



SDWIS/XML Sampling 3.1 Schema Mapping Document

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**SDWIS/XML
SAMPLING 3.1
SCHEMA MAPPING
DOCUMENT**

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SDWIS PROJECT**

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1.0 INTRODUCTION

The SDWIS/XML Sampling Schema Mapping document defines the primary four schemas used by SDWIS/XML Sampling to migrate sample and sample result reporting into SDWIS/STATE. It defines the schema elements, the business rules imposed on the element values, and maps the schema tags to the SDWIS/STATE staging tables and SDWIS/STATE database tables.

1.1 Overview of SDWIS/XML Sampling Schemas

Depending on the type of sampling data, *SDWIS/XML Sampling* will work with one of the following schemas to transfer data to SDWIS/STATE:

- X SDWIS_eDWR_v3.0.xsd Schema
- X SDWIS_Summary_v3.0.xsd Schema
- X SDWIS_SummaryResult_v3.0.xsd Schema
- X SDWIS_MDBPSummary_v3.0.xsd Schema

Each schema may include several business objects, which are essentially sub-groupings of related data.

1.1.1 SDWIS_eDWR_v3.0.xsd Schema

The SDWIS_eDWR schema is the one that laboratories will use to report sample results for batch input into the SDWIS/STATE database. SDWIS_eDWR_v3.0.xsd encompasses the Sample, Other Sample Measure, Sample Result and the Other Analysis Measure business objects for SDWIS/XML Sampling (Laboratory Sample Result Data). While the SDWIS_eDWR_v3.0 schema and the EDWR_eDWR_v2.0.xsd schema share the same hierarchy and element names, the SDWIS_eDWR schema does not contain all the elements that exist in the e-DWR schema. The SDWIS_eDWR schema only contains those elements needed to move laboratory sample results into a SDWIS/STATE database.

To give immediate feedback to the laboratory and to optimize data quality, the following constraints have been added to the SDWIS_eDWR schema elements:

- X Data Type
- X Length
- X Permitted Values
- X Optionality
- X Data Range (Valid date range is between 1901-01-01 to 2100-01-01)
- X Time Range (Valid time range is between 00:00:00 to 23:59:59)

1.1.2 SDWIS_Summary_v3.0.xsd Schema

The SDWIS_Summary_v3.0.xsd schema defines the data elements needed to migrate a Coliform or Lead and Copper Sample Summary into a SDWIS/STATE database. This schema is not a part of the e-DWR schemas but follows the data standards and recommendations of the Data Exchange Registry. The schema elements, type, optionality, and enumerated values are determined by the SDWIS/STATE Summary structure. Data quality constraints, like those listed in section 1.1.1, have been added to this schema.

1.1.3 SDWIS_SummaryResult_v3.0.xsd Schema

The SDWIS_SummaryResult_v3.0.xsd schema defines the data elements needed to migrate a Coliform or Lead and Copper Sample Summary Result into a SDWIS/STATE database. This schema is not a part of the e-DWR schemas but follows the data standards and recommendations of the Data Exchange Registry. The schema elements, type, optionality, and enumerated values are determined by the SDWIS/STATE Summary Result structure. Data quality constraints, like those listed in section 1.1.1, have been added to this schema.

1.1.4 SDWIS_MDBPSummary_v3.0.xsd Schema

The SDWIS_MDBPSummary_v3.0.xsd schema defines the data elements needed to migrate an MDBP Summary Result into a SDWIS/STATE database. (This is, for example, the schema used to migrate Water Treatment Rule Summaries into SDWIS/STATE.)

This schema is not a part of the e-DWR schemas but follows the data standards and recommendations of the Data Exchange Registry. The schema elements, type, optionality, and enumerated values are determined by the SDWIS/STATE MDBP Summary structure. Data quality constraints, like those listed in section 1.1.1, have been added to this schema.

1.2 Scope and Structure of Document and Accompanying Schema

This document describes the schema and target SDWIS/STATE tables that are used to allow a laboratory to report sample results are migrated into a SDWIS/STATE database. It includes information about the three SDWIS summary schemas and a section that groups together a schema's elements into business objects, presented from the perspective of the XML schema.

1.2.1 Staging Table Structure and Business Rules

The first section describes the structure of the SDWIS/STATE table that stages the sample data. Since the business rules of the several different types of samples and sample results are different, there are several tables for samples and sample results.

1.2.2 Enumerated Values

This section lists the enumerated or "permitted" values for each element. The enumerated values for an element are defined as either "Fixed" or "User Defined". Fixed values cannot be modified by a user and are defined within the XML schema definition. User Defined values are maintained by the SDWIS System Administrator using the SDWIS/STATE System Administration component, and are stored in SDWIS/STATE's TINPVALS table.

1.2.3 Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section presents the mapping from the SDWIS/ XML Sampling Schemas to the SDWIS/STATE staging table and on through to the SDWIS/STATE database table. When viewing the SDWIS/ XML Sampling Schemas, use this section to map between the schema and the appropriate SDWIS/STATE tables.

1.2.4 Definitions

This section provides definitions for each element.

2.0 LABORATORY SAMPLE BUSINESS OBJECT

Schema mapping for Sample is divided into four main sections. The first section describes the schema tag hierarchy, staging table/columns, their length, optionality, and the business rules associated with them. The second describes the permitted values for some of the schema elements. The third section describes the mapping between the staging table/columns, SDWIS/STATE table/columns, and the schema elements in the SDWIS_eDWR schema. The fourth section defines the staging table/columns.

The Other Sample Measures is a supplement to the Sample data. They are grouped together as a single unit in the SDWIS_eDWR schema. They always require a sample report and cannot be submitted without one.

Note that edit rules listed in the Optionality column and in the Permitted Value List (where certain values are only accepted as stated) apply samples where B_Compliance_Indicator is value as for compliance (“Y”). Setting this indicator to “N” bypasses most of the edit checks imposed on “for compliance” samples except those noted in B_Compliance_Indicator as well as the permitted value edit checks for fields that have permitted values (that simply ensure that the permitted value supplied is one of the valid values for that field).

Laboratory Sample Result Schema **SDWIS_eDWR_v3.0.xsd** maps to the Sample and the Other Sample business unit.

Note: The MeasurementValue element in the Measurement group element is a number field. If MeasurementSignificantDigits is not valued, the software will disregard trailing zeros and not preserve the trailing zeroes. If there is a value in the MeasurementSignificantDigits, the trailing zeroes will be preserved.

Example:

MeasurementValue equals 1.2 and MeasurementSignificantDigits equals 2, number will be 1.2 and text will be 1.20.

MeasurementValue equals 1.023 and MeasurementSignificantDigits equals 2, number will be 1.023 and text will be 1.02.

2.1 Staging Table Structure and Business Rules

2.1.1 Schema Changes

None this release.

2.1.2 Coliform Sample Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Coliform Samples.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAMPL_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
5.	eDWR Submission LabReport Sample SampleIdentification StateSampleIdentifier	B_STATE_SAMPLE_NUM MBER	AN	20	OPTIONAL
6.	eDWR Submission LabReport Sample SampleIdentification PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY
7.	eDWR Submission LabReport Sample SampleIdentification AdditionalSampleIndicator	B_REPLACEMENT_INDICATOR	AN	1	OPTIONAL
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	AN	10	MANDATORY
9.	eDWR Submission LabReport LabIdentification LabAccreditationAuthorityName	B_CERT_AGENCY	AN	10	MANDATORY
10.	eDWR Submission LabReport Sample SampleIdentification PWSFacilityIdentifier	B_WSF_STATE_ASSIGNMENT	AN	12	MANDATORY - Must belong to the Water System supplied in field 6 (B_PWS_NUMBER).

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
11.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationIdentifier	B_SAMPLING_POINT	AN	12	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_SAMPLING_LOCATION) is not valued.
12.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationName	B_SAMPLING_LOCATION	AN	40	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_POINT) is not valued.
12a	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationCollectionAddress	B_COLLECTION_ADDRS	AN	200	OPTIONAL
13.*	eDWR Submission LabReport Sample SampleRuleCode SampleIdentification	B_SAMPLE_CATEGORY	AN	2	MANDATORY - Must equal "TC"
14.*	eDWR Submission LabReport Sample ComplianceSampleIndicator SampleIdentification	B_COMPLIANCE_INDICATOR	AN	1	MANDATORY

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
15.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	DT	8	MANDATORY - Value must be less than or equal to the current date.
16.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndTime	B_COLLECTION_TIME	TM	6	OPTIONAL
17.*	eDWR Submission LabReport Sample SampleIdentification SampleMonitoringTypeCode	B_SAMPLE_TYPE	AN	2	MANDATORY
18.*	eDWR Submission LabReport Sample SampleLocationIdentification SampleRepeatLocationCode	B_REPEAT_LOCATION	AN	2	OPTIONAL
19.	eDWR Submission LabReport Sample SampleIdentification SampleLaboratoryReceiptDate	B_LAB_RECEIPT_DATE	DT	8	OPTIONAL

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
20.	eDWR Submission LabReport Sample SampleIdentification SampleCollector IndividualFullName	B_COLLECTOR_NAME	AN	40	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementUnit eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_SAMPLE_VOLUME	AN	9	N/A
22.*	eDWR Submission LabReport Sample SampleIdentification SampleCollectionTypeCode	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	NOT USED (Blank Fill)
23.*	eDWR Submission LabReport Sample SampleIdentification SampleRejectionReasonCode	B_SAMPLE_REJECTION_REASON	AN	2	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
24.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionMethod MethodIdentifier	B_COLLECTION_METH OD_CODE	AN	12	OPTIONAL
25.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleIdentifier	B_ORIGINAL_LAB_SAM PLE_NUMBER	AN	20	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
26.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleCollectionDate	B_ORIGINAL_COLLECTI ON_DATE	DT	8	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
27.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeNumber	B_LAB_COMPOSITE_NU MBER	AN	20	N/A
28.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeDate	B_COMPOSITE_DATE	DT	8	N/A

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
29.	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FreeChlorineResidual")	B_FREE_CHLORINE_RESIDUAL	N	5(3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FF_CHLOR_RES_MSR with null.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
30.	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "TotalChlorineResidual")	B_TOTAL_CHLORINE_R ESIDUAL	N	5(3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FLDTOT_CHL_RES_MSR with null.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
31..	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_SAMPLE_WATER_TEMPERATURE	N	3(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TEMP_MSR with null.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
32.*	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementUnit eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_TEMPERATURE_UNIT_MEASURE	AN	1	CONDITIONALLY MANDATORY - This field must be valued if field 31 (B_SAMPLE_WATER_TEMPERATURE) is valued.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
33.	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "Turbidity")	B_TURBIDITY_MEASURE	N	5(2)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TURBID_MSR with null.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
34.	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "PH")	B_PH_MEASURE	N	4(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_PH_MEASURE with null.

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
35	eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FlowRate")	B_FLOW_RATE	N	7(4)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_FLOW_RATE with null.
36.	eDWR Submission LabReport SampleIdentification SamplePurpose	B_SAMPLE_PURPOSE	AN	2	OPTIONAL
37.	eDWR Submission LabReport SampleIdentification StateClassificationCode	B_STATE_CLASSIFICAT ION_CODE	AN	6	OPTIONAL

COLIFORM SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
38.	eDWR Submission LabReport SampleIdentification SampleComments Comments	B_SAMPLE_COMMENTS	ANmc	2000	OPTIONAL
39.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationIdentifier	B_ORIG_LAB_ID_NUM	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP" Or "TG".
40.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationAuthorityName	B_ORIG_LAB_CERT_AGE	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP" Or "TG" and field 39 is valued
41.	eDWR Submission LabReport Sample SampleIdentification RecordID	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

2.1.3 Lead and Copper Sample Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Lead and Copper Samples.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAMPL_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY
5.	eDWR Submission LabReport Sample SampleIdentification StateSampleIdentifier	B_STATE_SAMPLE_NUMBER	AN	20	OPTIONAL
6.	eDWR Submission LabReport Sample PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY
7. *	eDWR Submission LabReport Sample SampleIdentification AdditionalSampleIndicator	B_REPLACEMENT_INDICATOR	AN	1	OPTIONAL

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	AN	10	MANDATORY
9.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AGENCY	AN	10	MANDATORY
10.	eDWR Submission LabReport Sample SampleIdentification PWSFacilityIdentifier	B_WSF_STATE_ASG N_ID	AN	12	MANDATORY - Must belong to the Water System supplied in field 6 (B_PWS_NUMBER).
11.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationIdentifier	B_SAMPLING_POINT	AN	12	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_SAMPLING_LOCATION) is not valued.
12.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationName	B_SAMPLING_LOCA TION	AN	40	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_POINT) is not valued.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
12a	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationCollectionAddress	B_COLLECTION_AD DRS	AN	200	OPTIONAL
13.*	eDWR Submission LabReport Sample SampleIdentification SampleRuleCode	B_SAMPLE_CATEGO RY	AN	2	MANDATORY - Field must = "PB."
14.*	eDWR Submission LabReport Sample SampleIdentification ComplianceSampleIndicator	B_COMPLIANCE_IND ICATOR	AN	1	MANDATORY
15.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DAT E	DT	8	MANDATORY
16.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndTime	B_COLLECTION_TIM E	TM	6	OPTIONAL
17.*	eDWR Submission LabReport Sample SampleIdentification SampleMonitoringTypeCode	B_SAMPLE_TYPE	AN	2	MANDATORY

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
18.*	eDWR Submission LabReport Sample SampleLocationIdentification SampleRepeatLocationCode	B_REPEAT_LOCATIO N	AN	2	N/A
19.	eDWR Submission LabReport Sample SampleIdentification SampleLaboratoryReceiptDate	B_LAB_RECEIPT_DA TE	DT	8	OPTIONAL
20.	eDWR Submission LabReport Sample SampleIdentification SampleCollector IndividualFullName	B_COLLECTOR_NAM E	AN	40	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (there is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
21.*	eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_SAMPLE_VOLUME	AN	9	OPTIONAL
22.*	eDWR Submission LabReport Sample SampleIdentification SampleCollectionTypeCode	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	OPTIONAL
23.*	eDWR Submission LabReport Sample SampleIdentification SampleRejectionReasonCode	B_SAMPLE_REJECTION_REASON	AN	2	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionMethod MethodIdentifier	B_COLLECTION_METHOD_CODE	AN	12	OPTIONAL

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
25.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleIdentifier	B_ORIGINAL_LAB_S AMPLE_NUMBER	AN	20	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
26.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleCollectionDate	B_ORIGINAL_COLLE CTION_DATE	DT	8	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
27.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeNumber	B_LAB_COMPOSITE_ NUMBER	AN	20	N/A
28.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeDate	B_COMPOSITE_DATE	DT	8	N/A

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
29.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FreeChlorineResidual")	B_FREE_CHLORINE_ RESIDUAL	N	5(3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FF_CHLOR_RES_MSR with null.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
30.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "TotalChlorineResidual")	B_TOTAL_CHLORINE_RESIDUAL	N	5 (3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FLDTOT_CHL_RES_MSR with null. NOT USED (Blank Fill)

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
31.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_SAMPLE_WATER_ TEMPERATURE	N	3(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TEMP_MSR with null.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
32.*	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementUnit eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_TEMPERATURE_U NIT_MEASURE	AN	1	CONDITIONALLY MANDATORY - This field must be valued if field 31 (B_SAMPLE_WATER_TEMPERATURE) is valued.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
33.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "Turbidity")	B_TURBIDITY_MEASURE	N	5(2)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TURBID_MSR with null.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
34.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "PH")	B_PH_MEASURE	N	4(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_PH_MEASURE with null.

