	5.93	5.50	5.50	5.62	5.33	5.35	5.45
2005	5.66	5.68	5.74	5.13	5.11	5.28	5.23	5.25	5.26	4.65	4.71	4.80
2006	5.96	5.98	6.01	4.96	4.91	5.01	4.89	4.97	5.01	4.46	4.55	4.60
2007	5.14	5.28	5.31	4.59	4.70	4.78	4.37	4.40	4.45	4.15	4.18	4.25
2008	5.29	5.27	5.33	4.19	4.18	4.31	4.19	4.17	4.24	3.83	3.88	3.99
2009	4.88	4.90	4.99	4.12	4.09	4.21	3.71	3.72	3.79	3.64	3.66	3.81
2010	4.85	4.87	4.89	4.22	4.22	4.42	4.33	4.34	4.56	3.83	3.87	4.02
2011	4.76	4.80	4.88	5.02	5.02	5.21	3.44	3.46	3.59	2.93	3.00	3.12
2012	3.73	3.73	3.79	3.71	3.70	3.84	3.38	3.38	3.52	4.00	4.03	4.14
2013	4.28	4.19	4.27	3.43	3.43	3.58	3.01	2.95	3.06	2.95	2.90	3.04
2014	4.11	4.04	4.11	2.89	2.81	2.95	2.74	2.74	2.87	2.65	2.68	2.77
2015	3.38	3.38	3.41	2.78	2.74	2.84	3.36	3.36	3.49	2.52	2.56	2.68
2016	4.46	4.46	4.54	3.16	3.16	3.33	2.77	2.78	2.87	3.16	3.20	3.31
2017	3.87	3.87	3.89	2.95	2.94	3.04	2.36	2.39	2.47	2.31	2.35	2.47
2018	3.97	3.96	4.02	2.72	2.72	2.82	2.43	2.46	2.57	2.33	2.37	2.51
2019	3.29	3.26	3.34	2.93	2.94	3.05	2.76	2.77	2.90	2.25	2.29	2.43

NOTE: Tables 2a & 2b are based on Imputed Employment Indicator and all ownerships, and exclude Puerto Rico & Virgin Islands

Table 2b – U.S. Percentage of Imputed Employment by Year and Month												
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
2001	5.14	5.09	5.10	4.76	4.70	4.74	4.41	4.38	4.47	4.68	4.68	4.74
2002	4.41	4.42	4.38	4.16	4.13	4.24	4.49	4.44	4.47	4.26	4.20	4.23
2003	4.92	4.93	4.82	4.36	4.29	4.39	4.62	4.54	4.58	4.62	4.61	4.57
2004	4.52	4.42	4.35	4.70	4.59	4.77	5.07	5.01	5.24	4.54	4.48	4.49
2005	4.10	4.09	4.12	3.80	3.74	4.09	3.96	3.95	3.83	3.82	3.78	3.79
2006	3.78	3.74	3.75	3.14	3.04	3.06	3.29	3.31	3.28	3.23	3.28	3.27
2007	3.28	3.28	3.24	2.95	2.89	2.94	3.08	3.08	3.10	2.86	2.82	2.87
2008	3.07	2.97	3.00	2.60	2.53	2.68	2.69	2.58	2.68	2.49	2.44	2.56
2009	2.84	2.75	3.26	2.35	2.29	2.36	2.34	2.30	2.51	2.34	2.26	2.34
2010	2.85	2.81	2.79	2.32	2.25	2.43	2.70	2.67	3.09	2.42	2.44	2.57
2011	2.80	2.79	2.89	3.04	2.99	3.25	2.32	2.33	2.41	2.22	2.23	2.27
2012	2.49	2.41	2.45	2.37	2.30	2.45	2.31	2.18	2.29	2.71	2.53	2.64
2013	2.72	2.54	2.62	2.17	2.13	2.28	2.34	2.14	2.26	2.21	1.97	2.13
2014	2.46	2.31	2.37	1.88	1.80	1.92	1.91	1.84	1.96	2.13	2.09	2.19
2015	2.07	2.03	2.07	1.78	1.71	1.83	1.96	1.89	2.05	1.73	1.73	1.87
2016	2.17	2.14	2.23	1.56	1.56	1.87	1.72	1.67	1.84	1.94	1.90	2.00
2017	1.90	1.90	1.91	1.58	1.58	1.71	1.47	1.47	1.58	1.48	1.52	1.6
2018	1.98	1.96	2.05	1.55	1.55	1.64	1.50	1.47	1.62	1.57	1.61	1.71
2019	1.91	1.87	1.93	1.65	1.63	1.77	1.65	1.62	1.83	1.64	1.63	1.75