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
35.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FlowRate")	B_FLOW_RATE	N	7(4)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_FLOW_RATE with null.
36.	eDWR Submission LabReport Sample SampleIdentification SamplePurpose	B_SAMPLE_PURPOSE	AN	2	OPTIONAL

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
37.	eDWR Submission LabReport Sample SampleIdentification StateClassificationCode	B_STATE_CLASSIFICATION_CODE	AN	6	OPTIONAL
38.	eDWR Submission LabReport Sample SampleIdentification SampleComments Comments	B_SAMPLE_COMMENTS	ANmc	2000	OPTIONAL
39.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationIdentifier	B_ORIG_LAB_ID_NUMBER	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
40.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationAuthorityName	B_ORIG_LAB_CERTIFICATE	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP." and field 39 is valued

LEAD AND COPPER SAMPLE					
LINE NO. (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
41.	eDWR Submission LabReport Sample RecordID SampleIdentification	B_XMLDOC_RECORDER_ID	N	7	Optional – A recommended record identifier unique to each xml document.

2.1.4 General Sample Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with General Samples.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAMPL_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
5.	eDWR Submission LabReport Sample SampleIdentification StateSampleIdentifier	B_STATE_SAMPLE_NUMBER	AN	20	OPTIONAL
6.	eDWR Submission LabReport Sample SampleIdentification PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY
7. *	eDWR Submission LabReport Sample SampleIdentification AdditionalSampleIndicator	B_REPLACEMENT_INDICATOR	AN	1	OPTIONAL
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationIdentifier	B_LAB_IS_NUMBER	AN	10	MANDATORY
9.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AG	AN	10	MANDATORY

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
10.	eDWR Submission LabReport Sample SampleIdentification PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Must belong to the Water System supplied in field 6 (B_PWS_NUMBER).
11.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationIdentifier	B_SAMPLING_POINT	AN	12	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_SAMPLING_LOCATION) is not valued.
12.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationName	B_SAMPLING_LOCATION	AN	40	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_POINT) is not valued.
12a	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationCollectionAddress	B_COLLECTION_ADDRS	AN	200	OPTIONAL
13.*	eDWR Submission LabReport Sample SampleIdentification SampleRuleCode	B_SAMPLE_CATEGORY	AN	2	MANDATORY - Must equal "GE."

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
14.*	eDWR Submission LabReport Sample SampleIdentification ComplianceSampleIndicator	B_COMPLIANCE_INDICATOR	AN	1	MANDATORY
15.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	DT	8	MANDATORY
16.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndTime	B_COLLECTION_TIME	TM	6	OPTIONAL
17.*	eDWR Submission LabReport Sample SampleIdentification SampleMonitoringTypeCode	B_SAMPLE_TYPE	AN	2	MANDATORY
18.*	eDWR Submission LabReport Sample SampleLocationIdentification SampleRepeatLocationCode	B_REPEAT_LOCATION	AN	2	N/A

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
19.	eDWR Submission LabReport Sample SampleIdentification SampleLaboratoryReceiptDate	B_LAB_RECEIPT_DATE	DT	8	OPTIONAL
20.	eDWR Submission LabReport Sample SampleIdentification SampleCollector IndividualFullName	B_COLLECTOR_NAME	AN	40	OPTIONAL - If supplied, format must be: LASTNAME, FIRSTNAME (there is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21.*	eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_SAMPLE_VOLUME	AN	9	OPTIONAL

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
22.*	eDWR Submission LabReport Sample SampleIdentification SampleCollectionTypeCode	B_LEAD_COPPER_SAMP LE_TYPE	AN	3	N/A
23.*	eDWR Submission LabReport Sample SampleIdentification SampleRejectionReasonCode	B_SAMPLE_REJECTION _REASON	AN	2	OPTIONAL - If this field is valued (e.g., for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionMethod MethodIdentifier	B_COLLECTION_METH OD_CODE	AN	12	OPTIONAL
25.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleIdentifier	B_ORIGINAL_LAB_SAMP PLE_NUMBER	AN	20	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
26.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleCollectionDate	B_ORIGINAL_COLLECTI ON_DATE	DT	8	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
27.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeNumber	B_LAB_COMPOSITE_NU MBER	AN	20	N/A
28.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeDate	B_COMPOSITE_DATE	DT	8	N/A

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
29.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FreeChlorineResidual")	B_FREE_CHLORINE_RESIDUAL	N	5 (3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FF_CHLOR_RES_MSR with null.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
30.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "TotalChlorineResidual")	B_TOTAL_CHLORINE_RESIDUAL	N	5 (3)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FLDTOT_CHL_RES_MSR with null.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
31.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_SAMPLE_WATER_TEMP TEMPERATURE	N	3(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TEMP_MSR with null.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
32.*	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementUnit eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_TEMPERATURE_UNIT_MEASURE	AN	1	CONDITIONALLY MANDATORY - This field must be valued if field 31 (B_SAMPLE_WATER_TEMPERATURE) is valued.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
33.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "Turbidity")	B_TURBIDITY_MEASUR E	N	5(2)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_TURBID_MSR with null.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
34.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "PH")	B_PH_MEASURE	N	4(1)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_PH_MEASURE with null.

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
35.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FlowRate")	B_FLOW_RATE	N	7(4)	OPTIONAL - Note that if valued with spaces, the software will populate field TSAMCSMP.FIELD_FLOW_RATE with null.
36.	eDWR Submission LabReport Sample SampleIdentification SamplePurpose	B_SAMPLE_PURPOSE	AN	2	OPTIONAL

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
37.	eDWR Submission LabReport Sample SampleIdentification StateClassificationCode	B_STATE_CLASSIFICATION_CODE	AN	6	OPTIONAL
38.	eDWR Submission LabReport Sample SampleIdentification SampleComments Comments	B_SAMPLE_COMMENTS	ANmc	2000	OPTIONAL
39.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationIdentifier	B_ORIG_LAB_ID_NUM	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP."
40.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationAuthorityName	B_ORIG_LAB_CERT_AG	AN	10	CONDITIONALLY MANDATORY - This field must be valued if field 17 (B_SAMPLE_TYPE) = "RP." and field 39 is valued

GENERAL SAMPLE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
41.	eDWR Submission LabReport Sample SampleIdentification RecordID	B_XMLDOC_RECORD_ID	N	7	Optional – A recommended record identifier unique to each xml document.

2.2 Enumerated Values

2.2.1 Sample Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

SAMPLE ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
7.	B_REPLACEMENT_INDICATOR	SPACE Y Yes N No	Fixed
9.	B_CERT_AGENCY	User Defined	User Defined in TINPVALS where CODE_NAME = CERT_AG

SAMPLE ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
13.	B_SAMPLE_CATEGORY	SPACE GE General PB Lead and Copper TC Coliform	Fixed
14.	B_COMPLIANCE_INDICATOR	Y Yes N No	Fixed
17.	B_SAMPLE_TYPE for Coliform Sample (B_SAMPLE_CATEGORY = TC)	RT Routine RP Repeat SP Special BB Batch Blank FB Field Blank PE Performance Evaluation SB Shipping Blank ST Split Blank MR Maximum Residence Time MS Matrix Spike TG Triggered	Fixed
17.	B_SAMPLE_TYPE for General and Lead & Copper Samples (B_SAMPLE_CATEGORY = GE or PB)	RT Routine RP Repeat CO Confirmation SP Special BB Batch Blank FB Field Blank PE Performance Evaluation SB Shipping Blank ST Split Blank MR Max Residence Time MS Matrix Spike	Fixed

SAMPLE ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
18.	B_REPEAT_LOCATION_CODE	SPACE DN Downstream within 5 connections of original sample location NF Near First Service Connection OR Original Site OT Other UP Upstream within 5 connections of original sample location	Fixed
21.	B_SAMPLE_VOLUME	SPACE 1 100 300 400 500 (All in l/ml)	Fixed
22.	B_LEAD_COPPER_SAMPLE_TYPE	SPACE ATS At Source FLS Flushed FSD First Draw LSL Lead Service Line	Fixed
23.	B_SAMPLE_REJECTION_REASON	User Defined	2.2 Change User Defined in TINPVALS where CODE_NAME = SAMPREJECT
32.	B_TEMPERATURE_UNIT_MEASURE	C Celsius (Centigrade) F Fahrenheit	Fixed
36.	B_SAMPLE_PURPOSE	User Defined	User Defined in TINPVALS where CODE_NAME = SMPLPURPOS

SAMPLE ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
37.	B_STATE_CLASSIFICATION_CODE	User Defined	User Defined in TINPVALS where CODE_NAME = SMPSTCLASS
40	B_ORIG_LAB_CERT_AG	User Defined	User Defined in TINPVALS where CODE_NAME = CERT_AG

2.2.2 Other Sample Measures Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

OTHER SAMPLE MEASURE ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (TMGOSPM) COLUMN NAME	PERMITTED VALUE	PERMITTED VALUE TYPE
3.*	B_NAME	User Defined	The value should exist in the table TSASMMT and column NAME
6.*	B_UOM_CODE	User Defined	The value should exist in the table TSASMMT and column

2.3 Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

2.3.1 Sample Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section has the mapping between the staging table/columns, SDWIS/STATE Table/Column in both the data model and the physical database and the Schema tags in the XML Sampling schemas for Sample business object.

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
1. #	N/A	TMGJOB_IS_NUMBER	N/A	N/A	N/A
2. #	N/A	B_TMGSAMPL_IS_NUMBER	N/A	N/A	N/A
3. #	N/A	B_STATUS	N/A	N/A	N/A
4.	eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMBER	TSASAMPL.LAB_ASGND_ID_NUM	Sample	LAB_ASSIGNED_ID_NUMBER
5.	eDWR Submission LabReport Sample SampleIdentification StateSampleIdentifier	B_STATE_SAMPLE_NUMBER	TSASAMPL.ST_ASGN_IDENTITY_NUM	Sample	STATE_ASGN_IDENTIFICATION_NUMBER
6.	eDWR Submission LabReport Sample SampleIdentification PWSIdentifier	B_PWS_NUMBER	TINWSYS.NUMBER	Water System	NUMBER (Foreign Key to either SBS Sample or Sample Summary)
7.	eDWR Submission LabReport Sample SampleIdentification AdditionalSampleIndicator	B_REPLACEMENT_INDICATOR	TSASAMPL.REPLACEMENT_IND_CD	Sample	REPLACEMENT_INDICATOR_CODE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationIdentifier	B_LAB_IS_NUMBER	TSALAB.LAB_ID_NUMBER	Laboratory	LAB_ID_NUMBER (Foreign Key to either SBS Sample or Sample Summary)
9.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AGENCY	TSALAB.CERT_AGENCY	Laboratory	CERT_AGENCY (Foreign Key to either SBS Sample or Sample Summary)
10.	eDWR Submission LabReport Sample SampleIdentification PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	TINWSF.ST_ASGN_IDENT_CD	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (Foreign Key to either SBS Sample or Sample Summary)
11.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationIdentifier	B_SAMPLING_POINT	TSASMPPT.IDENTIFICATION_N_CD	Sampling Point	IDENTIFICATION_CODE (Foreign Key to either SBS Sample or Sample Summary)
12.	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationName	B_SAMPLING_LOCATION	TSASMPPT.DESCRPTION_T EXT	Sampling Point	DESCRIPTION_TEXT (Foreign Key to either SBS Sample or Sample Summary)

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
12a	eDWR Submission LabReport Sample SampleLocationIdentification SampleLocationCollectionAddress	B_COLLECTION_ADDR	TSASAMPL.COLLECTION_ADDRESS	Sample	Collection_Address
13.	eDWR Submission LabReport Sample SampleRuleCode SampleIdentification	B_SAMPLE_CATEGORY	TSASAMPL.D_CATEGORY_FLOW_CD	Sample	D_CATEGORY_FLOW_CODE
14.	eDWR Submission LabReport Sample ComplianceSampleIndicator SampleIdentification	B_COMPLIANCE_INDICATOR	TSASAMPL.COMPL_PURP_IND_CD	Sample	COMPLIANCE_PURPOSE_INDICATOR_CODE
15.	eDWR Submission LabReport Sample SampleCollectionEndDate SampleIdentification	B_COLLECTION_DATE	TSASAMPL.COLLECTION_END_DT	Sample	COLLECTION_END_DATE
16.	eDWR Submission LabReport Sample SampleCollectionEndTime SampleIdentification	B_COLLECTION_TIME	TSASAMPL.COLLECTN_END_TIME	Sample	COLLECTION_END_TIME

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
17.	eDWR Submission LabReport Sample SampleIdentification SampleMonitoringTypeCode	B_SAMPLE_TYPE	TSASAMPL.TYPE_CODE	Sample	TYPE_CODE
18.	eDWR Submission LabReport Sample SampleLocationIdentification SampleRepeatLocationCode	B_REPEAT_LOCATION	TSASAMPL.REPEAT_LOC_T YP_CD	Sample	REPEAT_LOCATION_TYPE_CODE
19.	eDWR Submission LabReport Sample SampleIdentification SampleLaboratoryReceiptDate	B_LAB_RECEIPT_DATE	TSASAMPL.LAB_RECEIVED _DATE	Sample	LABORATORY_RECEIVED_DATE
20.	eDWR Submission LabReport Sample SampleIdentification SampleCollector IndividualFullName	B_COLLECTOR_NAME	TININDIV.NAME TINLGEN.NAME or TSASAMPL.INFORMAL_CO LLECTOR	Individual Legal Entity or Sample	NAME (Foreign Key to SBS Sample) (Where INDIVIDUAL_Collector_Indicator_Code = 'Y') or INFORMAL_COLLECTOR

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
21.	eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_SAMPLE_VOLUME	TSASAMPL.MICROBE_UOM_CODE	Sample	MICROBE_UOM_CODE
22.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionTypeCode	B_LEAD_COPPER_SAMPL E_TYPE	TSASAMPL.LD_COP_SAMP_ TYP_CD	Sample	LEAD_AND_COPPER_SAMPLE_TYPE_C ODE
23.	eDWR Submission LabReport Sample SampleIdentification SampleRejectionReasonCode	B_SAMPLE_REJECTION_R EASON	TSASAMPL.REJECT_REASO N_CD	Sample	REJECTION_REASON_CODE
24.	eDWR Submission LabReport Sample SampleIdentification SampleCollectionMethod MethodIdentifier	B_COLLECTION_METHO D_CODE	TSASMN.CODE	Standard Method Number	CODE (Foreign Key to SBS Sample)

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
25.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleIdentifier	B_ORIGINAL_LAB_SAMP LE_NUMBER	TSASAMPL.LAB_ASGND_ID _NUM	Sample	LAB_ASSIGNED_ID_NUMBER (Foreign Key to SBS Sample)
26.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleCollectionDate	B_ORIGINAL_COLLECTIO N_DATE	TSASAMPL.COLLECTN_END _DT	Sample	COLLECTION_END_DATE(Foreign Key to SBS Sample)
27.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeNumber	B_LAB_COMPOSITE_NU MBER	TSASAMPL.LAB_ASGND_ID _NUM	Sample	LAB_ASSIGNED_ID_NUMBER (Foreign Key to SBS Sample)
28.	eDWR Submission LabReport Sample SampleIdentification LabSampleCompositeDate	B_COMPOSITE_DATE	TSASAMPL.COMPOSITE_D ATE	Sample	COMPOSITE_DATE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
29.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FreeChlorineResidual")	B_FREE_CHLORINE_RESIDUAL	TSAMCSMP.FF_CHLOR_RES_MSR	Field Results	FIELD_FREE_CHLORINE_RESIDUAL_MSR

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
30.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "TotalChlorineResidual")	B_TOTL_CHLORINE_RESI DUAL	TSAMCSMP.FLDTOT_CHL_ RES_MSR	Field Results	FIELD_TOTAL_CHLORINE_RESIDUAL_ MSR

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
31.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_SAMPLE_WATER_TEMPERATURE	TSAMCSMP.FIELD_TEMP_MSR	Field Results	FIELD_TEMPERATURE_MEASURE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
32.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementUnit eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "WaterTemperature")	B_TEMPERATURE_UNIT_MEASURE	TSAMCSMP.TEMP_MEAS_T YPE_CD	Field Results	TEMP_MEASUREMENT_TYPE_CODE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
33.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "Turbidity")	B_TURBIDITY_MEASURE	TSAMCSMP.FIELD_TURBID _MSR	Field Results	FIELD_TURBIDITY_MEASURE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
34.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "PH")	B_PH_MEASURE	TSAMCSMP.FIELD_PH_MEASURE	Field Results	FIELD_PH_MEASURE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
35.	eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SpecializedMeasurement MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) (Note: SpecializedMeasurementTypeCode = "FlowRate")	B_FLOW_RATE	TSAMCSMP.FIELD_FLOW_R ATE	Field Results	FIELD_FLOW_RATE
36.	eDWR Submission LabReport Sample SampleIdentification SamplePurpose	B_SAMPLE_PURPOSE	TSASAMPL.SAMPLE_PURP OSE	Sample	SAMPLE_PURPOSE

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
37.	eDWR Submission LabReport Sample SampleIdentification StateClassificationCode	B_STATE_CLASSIFICATI ON_CODE	TSASAMPL.STATE_CLASS_ CODE	Sample	STATE_CLASSIFICATION_CODE
38.	eDWR Submission LabReport Sample SampleIdentification SampleComments Comments	B_SAMPLE_COMMENTS	TSASAMPL.COMMENT_TEX T	Sample	COMMENT_TEXT
39.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationIdentifier	B_ORIG_LAB_IS_NUM	TSALAB.LAB_ID_NUMBER	Laboratory	LAB_ID_NUMBER
40.	eDWR Submission LabReport Sample SampleIdentification OriginalSampleIdentification OriginalSampleLabAccreditation LabAccreditationAuthorityName	B_ORIG_CERT_AG	TSALAB.CERT_AGENCY	Laboratory	CERT_AGENCY

SAMPLE MAPPING FROM SCHEMA TAG TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSAMPL) Column Name	SDWIS/STATE Table and Column Name	SDWIS/ STATE Entity Name	SDWIS/STATE ATTRIBUTE
41	eDWR Submission LabReport Sample SampleIdentification RecordID	B_XMLDOC_RECORD_ID	N/A	N/A	N/A

2.4 Definitions

2.4.1 Sample Definitions

This section defines the staging table/ column for the Sample business object and also mentions any business rules associated with it

SAMPLE DEFINITIONS

LINE NO (field)	STAGING TABLE COLUMN NAME	INDIVIDUAL SAMPLE
1.	TMGJOB_IS_NUMBER	The identification number of the job.
2.	B_TMGSAMPL_IS_NUMBER	A system generated value which uniquely identifies the entity occurrence.
3.	B_STATUS	The current status of the record. <SPACES> = unprocessed, C = processed w/ changes, P = processed, R = rejected
4.	B_LAB_SAMPLE_NUMBER	Number/alphanumeric that identifies each sample. The LAB_SAMPLE_NUMBER and the WATER_SYSTEM_NUMBER together serve as the reference for each sample result, keeping sample results with their parent samples. This field is mandatory.
5.	B_STATE_SAMPLE_NUMBER	Additional number/alphanumeric to identify the sample. Both LAB_SAMPLE_NUMBER and STATE_SAMPLE_NUMBER may be used.
6.	B_PWS_NUMBER	The Public Water System (PWS) identification number. This field is mandatory.
7.	B_REPLACEMENT_INDICATOR	Indicates whether or not the routine, repeat, confirmation, etc. type of sample is a replacement.
8.	B_LAB_ID_NUMBER	Laboratory Number normally assigned to a laboratory by the certifying agency..
9.	B_CERT_AGENCY	The certifying agency that assigned the lab id number. .
10.	B_WSF_STATE_ASGN_ID	Number/alphanumeric that uniquely identifies a Water System Facility (e.g., Treatment Plant/Distribution System/Well) within a Water System.
11.	B_SAMPLING_POINT	Number/alphanumeric that uniquely identifies a point within a Water System Facility from which the sample is drawn. (Associated with SAMPLING LOCATION.)
12.	B_SAMPLING_LOCATION	Alphanumeric that typically identifies a Sampling Point as an address or equivalent text description. (Associated with SAMPLING POINT).
12a	B_COLLECTION_ADDR	A free-form text area where the physical address of the sample collection site can be recorded.
13.	B_SAMPLE_CATEGORY	Identifies the sample category as either Coliform/Lead & Copper/General.
14.	B_COMPLIANCE_INDICATOR	When set to "Y," indicates that the sample has been taken for compliance.
15.	B_COLLECTION_DATE	The date in which the sample was collected.
16.	B_COLLECTION_TIME	The time at which the sample was collected.
17.	B_SAMPLE_TYPE	Indicates whether the sample is taken for "Routine" purposes or is a "Repeat," "Confirmation," etc. Several types are available although not all may be used with samples taken for compliance.
18.	B_REPEAT_LOCATION	Indicates the location relative to the original Sampling Point at which the repeat/invalid replacement/confirmation sample was taken (upstream/downstream/original location/etc.).
19.	B_LAB_RECEIPT_DATE	Date at which the Laboratory received the sample; cannot be prior to Collection Date.
20.	B_COLLECTOR_NAME	Name of the Individual who is the collector of the sample.

SAMPLE DEFINITIONS		
LINE NO (field)	STAGING TABLE COLUMN NAME	INDIVIDUAL SAMPLE
21.	B_SAMPLE_VOLUME	Value to indicate the size of the volume of water collected for the sample.
22.	B_LEAD_COPPER_SAMPLE_TYPE	Type of Lead & Copper sample (for purposes of Lead & Copper rule compliance).
23.	B_SAMPLE_REJECTION_REASON	Set of possible reasons to reject a sample prior to its analysis at the lab.
24.	B_COLLECTION_METHOD_CODE	Code that indicates the Method used to collect the sample.
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	LAB_SAMPLE_NUMBER of the sample that was originally taken and whose result required the current Repeat/Invalid Replacement/Confirmation sample to be taken.
26.	B_ORIGINAL_COLLECTION_DATE	The date the Original sample was collected.
27.	B_LAB_COMPOSITE_NUMBER	Number/alphanumeric that ties a composite sample to one or more other composite samples. Each sample that is part of the Composite must carry the same LAB_COMPOSITE_NUMBER.
28.	B_COMPOSITE_DATE	Date in which the Lab composited one or more individual samples.
29.	B_FREE_CHLORINE_RESIDUAL	Free Chlorine "Field Result" value measured at the time/location of sample collection. Reported in MG/L.
30.	B_TOTAL_CHLORINE_RESIDUAL	Total Chlorine "Field Result" value measured at the time/location of sample collection. Reported in MG/L.
31.	B_SAMPLE_WATER_TEMPERATURE	Water Temperature "Field Result" value measured at the time/location of sample collection.
32.	B_TEMPERATURE_UNIT_MEASURE	Temperature Unit of Measure - either C (Celsius) or F (Fahrenheit).
33.	B_TURBIDITY_MEASURE	Turbidity "Field Result" value measured at the time/location of sample collection. Reported in NTU.
34.	B_PH_MEASURE	pH "Field Result" value measured at the time/location of sample collection. Reported in pH Units.
35.	B_FLOW_RATE	Flow Rate "Field Result" value measured at the time/location of sample collection. Reported in gal/min.
36.	B_SAMPLE_PURPOSE	The reason why the sample was taken.
37.	B_STATE_CLASSIFICATION_CODE	The classification of the sample. If left blank, it will default to the classification field of the analyte of the first sample analytical result added.
38.	B_SAMPLE_COMMENTS	Provides a place to record free text information
39.	B_ORIG_LAB_ID_NUM	The Lab ID that reported the original sample.
40.	B_ORIG_LAB_CERT_AG	The certifying agency of the Lab ID that reported the original sample.
41.	B_XMLDOC_RECORD_ID	A unique number within the xml document that identifies an individual record.

2.4.2 Other Sample Measures Definitions

This section defines the Staging Table/ column for the Other Sample Measure Business object and also mentions any business rules associated with it.

OTHER SAMPLE MEASURE Definitions		
LINE NO (field)	STAGING TABLE (TMGOSPM) COLUMN NAME	INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)
1.	B_TMGO_SPM_IS_NUMBER	A system-generated value which uniquely identifies the entity occurrence.
2.	B_STATUS	The current status of the record. <SPACES> = unprocessed, C = processed w/ changes, P = processed, R = rejected.
3.	B_NAME	The name of the measure type.
4.	B_VALUE_NUMBER	The numeric value of the other sample measure
5.	B_VALUE_TEXT	The text value of the other sample measure.
6.	B_UOM_CODE	The unit of measure abbreviation for the other sample measure.
7	B_XMLDOC_RECORD_ID	A unique number within the xml document that identifies an individual record.

3.0 LABORATORY RESULT BUSINESS OBJECT

Laboratory Sample Result Schema **SDWIS_eDWR_v3.0.xsd** maps to the Sample Result business unit.

The schema mapping for Sample Result has four sections. The first sections describe the staging table/column, their length optionality, and the business rules for the three different types of results, namely Microbiological Result, General Results and the Radiological Results, and also the Other Analysis Result. The second section describes the Enumerated values for the Results elements and the business rules. The third section describes the mapping between the staging table/columns, SDWIS/STATE table/columns for both the Sample Result and Other Analysis Result and the schema elements in the SDWIS_eDWR.xsd schema.

The Other Analysis Measures is a supplement to the Analysis Result data. They are grouped together as single unit in the SDWIS_eDWR schema. They must always accompany the Analysis Result details and cannot be submitted without them.

Note: The MeasurementValue element in the Measurement group element is a number field. If MeasurementSignificantDigits is not valued, the software will disregard trailing zeros and not preserve the trailing zeroes. But if there is a value in the MeasurementSignificantDigits, the trailing zeroes will be preserved.

Example: MeasurementValue equals 1.2 and MeasurementSignificantDigits equals 2, number will be 1.2 and text will be 1.20.

Data in line number 19, 20, 21, 22, 23, 24 is only for analyte of type code "MOR".

Data in line number 25,26,27,28,29,30,31 is only allowed for analytes whose type code type is not equal to "MOR".

Data in line number 32 is only allowed for analytes whose type code type is not equal "RA".

3.1 Staging Table Structure and Business Rules

3.1.1 Schema Changes

None this release.

3.1.2 Microbiological Results Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Microbiological Results.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAR_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY - Reference field required to associate the result

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport SampleAnalysisResults LabSampleIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier				to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_Sample structure set or result (and sample) will be rejected.
5.	eDWR Submission LabReport SampleAnalysisResults SampleCollectionEndDate OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	DT	8	OPTIONAL
6.	eDWR Submission LabReport SampleAnalysisResults PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_PWS_NUMBER in B_Sample structure set or result (and sample) will be rejected.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	<p>OR</p> <p>if used along with the Sample object</p> <p>eDWR Submission LabReport Sample SampleIdentification PWSIdentifier</p>				
7.	<p>eDWR Submission LabReport LabIdentification LabAccreditation</p>	B_LAB_ID_NUMBER	AN	10	MANDATORY
8.	<p>eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority</p>	B_CERT_AGENCY	AN	10	MANDATORY
9.	<p>eDWR Submission LabReport SampleAnalysisResults AnalyteIdentification AnalyteCode</p> <p>OR</p> <p>if used along with the Sample object</p> <p>eDWR Submission LabReport</p>	B_ANALYTE_CODE	AN	4	MANDATORY

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Sample AnalysisResultInformation AnalyteIdentification AnalyteCode				
10.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartDate	B_ANALYSIS_START_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Start Date is supplied but is prior to Sample Collection Date.
11	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartTime OR if used along with the Sample object eDWR	B_ANALYSIS_START_TIME	TM	6	OPTIONAL

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartTime				
12.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndDate	B_ANALYSIS_COMPLETE_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Completion Date is supplied but is prior to Sample Collection Date. Sample will also be rejected if both Analysis Start and Completion Dates are supplied, but Completion Date is prior to Start Date.
13.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndTime OR if used along with the Sample object	B_ANALYSIS_COMPLETE_TIME	TM	6	OPTIONAL

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndTime				
14.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult ResultStateNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult ResultStateNotificationDate	B_STATE_NOTIFY_DATE	DT	8	OPTIONAL
15.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult PWSNotificationDate OR	B_WATER_SYSTEM_NOTIFY_DATE	DT	8	OPTIONAL

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult PWSNotificationDate				
16. *	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityCode	B_DATA_QUALITY	AN	1	MANDATORY
17. *	eDWR Submission LabReport SampleAnalysisResults QAQCSummary	B_DATA_QUALITY_REASON	AN	2	CONDITIONALLY MANDATORY - Field must be valued if field 16 (B_DATA_QUALITY) = "R."

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	DataQualityRejectCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityRejectCode				
18.*	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier	B_ANALYSIS_METHOD_CODE	AN	30	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
19.	eDWR	B_VOLUME_ASSAYED	AN	9	OPTIONAL

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementUnit eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport				

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementUnit eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits				
20.*	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SampleInterferenceReasonCode OR if used along with the Sample object	B_LAB_REJECTION_REASON	AN	4	CONDITIONALLY MANDATORY - See discussion in field 21.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult SampleInterferenceReasonCode				
21.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_MICROBE_PRESENCE_IN DICATOR	AN	1	CONDITIONALLY MANDATORY - X If not valued, field 20 (B_LAB_REJECTION_REASON) must be valued and field 17 (B_COUNT) must not be valued. X If valued with P, field 22 (B_COUNT) must be either not valued, or if valued, be greater than 0. X If valued with A, field 20 (B_LAB_REJECTION_REASON) should not be valued and field 22 (B_COUNT) should not be valued with 0 or any other integer.
22.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementValue	B_COUNT	N	15,5	CONDITIONALLY MANDATORY - See discussion in field 21.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits				
23.*	eDWR Submission	B_COUNT_TYPE	AN	10	CONDITIONALLY MANDATORY - Field must be valued if field 22 (B_COUNT) > 0.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport SampleAnalysisResults AnalysisResult Result MicrobialResultCountTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MicrobialResultCountTypeCode				
24.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult	B_COUNT_UNITS	AN	9	CONDITIONALLY MANDATORY - Field must be valued if field 23 (B_COUNT_TYPE) is valued.