NOTE: Tables 2a & 2b are based on Imputed Employment Indicator and all ownerships, and exclude Puerto Rico & Virgin Islands

Table 2c – Percentage of Imputed Wage by Year and Quarter								
Year	**Total Establishments Count Q1**	**Percent Imp Wage Records Q1**	**Total Establishments Count Q2**	**Percent Imp Wage Records Q2**	**Total Establishments Count Q3**	**Percent Imp Wage Records Q3**	**Total Establishments Count Q4**	**Percent Imp Wage Records Q4**
2001	7,743,963	4.26	7,752,694	4.24	7,803,541	3.18	7,839,471	3.11
2002	7,891,412	3.94	7,901,173	3.40	7,935,862	3.31	7,973,775	3.28
2003	8,013,297	4.78	8,002,961	3.76	8,060,296	3.46	8,081,182	3.50
2004	8,129,247	4.31	8,133,737	4.07	8,192,688	3.71	8,259,088	3.70
2005	8,314,712	4.15	8,335,131	3.62	8,407,905	3.65	8,464,375	3.13
2006	8,542,371	4.39	8,550,053	3.61	8,617,164	3.52	8,703,001	3.06
2007	8,718,045	3.94	8,720,237	3.49	8,785,200	3.20	8,836,877	2.96
2008	8,875,359	4.04	8,876,227	3.34	8,918,706	3.24	8,943,568	2.99
2009	8,878,407	4.10	8,819,252	3.27	8,826,095	3.08	8,845,544	2.93
2010	8,802,125	3.99	8,769,242	3.53	8,802,038	3.30	8,842,899	2.94
2011	8,820,545	4.32	8,828,478	4.08	8,876,724	2.59	8,921,357	1.95
2012	8,951,937	2.89	8,968,693	2.84	8,918,033	2.59	8,958,625	3.25
2013	8,946,733	3.33	9,003,016	2.68	9,047,292	2.29	9,050,707	2.46
2014	9,045,619	3.45	9,041,974	2.14	9,092,059	2.17	9,149,628	1.96
2015	9,178,990	2.69	9,221,367	2.21	9,266,222	2.86	9,319,488	1.85
2016	9,320,160	3.88	9,371,351	2.72	9,432,306	2.35	9,489,189	2.76
2017	9,472,782	3.18	9,527,202	2.47	9,532,898	1.89	9,591,535	1.81
2018	9,618,757	2.80	9,663,973	2.07	9,731,525	1.83	9,781,919	1.78
2019	9,815,176	2.81	9,857,279	2.45	9,926,960	2.28	9,990,093	1.77

NOTE: Table 2c is based on Imputed Wages Indicator of "E" and all ownerships, and excludes Puerto Rico & Virgin Islands

Table 3a – Revisions in Published Data, U.S. Total

Mar-19	Mar-19	Mar-19	Mar-19	Mar-19					
September 2019 release	**December 2019 Release**	**March 2020 Release**	**June 2020 Release**	**September 2020 Release**	**First revision**	**Second Revision**	**Third revision**	**Fourth revision**	**Total revision since September2019**
146,497,599	146,513,849	146,514,210	146,527,125	146,553,073	16,250	361	12,915	25,948	55,474
	Jun-19	**Jun-19**	**Jun-19**	**Jun-19**					
	December 2019 Release	**March 2020 Release**	**June 2020 Release**	**September 2020 Release**	**First revision**	**Second Revision**	**Third revision**		**Total revision since Dec-2019**
	149,089,158	149,133,921	149,157,402	149,191,158	44,763	23,481	33,756		102,000
		Sep-19	**Sep-19**	**Sep-19**					
		March 2020 Release	**June 2020 Release**	**September 2020 Release**	**First revision**	**Second Revision**			**Total revision since March 2020**
		148,556,525	148,655,575	148,701,484	99,050	45,909			144,959
			Dec-19	**Dec-19**					
			June 2020 Release	**September 2020 Release**	**First revision**				**Total revision since June-2020**
			149,857,130	150,005,303	148,173				148,173

Table 3b – Percentage of Revision from Original to Next Publication

Preliminary publication	Mar-19	Jun-19	Sep-19	Dec-19
Revised Publication	December 2019 Release	March 2020 Release	June 2020 Release	September 2020 Release
% Revision from Preliminary Publication	0.01	0.03	0.07	0.10

Table 3c – Percentage of Revision from Original to Final Publication				
Preliminary Publication	Mar-19	Jun-19	Sep-19	Dec-19
Revised Publication	September 2020 Release	September 2020 Release	September 2020 Release	September 2020 Release
% Revision from Preliminary Published Data	0.04	0.07	0.10	0.10