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Result MeasurementUnit				
25. *	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_LESS_THAN_INDICATOR	AN	1	N/A
26. *	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimitTypeCode OR if used along with the Sample object eDWR Submission	B_LESS_THAN_CODE	AN	3	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimitTypeCode				
27.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResult	B_DETECTION_LEVEL	N	15(9)	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResultInformation DetectionLimit MeasurementValue eDWR Submission LabReport Sample AnalysisResult AnalysisResultInformation DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
28.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult	B_DETECTION_LEVEL_UNIT_CODE	ANmc	9	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	DetectionLimit MeasurementUnit				
29.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample	B_CONCENTRATION	N	15(9)	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
30.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit	B_CONCENTRATION_UNIT_CODE	ANmc	9	N/A
31.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission	B_REPORTED_MEASURE	AN	10	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
32.	eDWR Submission LabReport SampleAnalysisResults	B_REPORTED_MEASURE_C OUNT_ERROR	N	8(3)	N/A

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResult RadiologicalResultCountError OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult RadiologicalResultCountError				
33.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult AnalysisComment Comments OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult AnalysisComment Comments	B_COMMENT	ANmc	1000	Optional

MICROBIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
34.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult RecordID	B_XMLDOC_RECORD_ID	N	7	Optional

3.1.3 General Results Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with General Results.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAR_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR Submission LabReport SampleAnalysisResults LabSampleIdentifier OR if used along with the Sample object eDWR Submission LabReport	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_Sample structure set or result (and sample) will be rejected.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Sample SampleIdentification LabSampleIdentifier				
5.	eDWR Submission LabReport SampleAnalysisResults SampleCollectionEndDate OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	DT	8	OPTIONAL
6.	eDWR Submission LabReport SampleAnalysisResults PWSIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_PWS_NUMBER in B_Sample structure set or result (and sample) will be rejected.
7.	eDWR Submission LabReport	B_LAB_ID_NUMBER	AN	10	MANDATORY

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabIdentification LabAccreditation LabAccreditationIdentifier				
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AGENCY	AN	10	MANDATORY
9.	eDWR Submission LabReport SampleAnalysisResults AnalyteIdentification AnalyteCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalyteIdentification AnalyteCode	B_ANALYTE_CODE	AN	4	MANDATORY - Reference field required.
10.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartDate OR	B_ANALYSIS_START_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Start Date is supplied but is prior to Sample Collection Date.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartDate				
11.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartTime OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartTime	B_ANALYSIS_START_TIME	TM	6	OPTIONAL
12.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndDate OR	B_ANALYSIS_COMPLETE_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Completion Date is supplied but is prior to Sample Collection Date. Sample will also be rejected if both Analysis Start and Completion Dates are supplied, but Completion Date is prior to Start Date. OPTIONAL

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndDate				
13.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndTime OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndTime	B_ANALYSIS_COMPLETE_ TIME	TM	6	OPTIONAL
14.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult ResultStateNotificationDate OR	B_STATE_NOTIFY_DATE	DT	8	OPTIONAL

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult ResultStateNotificationDate				
15.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult PWSNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult PWSNotificationDate	B_WATER_SYSTEM_NOTIF Y_DATE	DT	8	OPTIONAL
16.*	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityCode OR	B_DATA_QUALITY	AN	1	MANDATORY

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityCode				
17.*	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityRejectCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityRejectCode	B_DATA_QUALITY_REASON	AN	2	CONDITIONALLY MANDATORY - Field must be valued if field 16 (B_DATA_QUALITY) = "R."
18.*	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier	B_ANALYSIS_METHOD_CODE	AN	30	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	<p>OR</p> <p>if used along with the Sample object</p> <p>eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier</p>				
19*	<p>eDWR Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits</p> <p>(This schema element has to be valued for precision / significant digits)</p> <p>OR</p> <p>if used along with the Sample object</p> <p>eDWR Submission</p>	B_VOLUME_ASSAYED	AN	9	N/A

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits				
20.*	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SampleInterferenceReasonCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult SampleInterferenceReasonCode	B_LAB_REJECTION_REASON	AN	4	N/A

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
21.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_MICROBE_PRESENCE_INDICATOR	AN	1	N/A
22.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementSignificantDigits (This schema element has to be	B_COUNT	N	15,5	N/A

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits				
23.*	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample	B_COUNT_TYPE	AN	10	N/A

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResultInformation AnalysisResult Result MeasurementUnit				
24.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MicrobialResultCountTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MicrobialResultCountTypeCode	B_COUNT_UNITS	AN	9	N/A
25.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR	B_LESS_THAN_INDICATOR	AN	1	CONDITIONALLY MANDATORY - Must be valued if field 16 (B_DATA_QUALITY) = "A" or "P" and field 29 (B_CONCENTRATION) is either not valued or is valued with 0.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier				
26.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimitTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimitTypeCode	B_LESS_THAN_CODE	AN	3	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y."
27.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementValue eDWR	B_DETECTION_LEVEL	N	15(9)	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL."

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResult AnalysisResultInformation DetectionLimit MeasurementValue eDWR Submission LabReport Sample AnalysisResult AnalysisResultInformation DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
28.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimit MeasurementUnit	B_DETECTION_LEVEL_UNI T_CODE	ANmc	9	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued.
29.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant	B_CONCENTRATION	N	15(9)	CONDITIONALLY MANDATORY - Must be valued if field 16 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
30.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport	B_CONCENTRATION_UNIT_CODE	ANmc	9	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION) is valued.

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit				
31.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample	B_REPORTED_MEASURE	AN	10	N/A

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
32.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult RadiologicalResultCountError OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult RadiologicalResultCountError	B_REPORTED_MEASURE_COUNT_ERROR	N	8(3)	N/A
33.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult AnalysisComment Comments OR if used along with the Sample object	B_COMMENT	ANmc		Optional

GENERAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult AnalysisComment Comments				
34.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult RecordID	B_XMLDOC_RECORD_ID	N	7	Optional

3.1.4 Radiological Results Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Radiological Results.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSAR_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	eDWR Submission LabReport SampleAnalysisResults LabSampleIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMBER	AN	20	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_LAB_SAMPLE_NUMBER in B_SAMPLE structure set or result (and sample) will be rejected.
5.	eDWR Submission LabReport SampleAnalysisResults SampleCollectionEndDate OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	DT	8	OPTIONAL
6.	eDWR Submission LabReport	B_PWS_NUMBER	AN	9	MANDATORY - Reference field required to associate the result to the parent sample. Must be same value as field B_PWS_NUMBER in B_SAMPLE structure set or result (and

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	SampleAnalysisResults PWSIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification PWSIdentifier				sample) will be rejected.
7.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	AN	10	MANDATORY
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AGENCY	AN	10	MANDATORY
9.	eDWR Submission LabReport SampleAnalysisResults AnalyteIdentification AnalyteCode OR if used along with the Sample object	B_ANALYTE_CODE	AN	4	MANDATORY - Required field must be valued.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport Sample AnalysisResultInformation AnalyteIdentification AnalyteCode				
10.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartDate	B_ANALYSIS_START_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Start Date is supplied but is prior to Sample Collection Date.
11.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartTime OR if used along with the Sample	B_ANALYSIS_START_TIME	TM	6	OPTIONAL

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartTime				
12.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndDate	B_ANALYSIS_COMPLETE_DATE	DT	8	OPTIONAL - Sample will be rejected if Analysis Completion Date is supplied but is prior to Sample Collection Date. Sample will also be rejected if both Analysis Start and Completion Dates are supplied, but Completion Date is prior to Start Date.
13.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndTime	B_ANALYSIS_COMPLETE_TIME	TM	6	OPTIONAL

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	<p style="text-align: center;">OR</p> if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndTime				
14.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult ResultStateNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult ResultStateNotificationDate	B_STATE_NOTIFY_DATE	DT	8	OPTIONAL
15.	eDWR Submission LabReport SampleAnalysisResults	B_WATER_SYSTEM_NOTI FY_DATE	DT	8	OPTIONAL

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResult PWSNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult PWSNotificationDate				
16.*	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityCode	B_DATA_QUALITY	AN	1	MANDATORY
17.*	eDWR Submission	B_DATA_QUALITY_REAS ON	AN	2	CONDITIONALLY MANDATORY - Field must be valued if field 16 (B_DATA_QUALITY) = "R."

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport SampleAnalysisResults QAQCSummary DataQualityRejectCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityRejectCode				
18.*	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyticalMethod:	B_ANALYSIS_METHOD_C ODE	AN	30	OPTIONAL - May be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	MethodIdentifier				
19.*	eDWR Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementUnit eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport	B_VOLUME_ASSAYED	AN	9	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementUnit eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyzedMeasure MeasurementSignificantDigits				
20.*	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SampleInterferenceReasonCode OR if used along with the Sample object	B_LAB_REJECTION_REAS ON	AN	4	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult SampleInterferenceReasonCode				
21.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_MICROBE_PRESENCE_I NDICATOR	AN	1	N/A
22.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result Measurement Value	B_COUNT	N	15,5	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result Measurement Value eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits				
23.*	eDWR Submission LabReport SampleAnalysisResults	B_COUNT_TYPE	AN	10	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit				
24.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MicrobialResultCountTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MicrobialResultCountTypeCode	B_COUNT_UNITS	AN	9	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
25.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_LESS_THAN_INDICATO R	AN	1	CONDITIONALLY MANDATORY - Must be valued if field 16 (B_DATA_QUALITY) = ("A" or "P") and field 29 (B_CONCENTRATION) is not valued.
26.*	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimitTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation	B_LESS_THAN_CODE	AN	3	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y."

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	AnalysisResult DetectionLimitTypeCode				
27.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResult AnalysisResultInformation DetectionLimit MeasurementValue eDWR	B_DETECTION_LEVEL	N	15(9)	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL."

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	Submission LabReport Sample AnalysisResult AnalysisResultInformation DetectionLimit MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
28.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult DetectionLimit MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimit MeasurementUnit	B_DETECTION_LEVEL_UN IT_CODE	ANmc	9	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued.
29.	eDWR Submission	B_CONCENTRATION	N	15(9)	CONDITIONALLY MANDATORY - Must be valued if field 16 (B_DATA_QUALITY) = ("A" or "P") and field 25

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be				(B_LESS_THAN_INDICATOR) is not valued.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	valued for precision / significant digits)				
30.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit	B_CONCENTRATION_UNI T_CODE	ANmc	9	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION).
31.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementSignificantDigits	B_REPORTED_MEASURE	AN	10	N/A

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	(This schema element has to be valued for precision / significant digits) OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)				
32.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult AnalysisComment Comments OR	B_REPORTED_MEASURE_ COUNT_ERROR	N	8(3)	OPTIONAL - If value supplied does not convert to valid number, result will be rejected.

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult AnalysisComment Comments				
33.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult AnalysisComment Comments OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult AnalysisComment Comments	B_COMMENT	ANmc		OPTIONAL
34.	eDWR Submission	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

RADIOLOGICAL SAMPLE RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
	LabReport SampleAnalysisResult AnalysisResult RecordID				

3.1.5 Other Analysis Result Measures Staging Table Structure and Business Rules

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Other Sample Analysis Measure.

OTHER SAMPLE ANALYSIS MEASURE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGOSAM) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	B_TMOSAM_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
3.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SpecializedMeasurement SpecializedMeasurementTypeCode	B_NAME	AN	40	OPTIONAL

OTHER SAMPLE ANALYSIS MEASURE					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGOSAM) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
4.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SpecializedMeasurement MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_VALUE_NUMBER	N	16(8)	OPTIONAL
5.	N/A	B_VALUE_TEXT	AN	20	OPTIONAL
6.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SpecializedMeasurement MeasurementUnit	B_UOM_CODE	ANmc	9	MANDATORY
7.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult RecordID	B_XMLDOC_RECORD_ID	N	7	Optional

3.2 Enumerated Values

3.2.1 Sample Result Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
8.	B_CERT_AGENCY	User Defined	User Defined in TINPVALS where CODE_NAME = CERT_AG
16.	B_DATA_QUALITY	SPACE A Accepted R Rejected P Preliminary V Validated	Fixed
17.	B_DATA_QUALITY_REASON	User Defined	User Defined in TINPVALS where CODE_NAME = SAR_DQ
18.	B_ANALYSIS_METHOD_CODE	Federally owned Analyte Method Pairings are available in the SDWIS/STATE Online Data Dictionary. Federally owned and state-owned Analyte Method Pairings may be viewed by accessing the Analyte Method Pairing menu item available in the SDWIS Administration component of SDWIS/STATE.	User Defined. The value is maintained in the column CODE in table TSASMN
19.	B_VOLUME_ASSAYED	1ML 1 Milliliter 5ML 5 Milliliters 10ML 10 Milliliters	Fixed

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		100ML 100 Milliliters 300ML 300 Milliliters 400ML 400 Milliliters 500ML 500 Milliliters SAMP VOL SLIDE Note: The enumerated values are defined for the TMGSAR table. The reporting method is to put the numeric portion in the MeasurementValue schema tag and the Alpha Numeric portion in the MeasurementUnit schema tag.	
20.	B_LAB_REJECTION_REASON	CNFG Confluent Growth TCNG Turbid Culture No Gas TNTC Too Numerous to Count SPACE	Fixed
21.	B_MICROBE_PRESENCE_INDICATOR	A Absence P Presence SPACE	Fixed
23.	B_COUNT_TYPE	SPACE TUBES COLONIES CFU Colony Forming Units CYSTSC Cysts, Calculated CTSTSO Cysts, Observed MPN Most Probable Number OBSVNS Observations OCYSTSC Oocysts, Calculated OCYSTSO Oocysts, Observed PFU Plaque Forming Units	Fixed

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
24.	B_COUNT_UNITS	1ML 1 Milliliter 5ML 5 Milliliters 10ML 10 Milliliters 100ML 100 Milliliters 400ML 400 Milliliters 500ML 500 Milliliters ML Milliliters LITER Liters FLD100 Field at 100 Power (used in measuring numbers of observations) 100L 100 Liters GAL Gallons 100GAL 100 Gallons 400GAL 400 Gallons SAMP VOL SLIDE SPACE	Fixed
25.	B_LESS_THAN_INDICATOR	Y Yes N No	Fixed
26.	B_LESS_THAN_CODE	MDL Federal Minimum Detection Limit MRL Lab Reporting Level SPACES	Fixed
28.	B_DETECTION_LEVEL_UNIT_CODE for RAD Results	User maintained in the TSAUOM table pCi/L Picocuries/Liter mRemY Millirems/Liter/Year mRem Millirems/Liter mg/L Milligrams/Liter (AKA Parts per Million - ppm) ug/L Micrograms/Liter (AKA Parts per Billion - ppb)	User Defined in TSAUOM in column UOM_CODE

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		ng/L Nanograms/Liter (AKA Parts per Trillion - ppt)	
28.	B_DETECTION_LEVEL_UNIT_CODE for General Results	User maintained in the TSAUOM table	User Defined in TSAUOM in column UOM_CODE
		mg/L Milligrams/Liter (AKS Parts per Million - ppm)	
		ug/L Micrograms/Liter (AKA Parts per Billion - ppb)	
		%LUM Percent of Luminance (for measuring color)	
		%PUR Percent of Purity (for measuring color)	
		ADMIU American Dye Manufacturers Institute Units (for measuring color)	
		AGGR Aggressive Index (for corrosivity)	
		C Degrees Celsius	
		CM-1 Total Absorbance for UV	
		CT Contact Time	
		CU Color Units	
		F Degrees Fahrenheit	
		FTU Flavor Threshold Units (for measuring taste and odor)	
		L/mg-m Liter per Milligram-Meter	
		LANG Langlier Index (for measuring corrosivity)	
		Lbs/CFt Pounds/Cubic Foot (for measuring density)	
		Lbs/gal Pounds/Gallon (for measuring density)	
		MFL Million of Fibers/Liter (for measuring asbestos)	
		ng/L Nanograms/Liter (AKA Parts per Trillion - ppt)	
		nm Nanometer	
		NTU Nephelometric Units	
		OBSVNS Observations/field at 100 Power	
		pH pH	
		Ratio Ratio of Actual/Required TOC removal	

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		SU Standard Units TON Threshold Odor Centimeter umho/cm Micromhos per Centimeter	
30.	B_CONCENTRATION_UNIT_CODE for RAD Results	User maintained in the TSAUOM table pCi/L Picocuries/Liter mRemY Millirems/Liter/Year mRem Millirems/Liter mg/L Milligrams/Liter (AKA Parts per Million - ppm) ug/L Micrograms/Liter (AKA Parts per Billion - ppb) ng/L Nanograms/Liter (AKA Parts per Trillion - ppt)	User Defined in TSAUOM in column UOM_CODE
30.	B_CONCENTRATION_UNIT_CODE for General Results	User maintained in the TSAUOM table mg/L Milligrams/Liter (AKS Parts per Million - ppm) ug/L Micrograms/Liter (AKA Parts per Billion - ppb) %LUM Percent of Luminance (for measuring color) %PUR Percent of Purity (for measuring color) ADMIU American Dye Manufacturers Institute Units (for measuring color) AGGR Aggressive Index (for corrosivity) C Degrees Celsius CM-1 Total Absorbance for UV CT Contact Time CU Color Units F Degrees Fahrenheit FTU Flavor Threshold Units (for measuring taste)	User Defined in TSAUOM in column UOM_CODE

SAMPLE RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (B_SAMPLE_RESULT) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		and odor) L/mg-m Liter per Milligram-Meter LANG Langlier Index (for measuring corrosivity) Lbs/CfT Pounds/Cubic Foot (for measuring density) Lbs/gal Pounds/Gallon (for measuring density) MFL Million of Fibers/Liter (for measuring asbestos) ng/L Nanograms/Liter (AKA Parts per Trillion - ppt) nm Nanometer NTU Nephelometric Units OBSVNS Observations/field at 100 Power pH pH Ratio Ratio of Actual/Required TOC removal SU Standard Units	
	B_CONCENTRATION_UNIT_CODE for General Results	TON Threshold Odor Centimeter umho/cm Micromhos per Centimeter	

3.2.2 Other Analysis Result Measures Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

OTHER ANALYSIS RESULT MEASURE			
LINE NO (field)	STAGING TABLE (TMGOSAM) COLUMN NAME	PERMITTED VALUE	PERMITTED VALUE TYPE
*3	B_NAME	User Defined	The value should exist in the table TSASMMT and column NAME
*6.	B_UOM_CODE	User Defined	The value should exist in the table TSASMMT and column

3.3 Sample Results Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section has the mapping between the staging table/columns, SDWIS/STATE Table/Column in both the data model and the physical database and the Schema tags in the XML Sampling schemas for Sample Result business object.

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
1. #	N/A	N/A	N/A	N/A	N/A
2. #	N/A	N/A	N/A	N/A	N/A
3. #	N/A	N/A	N/A	N/A	N/A

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
4.	eDWR Submission LabReport SampleAnalysisResults LabSampleIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification LabSampleIdentifier	B_LAB_SAMPLE_NUMB ER	TSASAMPL.LAB_ ASGND_ID_NUM	Sample	LAB_ASSIGNED_ID_NUMBER (Reference Key to SBS Sample)
5.	eDWR Submission LabReport SampleAnalysisResults SampleCollectionEndDate OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification SampleCollectionEndDate	B_COLLECTION_DATE	TSASAMPL.COLL CTN_END_DT	Sample	COLLECTN_END_DT

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
6.	eDWR Submission LabReport SampleAnalysisResults PWSIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample SampleIdentification PWSIdentifier	B_PWS_NUMBER	TINWSYS.NUMBER	Water System	NUMBER (Reference Key to SBS Sample)
7.	eDWR Submission LabReport LabIdentification LabAccreditation	B_LAB_ID_NUMBER	TSALAB.LAB_ID_NUMBER	Laboratory	LAB_ID_NUMBER (Foreign Key to SBS Sample)
8.	eDWR Submission LabReport LabIdentification LabAccreditation LabAccreditationAuthority	B_CERT_AGENCY	TSALAB.CERT_A B	Laboratory	CERT_AGENCY (Foreign Key to SBS Sample)

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
9.	eDWR Submission LabReport SampleAnalysisResults AnalyteIdentification AnalyteCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalyteIdentification AnalyteCode	B_ANALYTE_CODE	TSAANLYT.COD E	Analyte	CODE (Foreign Key to SBS Sample Analytical Result)
10.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartDate	B_ANALYSIS_START_D ATE	TSASAR.ANALY SIS_START_DT	Sample Analytical Result	ANALYSIS_START_DATE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
11.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisStartTime OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisStartTime	B_ANALYSIS_START_TIME	TSASAR.ANALYSIS_ST_TIME	Sample Analytical Result	ANALYSIS_START_TIME
12.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndDate	B_ANALYSIS_COMPLETE_DATE	TSASAR.ANALYSIS_COMPL_DT	Sample Analytical Result	ANALYSIS_COMPLETE_DATE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
13.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification AnalysisEndTime OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification AnalysisEndTime	B_ANALYSIS_COMPLE TE_TIME	TSASAR.ANALY SIS_COMP_TIME	Sample Analytical Result	ANALYSIS_COMPLETE_TIME
14.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult ResultStateNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult ResultStateNotificationDate	B_STATE_NOTIFY_DAT E	TSASAR.ST_NOT IFICATION_DT	Sample Analytical Result	STATE_NOTIFICATION_DATE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
15.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult PWSNotificationDate OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult PWSNotificationDate	B_WATER_SYSTEM_NO TIFY_DATE	TSASAR.WS_NO TIFICATION_DT	Sample Analytical Result	WATER_SYSTEM_NOTIFICATION _DATE
16.	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityCode	B_DATA_QUALITY	TSASAR.DATA_Q UALITY_CODE	Sample Analytical Result	DATA_QUALITY_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE

LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
17.	eDWR Submission LabReport SampleAnalysisResults QAQCSummary DataQualityRejectCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation QAQCSummary DataQualityRejectCode	B_DATA_QUALITY_REASON	TSASAR.DATA_QUALITY_RSN_TXT	Sample Analytical Result	DATA_QUALITY_REASON_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
18.	eDWR Submission LabReport SampleAnalysisResults LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation LabAnalysisIdentification SampleAnalyticalMethod: MethodIdentifier	B_ANALYSIS_METHOD_CODE	TSASMN.CODE	Standard Method Number	CODE (Foreign Key to SBS Sample Analytical Result)

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
19.	eDWR Submission LabReport SampleAnalysisResult LabAnalysisIdentification SampleAnalyzedMeasure MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits) OR if used along with the Sample object	B_VOLUME_ASSAYED	TSAMAR.ASSAY _UOM_CODE	Microbiological Analytical Result	ASSAY_UOM_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
20.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult SampleInterferenceReasonCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult SampleInterferenceReasonCode	B_LAB_REJECTION_REASON	TSAMAR.REJECT_REASON_CODE	Microbiological Analytical Result	REJECTION_REASON_CODE
21.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_MICROBE_PRESENCE_INDICATOR	TSAMAR.PRESENCE_IND_CODE	Microbiological Analytical Result	PRESENCE_INDICATOR_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
22.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementValue eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_COUNT	TSAMAR.COUNT _QTY	Microbiological Analytical Result	COUNT_QTY
23.	eDWR Submission LabReport SampleAnalysisResults AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit	B_COUNT_TYPE	TSAMAR.COUNT _TYPE	Microbiological Analytical Result	COUNT_TYPE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
24.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MicrobialResultCountTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MicrobialResultCountTypeCode	B_COUNT_UNITS	TSAMAR.COUNT _UOM_CODE	Microbiological Analytical Result	COUNT_UOM_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
25.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementQualifier OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementQualifier	B_LESS_THAN_INDICATOR	TSASAR.LESS_THAN_IND	Sample Analytical Result	LESS_THAN_INDICATOR
26.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimitTypeCode OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimitTypeCode	B_LESS_THAN_CODE	TSASAR.LESS_THAN_CODE	Sample Analytical Result	LESS_THAN_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
27.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimit MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_DETECTION_LEVEL	TSASAR.DETECT N_LIMIT_NUM	Sample Analytical Result	DETECTION_LIMIT_NUMBER

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
28.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult DetectionLimit MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult DetectionLimit MeasurementUnit	B_DETECTION_LEVEL_ UNIT_CODE	TSASAR.DETECT N_LIM_UOM_CD	Sample Analytical Result	DETECTION_LIMIT_UOM_CODE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE

LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
29.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_CONCENTRATION	TSASAR.CONCENTRATION_MSR	Sample Analytical Result	CONCENTRATION_MSR

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
30.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementUnit OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult Result MeasurementUnit	B_CONCENTRATION_U NIT_CODE	TSASAR.UOM_C ODE	Sample Analytical Result	UOM_CODE
31.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult Result MeasurementValue eDWR Submission LabReport Sample SampleIdentification SampleVolume MeasurementSignificantDigits (This schema element has to be valued for precision / significant digits)	B_REPORTED_MEASUR E	TSASAR.REPORT ED_MSR	Sample Analytical Result	REPORTED_MEASURE

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
32.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult RadiologicalResultCountError OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult RadiologicalResultCountError	B_REPORTED_MEASUR E_COUNT_ERROR	TSASAR.RAD_CO UNTING_ERROR	Sample Analytical Result	RAD_COUNTING_ERROR
33	eDWR Submission LabReport SampleAnalysisResult AnalysisResult AnalysisComment Comments OR if used along with the Sample object eDWR Submission LabReport Sample AnalysisResultInformation AnalysisResult AnalysisComment Comments	B_COMMENTS	TSASAR.COMME NTS	Sample Analytical Result	COMMENTS

SAMPLE RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSAR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
34.	eDWR Submission LabReport SampleAnalysisResult AnalysisResult RecordID	B_XMLDOC_RECORD_I D	N/A	N/A	N/A

4.0 SCHEMA MAPPING FOR SAMPLE SUMMARY REPORTING

Schema **SDWIS_Summary_v3.0.xsd** maps to the Sample Summary business unit.

The Sample Summary has four sections. The first section describes the sample summary schema tag hierarchy, staging table/columns, their length, optionality and the business rules associated with them. The second section describes the Enumerated values for the Sample Summary elements and the business rules.

The third section describes the mapping between the staging table/columns, SDWIS State table/columns and the schema elements in the **SDWIS_Summary.xsd** schema. The fourth section defines the staging table/columns.

4.1 Sample Summary Staging Table Structure and Business Rules

4.1.1 Schema Changes

None this release.

4.1.2 Structure Set

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Sample Summary.

SAMPLE SUMMARY					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSMP SM) COLUMN NAME	DOMAI N	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	N/A	B_TMGSMP SM_IS_NUMBE R	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4.	SampleSummaries SampleSummaryDetails PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_PWS_NUMBER), field 7 (B_WSF_STATE_ASGN_ID), and field 11 (B_ANALYTE_CODE), and field 12 (B_MONITORING_PERIOD_START_DATE), and field 13 (B_MONITORING_PERIOD_END_D ATE).
5.	SampleSummary SampleSummaryDetails LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	AN	10	MANDATORY
6.	SampleSummary SampleSummaryDetails LabAccreditation LabAccreditationAuthorityName	B_CERT_AGENCY	AN	10	MANDATORY

SAMPLE SUMMARY					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSMPSM) COLUMN NAME	DOMAI N	SIZE	OPTIONALITY
7.	SampleSummary SampleSummaryDetails PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY
8.*	SampleSummary SampleSummaryDetails SampleComplianceIndicator	B_COMPLIANCE_INDICAT OR	AN	1	MANDATORY
9.	SampleSummary SampleSummaryDetails SummaryCollectionStartDate	B_SUMMARY_COLLECTIO N_START_DATE	DT	8	OPTIONAL - If valued, must be less than or equal to the current date.
10.	SampleSummary SampleSummaryDetails SummaryCollectionEndDate	B_SUMMARY_COLLECTIO N_END_DATE	DT	8	OPTIONAL - If valued, must be after the Summary Collection Start Date in field 9 (B_SUMMARY_COLLECTION_STAR T_DATE).
11.	SampleSummary SampleSummaryDetails AnalyteCode	B_ANALYTE_CODE	AN	4	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_PWS_NUMBER), field 7 (B_WSF_STATE_ASGN_ID), and field 11 (B_ANALYTE_CODE), and field 12 (B_MONITORING_PERIOD_START_DATE), and field 13 (B_MONITORING_PERIOD_END_D ATE). <i>See note at end of SAMPLE SUMMARY RESULT table.</i>

SAMPLE SUMMARY					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSMP SM) COLUMN NAME	DOMAI N	SIZE	OPTIONALITY
12.	SampleSummary SampleSummaryDetails MonitoringPeriodBeginDate	B_MONITORING_PERIOD_START_DATE	DT	8	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_PWS_NUMBER), field 7 (B_WSF_STATE_ASGN_ID), and field 11 (B_ANALYTE_CODE), and field 12 (B_MONITORING_PERIOD_START_DATE), and field 13 (B_MONITORING_PERIOD_END_DATE). Value supplied must be the first day of the first month of the monitoring period.
13.	SampleSummary SampleSummaryDetails MonitoringPeriodEndDate	B_MONITORING_PERIOD_END_DATE	DT	8	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_PWS_NUMBER), field 7 (B_WSF_STATE_ASGN_ID), and field 11 (B_ANALYTE_CODE), and field 12 (B_MONITORING_PERIOD_START_DATE), and field 13 (B_MONITORING_PERIOD_END_DATE). Value supplied must be the last day of the last month of the monitoring period.
14.	SampleSummary SampleSummaryDetails SummaryReceivedDate	B_SUMMARY_RECEIVED_DATE	DT	8	OPTIONAL
15.	SampleSummary SampleSummaryDetails SummaryCommentText	B_COMMENT_TEXT	ANmc	2000	OPTIONAL
16.	SampleSummary SampleSummaryDetails RecordID	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

4.2 Sample Summary Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

SAMPLE SUMMARY ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE (TMGSMPSM) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
6.	B_CERT_AGENCY		User Defined in table TINPVALS with code-name = 'CERT_AG'
8.	B_COMPLIANCE_INDICATOR	Y Yes N No	Fixed
11.	B_ANALYTE_CODE	The users can only add and maintain summaries with the following analyte codes using the SDWIS/STATE on-line pages. CU90-Copper PB90-Lead 3100-Total Coliform	Fixed
		The users may add summaries with any analyte code; however, they will not able to maintain them using the SDWIS/STATE on-line pages. User Defined	User Defined in table TSAANLYT column CODE

4.3 Sample Summary Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section has the mapping between the staging table/columns, SDWIS/STATE Table/Column in both the data model and the physical database and the Schema tags in the XML Sampling schemas for Sample Summary business object.

SAMPLE SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE

LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSMPSM) Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
1. #	N/A	TMGJOB_IS_NUMBER	N/A	N/A	N/A
2. #	N/A	B_TMGSMPSTM_IS_NUMBER	N/A	N/A	N/A
3. #	N/A	B_STATUS	N/A	N/A	N/A
4.	SampleSummary SampleSummaryDetails PWSIdentifier	B_PWS_NUMBER	TINWSYS.TINWSYS.NUMBER	Water System	NUMBER (Foreign Key to either SBS Sample or Sample Summary)
5.	SampleSummary SampleSummaryDetails LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	TSALAB.LAB_IS_NUMBER	Laboratory	LAB_IS_NUMBER
6.	SampleSummary SampleSummaryDetails LabAccreditation LabAccreditationAuthorityName	B_CERT_AGENCY	TSALAB.CERT_AGENCY	Laboratory	CERT_AGENCY
7.	SampleSummary SampleSummaryDetails PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	TINWSF.ST_ASGN_IDENT_CD	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (Foreign Key to either SBS Sample or Sample Summary)
8.	SampleSummary SampleSummaryDetails SampleComplianceIndicator	B_COMPLIANCE_INDICATOR	TSASMPSTM.COMP_L_PURP_IND_CD	Sample Summary	COMPLIANCE_PURPOSE_INDICATOR_CODE
9.	SampleSummary SampleSummaryDetails SummaryCollectionStartDate	B_SUMMARY_COLLECTION_START_DATE	TSASMPSTM.COLLECTION_STRT_DT	Sample Summary	SAMPLE_COLLECTION_START_DATE
10.	SampleSummary SampleSummaryDetails SummaryCollectionEndDate	B_SUMMARY_COLLECTION_END_DATE	TSASMPSTM.COLLECTION_END_DT	Sample Summary	SAMPLE_COLLECTION_END_DATE
11.	SampleSummary SampleSummaryDetails AnalyteCode	B_ANALYTE_CODE	TSAANLYT.CODE	Analyte	CODE (Foreign Key to Sample Summary)

SAMPLE SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table (TMGSMPSTM) Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
12.	SampleSummary SampleSummaryDetails MonitoringPeriodBeginDate	B_MONITORING_PERIOD_START_DATE	TMNMPRD.BEGIN_DATE	Monitoring Period	BEGIN_DATE (Foreign Key to Sample Summary)
13.	SampleSummary SampleSummaryDetails MonitoringPeriodEndDate	B_MONITORING_PERIOD_END_DATE	TMNMPRD.END_DATE	Monitoring Period	END_DATE (Foreign Key to Sample Summary)
14.	SampleSummary SampleSummaryDetails SummaryReceivedDate	B_SUMMARY_RECEIVED_DATE	TSASMPSTM.SUMMARY_RECPT_DT	Sample Summary	SUMMARY_RECEIVED_DATE
15.	SampleSummary SampleSummaryDetails SummaryCommentText	B_COMMENT_TEXT	TSASMPSTM.COMMENT_TEXT	Sample Summary	COMMENT_TEXT
16.	SampleSummary SampleSummaryDetails RecordID	B_XMLDOC_RECORD_ID	N/A	N/A	N/A

4.4 Sample Summary Definitions

This section defines the staging table/ column for the Sample Summary business object and also mentions any business rules associated with it.

SAMPLE SUMMARY DEFINITIONS		
LINE NO (field)	STAGING TABLE (TMGSMPSTM) COLUMN NAME	SAMPLE SUMMARY (S)
1.	TMGJOB_IS_NUMBER	The identification number of the job.
2.	B_TMGSMPSTM_IS_NUMBER	A system_generated value which uniquely identifies the entity occurrence.
3.	B_STATUS	The current status of the record. <SPACES> = unprocessed, C = processed w/ changes, P = processed , R = rejected

SAMPLE SUMMARY DEFINITIONS		
LINE NO (field)	STAGING TABLE (TMGSMPSM) COLUMN NAME	SAMPLE SUMMARY (S)
4.	B_PWS_NUMBER	The Public Water System (PWS) identification number. This field is mandatory.
5.	B_LAB_ID_NUMBER	Laboratory Number assigned to the laboratory by the certifying agency.
6.	B_CERT_AGENCY	The certifying agency that assigned the laboratory the lab id number under which the lab is reporting.
7.	B_WATER_FACILITY_STATE_CODE	Number/alphanumeric that uniquely identifies a Water System Facility (e.g., Treatment Plant/Distribution System/Well) within a Water System.
8.	B_COMPLIANCE_INDICATOR	When set to "Y," indicates that the sample summary has been taken for compliance.
9.	B_SUMMARY_COLLECTION_START_DATE	The start date of the collection time period during which the sample summary should be taken.
10.	B_SUMMARY_COLLECTION_END_DATE	The end date of the collection time period during which the sample summary should be taken.
11.	B_ANALYTE_CODE	Standard code used to represent a given analyte.
12.	B_MONITORING_PERIOD_START_DATE	Start date of the Monitoring Period.
13.	B_MONITORING_PERIOD_END_DATE	End date of the Monitoring Period.
14.	B_SUMMARY_RECEIVED_DATE	The date the sample summary was received by the state.
15.	B_COMMENT_TEXT	The comment for the record.
16.	B_XMLDOC_RECORD_ID	A number used to uniquely identify this record within an xml document.

5.0 SCHEMA MAPPING FOR SAMPLE SUMMARY RESULT BUSINESS OBJECT

SDWIS/ XMLSampling Schema **SDWIS_SummaryResult_v3.0.xsd** maps to the Summary Result business unit.

The schema mapping for Summary Result has four sections. The first sections describe the schema tag hierarchy, staging table/column, their length optionality, and the business rules. The second section describes the Enumerated values for the Sample Summary Result elements and the business rules. The third section describes the mapping between the staging table/columns, SDWIS/STATE table/columns for the Sample Summary Result and the schema elements in the SDWIS_Summary_v3.0.xsd schema.

5.1 Sample Summary Result Staging Table Structure and Business Rules

5.1.1 Schema Changes

None this release.

5.1.2 Structure Set

This section lists the schema tag hierarchy, staging table/column name and its domain, size, optionality, and the business rules associated with Summary Result.

SAMPLE SUMMARY RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSSR) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	N/A	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Applicatio.
2.	N/A	B_TMSSR_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Applicatio.
3.	N/A	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Applicatio.
4.	SummaryResult SummaryResultDetails PWSIdentifier	B_PWS_NUMBER	AN	9	MANDATORY - Because Sample Summary has no natural identifier, the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.

SAMPLE SUMMARY RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSSR) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
5.	SummaryResult SummaryResultDetails PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY-Because Sample Summary has no natural identifier, the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.
6.	SummaryResult SummaryResultDetails AnalyteCode	B_ANALYTE_CODE	AN	4	MANDATORY - Because Sample Summary has no natural identifier, the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary. <i>See note at end of SAMPLE SUMMARY RESULT table.</i>
7. *	SummaryResult SummaryResultDetails SummaryDataQualityCode	B_DATA_QUALITY	AN	1	MANDATORY - If this field is not valued, will set it to "A" which is defined as "Accepted."
8.	SummaryResult SummaryResultDetails MonitoringPeriodBeginDate	B_MONITORING_PERIOD_S TART_DATE	DT	8	MANDATORY - Because Sample Summary has no natural identifier, the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.

SAMPLE SUMMARY RESULT					
LINE NO (field)	SCHEMA TAG NAME	STAGING TABLE (TMGSSR) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
9.	SummaryResult SummaryResultDetails MonitoringPeriodEndDate	B_MONITORING_PERIOD_END_DATE	DT	8	MANDATORY - Because Sample Summary has no natural identifier, the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.
10. *	SummaryResult SummaryResultDetails SummaryResultsType	B_RESULTS_TYPE	AN	2	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_PWS_NUMBER), field 5 (B_WSF_STATE_ASGN_ID) and field 6 (B_ANALYTE_CODE) and field 8 (B_MONITORING_PERIOD_START_DATE) and field 9 (B_MONITORING_PERIOD_END_DATE) and field 10 (B_RESULTS_TYPE). <i>See note at end of SAMPLE SUMMARY RESULT table.</i>
11.	SummaryResult SummaryResultDetails CountQuantity	B_COUNT_QUANTITY	N	10	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_MEASURE) is not valued. <i>See note at end of SAMPLE SUMMARY RESULT table.</i>
12.	SummaryResult SummaryResultDetails SummaryMeasurement MeasurementValue	B_MEASURE	N	15(9)	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_COUNT_QUANTITY) is not valued. Value must be numeric; non-numeric symbols (such as "<") will cause sample to be rejected. A result of 0.0 or a value that converts to 0 may be recorded as a result. <i>See note at end of SAMPLE SUMMARY RESULT table.</i>
13.	SummaryResult SummaryResultDetails SummaryMeasurement MeasurementUnit	B_MEASURE_UNIT_CODE	AN	9	CONDITIONALLY MANDATORY - Must be valued if field 12 (B_MEASURE) is valued. Only mg/L is valid. If the value in this field is other than mg/L, the summary will be rejected.
14.	SummaryResult SummaryResultDetails RecordID	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

The SDWIS/STATE on-line software allows for addition and maintenance of Sample Summaries only for the analyte/result type combinations listed in the following table. To facilitate historical data the users can migrate sample summaries and results for other analyte/result type combinations but they may not be maintained on-line, users must create their own queries to view the data. This table provides guidance for valuing these five attributes for the sample summaries and results that may be maintained on-line.

B_RESULT_TYPE	B_ANALYTE_CODE	B_COUNT_QUANTITY	B_MEASURE	B_MEASURE_UNIT_CODE
AL	CU90 or PB90	Value with number of samples exceeding action level	Do not value	Do not value
RT	3100	Value with number of negative coliform samples	Do not value	Do not value
90	CU90 or PB90	Value with number of tap samples collected	Value with 90	MG/L
95	CU90 or PB90	Value with number of tap samples collected	Value with 95	MG/L

5.2 Sample Summary Result Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns.

SAMPLE SUMMARY RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
7.	B_DATA_QUALITY	A Accepted R Rejected P Preliminary V Validated	Fixed
10.	B_RESULTS_TYPE	The users can only add and maintain the following analyte	Fixed

SAMPLE SUMMARY RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		<p>code/summary type combinations using the SDWIS/STATE on-line pages. With CU90 and PB90</p> <p>90 90th Percentile (Lead & Copper) 95 95th Percentile (Lead & Copper) AL Samples above Action Level (Lead & Copper) With 3100</p> <p>RT Routine Samples with Negative Results from Distribution System</p> <p>The following summary types are not maintained in SDWIS/STATE, but to facilitate historical data the users can migrate these types in the SDWIS/STATE tables. Users must create their own queries to view the data.</p> <p>CB Total Number of Disinfectant Residual Measurements below 0.2 mg/L (count). CK Count of Check samples taken CR Total Number of Disinfectant Residual Measurements (count). FV Count of days in Federal Violation period HR High result for period (measure) LR Low result for period (measure) MR Mean (average) result for period (measure) ND Count of negative sample analytical results from distribution system samples NE Count of negative sample analytical results NF Count of negative finished water samples NR Count of negative raw water samples PO Count of number of positive sample analytical results RF Count of required Repeats per Federal regulation RI Count of Replacements Samples for Invalid</p>	

SAMPLE SUMMARY RESULT ENUMERATED VALUES			
LINE NO (field)	STAGING TABLE COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		RJ Count of Rejected samples RL Count of Replacement Samles RP Count of Repeat samples RS Count of required Repeats per State regulation SP Count of Special samples SR Count of samples required SV Count of days in State Violation period TO Count of total samples collected VI Count of days of Violation Period	
13.	B_MEASURE_UNIT_CODE	User Defined- For lead and copper summaries this must be mg/l.	User Defined in table TSAUOM column UOM_CODE

5.3 Summary Result Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section has the mapping between the staging table/columns, SDWIS/STATE Table/Column in both the data model and the physical database and the Schema tags in the SDWIS/ XMLSampling schemas for Summary Result business object.

SAMPLE SUMMARY RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSSR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
1. #	N/A	TMGJOB_IS_NUMBER	N/A	N/A	N/A
2. #	N/A	B_TMSSR_IS_NUMBER	N/A	N/A	N/A
3. #	N/A	B_STATUS	N/A	N/A	N/A
4.	SummaryResult SummaryResultDetails PWSIdentifier	B_PWS_NUMBER	TINWSYS.NUMBER	Water System	NUMBER (Reference Key to SBS Sample or Reference Key to Sample Summary)

SAMPLE SUMMARY RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSSR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
5.	SummaryResult SummaryResultDetails PWSFacilityIdentifier	B_WSF_STATE_ASGN_ID	TINWSF.ST_ASGN_IDENT_CD	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE (Reference Key to SBS Sample or Reference Key to Sample Summary)
6.	SummaryResult SummaryResultDetails AnalyteCode	B_ANALYTE_CODE	TSANLYT.CO DE	Analyte	CODE (Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)
7.	SummaryResult SummaryResultDetails SummaryDataQualityCode	B_DATA_QUALITY	TSASSR.DATA_QUALITY_CODE	Sample Summary Result	DATA_QUALITY_CODE
8.	SummaryResult SummaryResultDetails MonitoringPeriodBeginDate	B_MONITORING_PERIOD_START_DATE	TMNMPRD.BEGIN_DATE	Monitoring Period	BEGIN_DATE (Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)
9.	SummaryResult SummaryResultDetails MonitoringPeriodEndDate	B_MONITORING_PERIOD_END_DATE	TMNMPRD.END_DATE	Monitoring Period	END_DATE (Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)
10.	SummaryResult SummaryResultDetails SummaryResultsType	B_RESULTS_TYPE	TSASSR.TYPE_CODE	Sample Summary Result	TYPE_CODE
11.	SummaryResult SummaryResultDetails CountQuantity	B_COUNT_QUANTITY	TSASSR.COUNT_QTY	Sample Summary Result	COUNT_QTY
12.	SummaryResult SummaryResultDetails SummaryMeasurement MeasurementValue	B_MEASURE	TSASSR.MEASURE	Sample Summary Result	MEASURE MEASURE_TEXT
13.	SummaryResult SummaryResultDetails SummaryMeasurement MeasurementUnit	B_MEASURE_UNIT_CODE	TSASSR.UOM_CODE	Sample Summary Result	UOM_CODE

SAMPLE SUMMARY RESULT SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table TMGSSR Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
14	SummaryResult SummaryResultDetails RecordID	B_XMLDOC_RECORD_ID	n/a	n/a	n/a

5.4 Sample Summary Result Definitions

This section defines the staging table/ column for the Sample Summary business object and also mentions any business rules associated with it.

SAMPLE SUMMARY RESULT DEFINITIONS		
LINE NO (field)	FIELD NAME	SAMPLE SUMMARY RESULT
1.	TMGJOB_IS_NUMBER	The identification number of the job.
2.	B_TMGSSR_IS_NUMBER	A system_generated value which uniquely identifies the entity occurrence.
3.	B_STATUS	The current status of the record. <SPACES> = unprocessed, C = processed w/ changes, P = processed , R = rejected
4.	B_PWS_NUMBER	Reference field - The Public Water System (PWS) Identification number. This field is mandatory and must be identical to the B_WATER_SYSTEM_NUMBER in the Sample Summary.
5.	B_WSF_STATE_ASGN_ID	Reference field - The Water System Facility State Identification number. This field is mandatory and must be identical to the B_WSF_STATE_ASGN_ID in the Sample Summary.
6.	B_ANALYTE_CODE	Analyte Code for the result to be assessed or the Sample Summary to be referenced.
7.	B_DATA_QUALITY	Code indicating whether or not the analytical result meets established data quality criteria.
8.	B_MONITORING_PERIOD_START_DATE	Start date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
9.	B_MONITORING_PERIOD_END_DATE	End date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
10.	B_RESULTS_TYPE	List of possible types of Sample Summary results.
11.	B_COUNT_QUANTITY	Count of each type of result within the Sample Summary.
12.	B_MEASURE	Measure value that represents the result obtained from a sample analysis.
13.	B_MEASURE_UNIT_CODE	Unit of measure associated with the Measure.
14.	B_XMLDOC_RECORD_ID	A number used to uniquely identify a record within an xml document.

6.0 SCHEMA MAPPING FOR MDBP_SUMMARY BUSINESS OBJECT

Schema **SDWIS_MDBPSummary_v3.0.xsd** maps to the MDBP Summary business unit.

The MDBP summary has nine sections. The first six sections describe the staging table/column, their length optionality and the business rules for the six different types of MDBP Summaries:

- Generic or User Defined
- Combined Filter Turbidity
- Individual Filter Turbidity
- Minimal Residual Disinfection
- Chlorine Dioxide/ Chorite Entry point
- Chlorine/Chloramine MRDL Summaries (MRDL)

The following chart provides an overview of the different types of MDBP Summaries.

	Summary Type	Analyte Code	WSF Type	Sampling Point	% Of Sample Exceeding	RAA, MPA and UOMs	Level Non-Compliance Basis
Generic or User Defined		Any					Single Sample Exceeding
Combined Filter Turbidity	AVGT MAXT	0100	TP	May Value	Do Not Value	Do Not Value	Single Sample Exceeding
	95PT	0100	TP	May Value	Value	Do Not Value	More than 5.49% of Sample Exceeding
Individual Filter Turbidity	IFT	0100	TP	Do Not Value	Do Not Value	Do Not Value	Inappropriate Answer to Questions

	Summary Type	Analyte Code	WSF Type	Sampling Point	% Of Sample Exceeding	RAA, MPA and UOMs	Level Non-Compliance Basis
Minimal Residual Disinfection	EPRD SERD	0999 or 1006	TP	May Value	Do Not Value	Do Not Value	Single Sample Exceeding
	DSRD	0999 or 1006	DS	Do not Value	Value	Do Not Value	More than 5.49% of Sample Exceeding Two Consecutive Months
	SDRD	0999 or 1006	DS	Do not Value	Value	Do Not Value	Single Sample Exceeding
Chlorine Dioxide/ Chorite Entry point	CLO2	1008	TP	May Value	Do Not Value	Do Not Value	Single Sample Exceeding
	CLO3	1009	TP	May Value	Do Not Value	Do Not Value	Single Sample Exceeding
Chlorine/Chloramine MRDL Summaries (MRDL)	MRDL	0999 or 1006	DS	Do Not Value	Do Not Value	Value	Running Annual Average (RAA) exceeds level in Facility Analyte Level (FANL)

6.1 Schema Changes

None this release.

6.2 MDBP: Generic or User-Defined Summaries (OTHR or State-Owned) Staging Table Structure and Business Rules

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Generic or User Defined Summaries.

The seventh section describes the Enumerated values for the MDBP summary elements and the business rules. The eighth section describes the mapping between the staging table/columns, SDWIS State table/columns and the schema elements in the SDWIS_edwr.xsd schema.

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8(B_MON_PERIOD_BEG_DATE), field 9(B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. For a MDBP Summary Type, see federally defined list in the permitted values section of this structure set. For a state-defined MDBP Summary type, the type must already exist in the database. System Administrators may add state-defined MDBP Summary types to Code Name TSAMDBPS1 using the online Permitted Values function in the <i>System Administration</i> component.
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8(B_MON_PERIOD_BEG_DATE), field 9(B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
8.	B_MON_PERIOD_BEG_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	OPTIONAL - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must value if need to enter separate summaries for each sampling point. <i>For example, if there are two entry points from one treatment plant. Recommend value when all samples NOT collected at same point.</i>
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required if the B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field. If date exists and it is a future date, the software will set to the current date.</i>
19.	B_SAMPLES_REQUIRED	N	5	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
20.	B_SAMPLES_COLLECT	N	5	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
21. *	B_MR_COMPLIANCE_IND	AN	3	<p>For any user-defined type (where permitted value for MDBP sample summary type is not federally-owned), If not valued and field 19 (B_SAMPLES_REQUIRED) and field 20 (B_SAMPLES_COLLECT) are valued calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, default to "Yes", If $z \leq 89.9$ default to No Major, otherwise default to No Minor.</p> <p>For any user-defined type (where permitted value for MDBP sample summary type is not federally-owned), If field 19 (B_SAMPLES_REQUIRED), field 20 (B_SAMPLES_COLLECT), and field 21 (B_MR_COMPLIANCE_IND) are valued for any summary type, software will evaluate M&R Compliance and update and flag if inconsistent. Calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, calculated indicator is Yes", if $z \leq 89.9$, set calculated indicator to No Major, otherwise default to No Minor.</p> <p>If field 19 (B_SAMPLES_REQUIRED) > field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if field 21 (B_MR_COMPLIANCE_IND) equals "Yes", set value to calculated indicator and issue message 332 • if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333. ○ Calculated indicator equals "No Major", set value to "No Major" and issue message 334. • if field 21 (B_MR_COMPLIANCE_IND) equals "No

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p>Major”, and</p> <ul style="list-style-type: none"> o Calculated indicator equals “Yes”, set value to “Yes” and issue message 333. o Calculated indicator equals “No Minor”, set value to “No Minor” and issue message 334. <p>If field 19 (B_SAMPLES_REQUIRED) <= field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if calculated indicator equals “Yes”, <ul style="list-style-type: none"> o if field 21 (B_MR_COMPLIANCE_IND) equals “No Minor”, set value to “Yes” and issue message 334 o if field 21 (B_MR_COMPLIANCE_IND) equals “No Major”, set value to “Yes” and issue message 334.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	OPTIONAL
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (6(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary PERCENT_SAMPLES_BEYOND_MSR_LVL and MDBP Summary PERCENT_SAMPS_BYND_MSR_LVL_TXT.</i>
24.	B_HIGHEST_MEASURE	N	5(3)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (5(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary HIGHEST_MEASURE and MDBP Summary HIGHEST_MSR_TXT.</i>
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - Must value for level compliance determination to be made.</p> <p>If not valued, calculate and value, if field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than= zero, “No,” else “Yes.”</p> <p>If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals</p>

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				"Yes" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than zero, value will be changed to "No" and message 338 will be issued. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "No" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) equals zero, value will be changed to "Yes" and message 338 will be issued.
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (7(4)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary MONITORING_PERIOD_AVG_MEASURE and MDBP Summary MONITORING_PERIOD_AVG_MSR_TXT.</i>
27. *	B_MPA_UOM_CODE	AN	9	CONDITIONALLY MANDATORY - If field 26 (B_MONITORING_PERIOD_AVG_MEASURE) is valued, field 27 (B_MPA_UOM_CODE) must be valued.
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (7(4)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary RUNNING_ANNUAL_AVERAGE_MEASURE and MDBP Summary RUNNING_ANNUAL_AVERAGE_MSR_TXT.</i>
29. *	B_RAA_UOM_CODE	AN	9	CONDITIONALLY MANDATORY - If field 28 (B_RUNNING_ANNUAL_AVERAGE_MEASURE) is valued, field 29 (B_RAA_UOM_CODE) must be valued.
30. *	B_Q1_IFT_MONITORED_INDICATOR	AN	1	<u>OPTIONAL</u>
31. *	B_Q2_IFT_RECORDED_INDICATOR	AN	1	<u>OPTIONAL</u>
32. *	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	<u>OPTIONAL</u>
33. *	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	<u>OPTIONAL</u>
34. *	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	<u>OPTIONAL</u>
35. *	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	<u>OPTIONAL</u>
36. *	B_Q7_IFT_GREAT_2_0_DUR_2_MON_IND	AN	1	<u>OPTIONAL</u>
37.	B_COMMENT_TEXT	ANmc	2000	OPTIONAL

MDBP SUMMARY-Generic				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User’s Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

- The values in the FANL Reference Group fields.
- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself.*

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is “Y.”

- Even though the values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages, these fields can be viewed in the General MDBP Summary Maintenance page.

6.3 MDBP: Combined Filter Turbidity Summaries (AVGT, MAXT, 95PT) Staging Table Structure and Business Rules

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Combined Filter Turbidity Summaries.

- The values in the FANL Reference Group fields.
- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself*.

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is “Y.”
- Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. AVGT, MAXT, 95PT
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Recommend WSF of type TP - Treatment Plant.
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 1 - 4), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must be Turbidity 0100.
8.	B_MON_PERIOD_BEG_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE),

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	OPTIONAL - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must value if need to enter separate summaries for each sampling point. For example, if there are two entry points from one treatment plant. Recommend value when all samples NOT collected at same point.
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required if the B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - The SDWIS/STATE team recommends that you value this field. If date exists and it is a future date, the software will set to the current date.
19.	B_SAMPLES_REQUIRED	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.
20.	B_SAMPLES_COLLECT	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.
21. *	B_MR_COMPLIANCE_IND	AN	3	OPTIONAL - Must value for compliance determinations to be made for AVGT and 95PT. For type AVGT, 95PT, or MAXT If not valued and field 19 (B_SAMPLES_REQUIRED) and field 20 (B_SAMPLES_COLLECT) are valued calculate and value z =

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p>(x/y) * 100; where x= B_SAMPLES_REQUIRED and y=B_SAMPLES_COLLECT. If z>=100, default to "Yes", If z<=<u>89.9</u>, default to No Major, otherwise default to No Minor.</p> <p>For type AVGT, 95PT, or MAXT, If field 19 (B_SAMPLES_REQUIRED), field 20 (B_SAMPLES_COLLECT), and field 21 (B_MR_COMPLIANCE_IND) are valued for any summary type, software will evaluate M&R Compliance and update and flag if inconsistent. Calculate and value z = (x/y) * 100; where x= B_SAMPLES_REQUIRED and y=B_SAMPLES_COLLECT. If z>=100, calculated indicator is Yes", if z<=<u>89.9</u>, set calculated indicator to No Major, otherwise default to No Minor.</p> <p>If field 19 (B_SAMPLES_REQUIRED) > field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if field 21 (B_MR_COMPLIANCE_IND) equals "Yes", set value to calculated indicator and issue message 332 • if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333. ○ Calculated indicator equals "No Major", set value to "No Major" and issue message 334. • if field 21 (B_MR_COMPLIANCE_IND) equals "No Major", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333. ○ Calculated indicator equals "No Minor", set value to "No Minor" and issue message 334. <p>If field 19 (B_SAMPLES_REQUIRED) <= field 20 (B_SAMPLES_COLLECT),</p>

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<ul style="list-style-type: none"> • if calculated indicator equals “Yes”, <ul style="list-style-type: none"> ○ if field 21 (B_MR_COMPLIANCE_IND) equals “No Minor”, set value to “Yes” and issue message 334 ○ if field 21 (B_MR_COMPLIANCE_IND) equals “No Major”, set value to “Yes” and issue message 334.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	<p>OPTIONAL - If valued, value must be convertible to a numeric within the range of (6(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary PERCENT_SAMPLES_BEYOND_MSR_LVL and MDBP Summary PERCENT_SAMPS_BYND_MSR_LVL_TXT.</i></p> <p><i>Recommend value with 95PT type summary only.</i></p> <p><i>If not valued for summary type 95PT and field 20 (B_SAMPLES_COLLECT) and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) valued, calculate and value $z = (x/y) * 100$; where $x = \text{TOTAL_SAMPLES_BEYOND_MSR_LVL}$ and $y = \text{B_SAMPLES_COLLECT}$.</i></p>
24.	B_HIGHEST_MEASURE	N	5(3)	<p>OPTIONAL - If valued, value must be convertible to a numeric within the range of (5(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary HIGHEST_MEASURE and MDBP Summary HIGHEST_MSR_TXT.</i></p> <p>Recommend value with MAXT type summary only (MAXT summary must be valued to satisfy Consumer Confidence Reporting - CCR requirements).</p> <p>If not valued for type MAXT, software will flag the summary.</p> <p>Use this field with summary type MAXT to enter the maximum two-day average for turbidity under the old Turbidity rule.</p>

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - Must value for compliance determination to be made. If not valued, calculate and value.</p> <p>For type AVGT or MAXT if field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL is greater than 0 value "No," else "Yes."</p> <p>For type 95PT, if field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) greater than 5.49%, value "No," else "Yes."</p> <p>For type AVGT or MAXT, if field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) are valued, software will evaluate level compliance and update and flag if inconsistent. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than zero, value will be changed to "No" and message 338 will be issued. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "No" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) equals zero, value will be changed to "Yes" and message #338 will be issued.</p> <p>For type 95PT, if field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) are valued, software will evaluate level compliance and update and flag if inconsistent. If field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) is greater than 5.49% and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes," value will be changed to "No" and summary will be flagged and message #338 will be issued.</p>

MDBP SUMMARY-AVGT, MAXT, 95PT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				If field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) is <u>less than or equal to 5.49%</u> and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals “No,” value will be changed to “Yes” and summary will be flagged and message #338 will be issued.
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	OPTIONAL - If entering the average turbidity for a month reported under the old Turbidity rule, use this field and the next to record the average. These values will be stored but not displayed.
27.	B_MPA_UOM_CODE	AN	9	OPTIONAL - If entering the average turbidity for a month reported under the old Turbidity rule, use this field and the previous to record the average. These values will be stored but not displayed.
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	NOT USED (Blank Fill)
29.	B_RAA_UOM_CODE	AN	9	NOT USED (Blank Fill)
30.	B_Q1_IFT_MONITORED_INDICATOR	AN	1	NOT USED (Blank Fill)
31.	B_Q2_IFT_RECORDED_INDICATOR	AN	1	NOT USED (Blank Fill)
32.	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	NOT USED (Blank Fill)
33.	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	NOT USED (Blank Fill)
34.	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	NOT USED (Blank Fill)
35.	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	NOT USED (Blank Fill)
36.	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	AN	1	NOT USED (Blank Fill)
37.	B_COMMENTS_TEXT	ANmc	2000	OPTIONAL
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User’s Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

- The values in the FANL Reference Group fields.
- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself*.

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is "Y".
- Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

6.4 MDBP: Individual Filter Turbidity (IFT) Staging Table Structure and Business

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Individual Filter Turbidity Summaries.

MDBP SUMMARY-IFT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. IFT
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Recommend WSF of type "TP" Treatment Plant.
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10

MDBP SUMMARY-IFT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				(B_SAMPLING_POINT). See Note at end of this layout. Must be Turbidity 0100.
8.	B_MON_PERIOD_BEGIN_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	NOT USED (Blank Fill)
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required if the B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - The SDWIS/STATE team recommends that you value this field. If date exists and it is a future date, the software will set to the current date.
19.	B_SAMPLES_REQUIRED	N	5	NOT USED (Blank Fill)
20.	B_SAMPLES_COLLECT	N	5	NOT USED (Blank Fill)
21. *	B_MR_COMPLIANCE_IND	AN	3	OPTIONAL - <u>Must value for M&R compliance determination to be made. <i>If not valued, calculate and value.</i></u> For type IFT, <u>If field 30 (B_Q1 IFT MONITORED INDICATOR LVL) is "No", value "No";</u> <u>else if field 31 (B_Q2 IFT RECORDED INDICATOR) is "No", value "No";</u> <u>else if field 32 (B_Q3 IFT EQUIPMENT INDICATOR) is "Yes", value "No";</u> <u>else value "Yes"</u>

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MDBP SUMMARY-IFT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p><u>If field 21 (B_MR_COMPLIANCE_IND) is valued and field 30 (B_Q1_IFT_MONITORED_INDICATOR_LVL) or field 31 (B_Q2_IFT_RECORDED_INDICATOR) or field 32 (B_Q3_IFT_EQUIPMENT_INDICATOR) is valued, software will evaluate MR compliance and update and flag if inconsistent.</u></p> <p>For type IFT, <u>If field 21 (B_MR_COMPLIANCE_IND) equals "Yes", if field 30 (B_Q1_IFT_MONITORED_INDICATOR_LVL) is "No" or if field 31 (B_Q2_IFT_RECORDED_INDICATOR) is "No" or if field 32 (B_Q3_IFT_EQUIPMENT_INDICATOR) is "Yes" value will be changed to "No" and summary will be flagged issue message 257.</u></p> <p><u>If field 21 (B_MR_COMPLIANCE_IND) equals "No", if field 30 (B_Q1_IFT_MONITORED_INDICATOR_LVL) is "Yes" and field 31 (B_Q2_IFT_RECORDED_INDICATOR) is "Yes" and field 32 (B_Q3_IFT_EQUIPMENT_INDICATOR) is "No" value will be changed to "Yes" and summary will be flagged issue message 257.</u></p>
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	NOT USED (Blank Fill)
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	NOT USED (Blank Fill)
24.	B_HIGHEST_MEASURE	N	5(3)	NOT USED (Blank Fill)
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - <u>Must value for level compliance determination to be made. If not valued, calculate and value.</u></p> <p><u>If field 33 (B_Q4_IFT_GREATER_1_0_INDICATOR) is "Yes", value "No." ;</u> <u>else if field 34 (B_Q5_IFT_GREATER_0_5_INDICATOR) is "Yes", value "No." ;</u></p>

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MDBP SUMMARY-IFT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	<p><u>else if field 35 (B_Q6 IFT GREATER 1 DUR 3 MON IND) is "Yes", value "No";</u> <u>else if field 36 (B_Q7 IFT GREATER 2 0 DUR 2 MON IND) is "Yes", value "No";</u> <u>else value "Yes"</u></p> <p><u>If field 25 (B_LEVEL COMPLIANCE INDICATOR) is valued and</u> <u>field 33 (B_Q4 IFT GREATER 1 0 INDICATOR) or</u> <u>field 34 (B_Q5 IFT GREATER 0 5 INDICATOR) or</u> <u>field 35 (B_Q6 IFT GREATER 1 DUR 3 MON IND) or</u> <u>field 36 (B_Q7 IFT GREATER 2 0 DUR 2 MON IND) is valued, software will evaluate level compliance for inconsistency.</u></p> <p><u>If field 25 (B_LEVEL COMPLIANCE INDICATOR) equals "Yes," and field 33</u> <u>(B_Q4 IFT GREATER 1 0 INDICATOR)="Yes" or</u> <u>field 34 (B_Q5 IFT GREATER 0 5 INDICATOR)="Yes" or</u> <u>field 35 (B_Q6 IFT GREATER 1 DUR 3 MON IND)="Yes"</u> <u>or</u> <u>field 36</u> <u>(B_Q7 IFT GREATER 2 0 DUR 2 MON IND)="Yes", value will be changed to "No" and message 258 will be issued.</u></p> <p><u>If field 25 (B_LEVEL COMPLIANCE INDICATOR) equals "No" and field 33</u> <u>(B_Q4 IFT GREATER 1 0 INDICATOR)="No" and field 34</u> <u>(B_Q5 IFT GREATER 0 5 INDICATOR)="No" and field 35</u> <u>(B_Q6 IFT GREATER 1 DUR 3 MON IND)="No" and field</u> <u>36 (B_Q7 IFT GREATER 2 0 DUR 2 MON IND)="No",</u> <u>value will be changed to "Yes" and message 258 will be issued.</u></p>

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MDBP SUMMARY-IFT				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
27.	B_MPA_UOM_CODE	AN	9	NOT USED (Blank Fill)
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	NOT USED (Blank Fill)
29.	B_RAA_UOM_CODE	AN	9	NOT USED (Blank Fill)
30. *	B_Q1_IFT_MONITORED_INDICATOR	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
31. *	B_Q2_IFT_RECORDED_INDICATOR	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
32. *	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
33. *	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
34. *	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
35. *	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
36. *	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	AN	1	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
37.	B_COMMENTS_TEXT	ANmc	2000	OPTIONAL
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User's Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

- The values in the FANL Reference Group fields.

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- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself.*

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is “Y.”
- Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

6.5 MDBP: Minimal Residual Disinfection Summaries (EPRD, SERD, DSRD, SDRD) Staging Table Structure and Business

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Minimal Residual Disinfection Summaries.

MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. EPRD, SERD, DSRD, SDRD
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. <i>For summary type EPRD and SERD, should be type "TP" Treatment Plant. For summary type DSRD and SDRD, should be type "DS" Distribution System.</i>

MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must be chlorine-0999 or chloramine-1006.
8.	B_MON_PERIOD_BEG_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	CONDITIONALLY MANDATORY - Must value if need to enter separate summaries for each sampling point. <i>For example, if there are two entry points for one treatment plant. Recommend value when all samples NOT collected at same point</i> Overlap check for MDBP Summary is on the combination of, the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. For summary type EPRD and SERD, must be valued with sampling point of type "EP" Entry Point. For summary type DSRD and SDRD, should not be valued.
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required when B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - <i>The SDWIS/STATE team recommends that you</i>

MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<i>value this field.</i> If date exists and it is a future date, the software will set to the current date.
19.	B_SAMPLES_REQUIRED	N	5	OPTIONAL - Recommend value for summary types EPRD or DSRD.
20.	B_SAMPLES_COLLECT	N	5	OPTIONAL - Recommend value for summary types EPRD or DSRD.
21. *	B_MR_COMPLIANCE_IND	AN	3	<p>OPTIONAL - Must value for M&R compliance determination to be made. Recommend do not value for summary types SERD or SDRD, if do not want to issue both federal and state violations.</p> <p>For type EPRD, DSRD, <u>SDRD</u>, or <u>SERD</u>, If not valued and field 19 (B_SAMPLES_REQUIRED) and field 20 (B_SAMPLES_COLLECT) are valued calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, default to "Yes", If $z \leq 89.9$, default to No Major, otherwise default to No Minor.</p> <p>For type EPRD, DSRD, <u>SDRD</u>, or <u>SERD</u>, If field 19 (B_SAMPLES_REQUIRED), field 20 (B_SAMPLES_COLLECT), and field 21 (B_MR_COMPLIANCE_IND) are valued for any summary type, software will evaluate M&R Compliance and update and flag if inconsistent. Calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, calculated indicator is Yes", if $z \leq 89.9$, set calculated indicator to No Major, otherwise default to No Minor.</p> <p>If field 19 (B_SAMPLES_REQUIRED) > field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> if field 21 (B_MR_COMPLIANCE_IND) equals "Yes", set value to calculated indicator and issue message 332

MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<ul style="list-style-type: none"> • if field 21 (B_MR_COMPLIANCE_IND) equals “No Minor”, and <ul style="list-style-type: none"> ○ Calculated indicator equals “Yes”, set value to “Yes” and issue message 333. ○ Calculated indicator equals “No Major”, set value to “No Major” and issue message 334. • if field 21 (B_MR_COMPLIANCE_IND) equals “No Major”, and <ul style="list-style-type: none"> ○ Calculated indicator equals “Yes”, set value to “Yes” and issue message 333. ○ Calculated indicator equals “No Minor”, set value to “No Minor” and issue message 334. <p>If field 19 (B_SAMPLES_REQUIRED) <= field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if calculated indicator equals “Yes”, <ul style="list-style-type: none"> ○ if field 21 (B_MR_COMPLIANCE_IND) equals “No Minor”, set value to “Yes” and issue message 334 ○ if field 21 (B_MR_COMPLIANCE_IND) equals “No Major”, set value to “Yes” and issue message 334.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	<p>OPTIONAL - If valued, value must be convertible to a numeric within the range of (6(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary PERCENT_SAMPLES_BEYOND_MSR_LVL and MDBP Summary PERCENT_SAMPMS_BYND_MSR_LVL_TXT.</i></p> <p>For summary type EPRD and SERD should <i>not</i> be valued. For summary type DSRD and SDRD, should be valued.</p>

MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				If not valued for summary type DSRD or SDRD and field 20 (B_SAMPLES_COLLECT) and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) valued, calculate and value $z = (x/y) * 100$; where $x=B_TOTAL_SAMPLES_BEYOND_MSR_LVL$ and $y=B_SAMPLES_COLLECT$.
24.	B_HIGHEST_MEASURE	N	5(3)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (5(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary HIGHEST_MEASURE and MDBP Summary HIGHEST_MSR_TXT.</i>
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - Must value for compliance determination to be made. If not valued, calculate and value.</p> <p>For type EPRD, SERD and SDRD, if field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than zero, value "No," else "Yes."</p> <p>For type DSRD, if field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) is greater than 5.49%, value "No" and issue message 347 else "Yes."</p> <p>For type EPRD, SERD and SDRD, if field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) are valued, software will evaluate level compliance for inconsistency.</p> <p>If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than zero, value will be changed to "No" and message 338 will be</p>

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MDBP SUMMARY- EPRD, SERD, DSRD, SDRD				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p>issued. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "No" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) equals zero, value will be changed to "Yes" and message 338 will be issued.</p> <p><u>For type DSRD,</u> <u>If field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) are valued,</u> <u>software will evaluate level compliance for inconsistency.</u> <u>If field 22 field 23 (B_PERCENT_SAMPLES_BEYOND_MSR_LVL) is greater than 5.49%, and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes," value will be changed to "No" and summary will be flagged. Message # will note Compliance Officer must review previous monitoring period.</u></p>
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	NOT USED (Blank Fill)
27.	B_MPA_UOM_CODE	AN	9	NOT USED (Blank Fill)
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	NOT USED (Blank Fill)
29.	B_RAA_UOM_CODE	AN	9	NOT USED (Blank Fill)
30.	B_Q1_IFT_MONITORED_INDICATOR	AN	1	NOT USED (Blank Fill)
31.	B_Q2_IFT_RECORDED_INDICATOR	AN	1	NOT USED (Blank Fill)
32.	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	NOT USED (Blank Fill)
33.	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	NOT USED (Blank Fill)
34.	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	NOT USED (Blank Fill)
35.	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	NOT USED (Blank Fill)
36.	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	AN	1	NOT USED (Blank Fill)
37.	B_COMMENTS_TEXT	ANmc	2000	OPTIONAL
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

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Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User's Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

- The values in the FANL Reference Group fields.
- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself.*

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is "Y."
- Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

6.6 MDBP: Chlorine Dioxide/Chlorite Entry Point Summaries (CLO2, CLO3) Staging Table Structure and Business

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Chlorine Dioxide/ Chlorite Entry Point Summaries.

MDBP SUMMARY-CLO2, CLO3				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 5 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). <i>See Note at end of this layout.</i> For a MDBP Summary Type, see federally defined list in the permitted values section of this structure set. For a state-defined MDBP Summary type, the type must already exist in the database. System Administrators may add state-defined MDBP Summary types to Code Name TSAMDBPS1 using the online Permitted Values function in the <i>System Administration</i> component.
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of, the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). <i>See Note at end of this layout.</i>
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). <i>See Note at end of this layout.</i> <i>Should be of type "TP" Treatment Plant.</i>

MDBP SUMMARY-CLO2, CLO3				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must be chlorine dioxide-1008 or chlorite-1009.
8.	B_MON_PERIOD_BEG_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Should be of type "EP" Entry Point.
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required when the B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - The SDWIS/STATE team recommends that you value this field. If date exists and it is a future date, the software will set to the current date.
19.	B_SAMPLES_REQUIRED	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.
20.	B_SAMPLES_COLLECT	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.

MDBP SUMMARY-CLO2, CLO3				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
21. *	B_MR_COMPLIANCE_IND	AN	3	<p>OPTIONAL - Must value for M&R compliance determination to be made.</p> <p>For type CLO2 or CLO3, If not valued and field 19 (B_SAMPLES_REQUIRED) and field 20 (B_SAMPLES_COLLECT) are valued calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, default to "Yes", If $z \leq 89.9$, default to No Major, otherwise default to No Minor.</p> <p>For type CLO2 or CLO3, If field 19 (B_SAMPLES_REQUIRED), field 20 (B_SAMPLES_COLLECT), and field 21 (B_MR_COMPLIANCE_IND) are valued for any summary type, software will evaluate M&R Compliance and update and flag if inconsistent. Calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, calculated indicator is Yes", if $z \leq 89.9$, set calculated indicator to No Major, otherwise default to No Minor.</p> <p>If field 19 (B_SAMPLES_REQUIRED) > field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if field 21 (B_MR_COMPLIANCE_IND) equals "Yes", set value to calculated indicator and issue message 332 • if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333. ○ Calculated indicator equals "No Major", set value to "No Major" and issue message 334. • if field 21 (B_MR_COMPLIANCE_IND) equals "No Major", and

MDBP SUMMARY-CLO2, CLO3				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<ul style="list-style-type: none"> o Calculated indicator equals "Yes", set value to "Yes" and issue message 333. o Calculated indicator equals "No Minor", set value to "No Minor" and issue message 334. <p>If field 19 (B_SAMPLES_REQUIRED) <= field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if calculated indicator equals "Yes", <ul style="list-style-type: none"> o if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", set value to "Yes" and issue message 334 o if field 21 (B_MR_COMPLIANCE_IND) equals "No Major", set value to "Yes" and issue message 334.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	OPTIONAL - <i>The SDWIS/STATE team recommends that you value this field.</i>
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	NOT USED (Blank Fill)
24.	B_HIGHEST_MEASURE	N	5(3)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (5(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary HIGHEST_MEASURE and MDBP Summary HIGHEST_MSR_TXT.</i>
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - Must value for level compliance determination to be made. If not valued, calculate and value.</p> <p>If field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is greater than zero, "No," else "Yes."</p> <p>If field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) and field 25 (B_LEVEL_COMPLIANCE_INDICATOR) are valued, software will evaluate level compliance and update and flag if inconsistent. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes" and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) is</p>

MDBP SUMMARY-CLO2, CLO3				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				greater than zero, value will be changed to “No” and message 338 will be issued. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals “No” and field 22 (B_TOTAL_SAMPLES_BEYOND_MSR_LVL) equals zero, value will be changed to “Yes” and message 338 will be issued.
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	NOT USED (Blank Fill)
27.	B_MPA_UOM_CODE	AN	9	NOT USED (Blank Fill)
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	NOT USED (Blank Fill)
29.	B_RAA_UOM_CODE	AN	9	NOT USED (Blank Fill)
30.	B_Q1_IFT_MONITORED_INDICATOR	AN	1	NOT USED (Blank Fill)
31.	B_Q2_IFT_RECORDED_INDICATOR	AN	1	NOT USED (Blank Fill)
32.	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	NOT USED (Blank Fill)
33.	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	NOT USED (Blank Fill)
34.	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	NOT USED (Blank Fill)
35.	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	NOT USED (Blank Fill)
36.	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	AN	1	NOT USED (Blank Fill)
37.	B_COMMENTS_TEXT	ANmc	2000	OPTIONAL
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User’s Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

X The values in the FANL Reference Group fields

- X AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- X AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself.*

Additional notes:

- X In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- X When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is "Y."
- X Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

6.7 MDBP: Chlorine/Chloramine MRDL Summaries (MRDL) Staging Table Structure and Business Rules

This section lists the staging table/column name and its domain, size, optionality, and the business rules associated with MDBP Chlorine/Chloramine MRDL Summaries.

MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
1.	TMGJOB_IS_NUMBER	N	10	MANDATORY. Populated by the XML Sampling Application.
2.	B_TMGMDBPS_IS_NUMBER	N	7	MANDATORY. Populated by the XML Sampling Application.
3.	B_STATUS	AN	1	OPTIONAL. Populated by the XML Sampling Application.
4. *	B_MDBP_SUMMARY_TYPE	AN	4	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. MRDL
5.	B_PWS_NUMBER	AN	9	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
6.	B_WSF_STATE_ASGN_ID	AN	12	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. <i>Should be of type "DS" Distribution System.</i>
7. *	B_ANALYTE_CODE	AN	4	MANDATORY - Overlap check for MDBP Summary is on

MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout. Must be chlorine-0999 or chloraqmine-1006.
8.	B_MON_PERIOD_BEG_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
9.	B_MON_PERIOD_END_DATE	DT	8	MANDATORY - Overlap check for MDBP Summary is on the combination of the FANL (as defined by the FANL Reference Group, fields 4 - 7), field 8 (B_MON_PERIOD_BEG_DATE), field 9 (B_MON_PERIOD_END_DATE), and field 10 (B_SAMPLING_POINT). See Note at end of this layout.
10.	B_SAMPLING_POINT	AN	12	NOT USED (Blank Fill)
11.	B_LAB_ID_NUMBER	AN	10	OPTIONAL
12.	B_CERT_AGENCY	AN	10	CONDITIONALLY MANDATORY – Required when B_LAB_ID_NUMBER is valued.
18.	B_REPORTED_DATE	DT	8	OPTIONAL - The SDWIS/STATE team recommends that you value this field. If date exists and it is a future date, the software will set to the current date.
19.	B_SAMPLES_REQUIRED	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.
20.	B_SAMPLES_COLLECT	N	5	OPTIONAL - The SDWIS/STATE team recommends that you value this field.
21. *	B_MR_COMPLIANCE_IND	AN	3	OPTIONAL - Must value for M&R compliance determination to be made.

MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p>For type MRDL, If not valued and field 19 (B_SAMPLES_REQUIRED) and field 20 (B_SAMPLES_COLLECT) are valued calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, default to "Yes", If $z <$, default to No Major, otherwise default to No Minor.</p> <p>If field 19 (B_SAMPLES_REQUIRED), field 20 (B_SAMPLES_COLLECT), and field 21 (B_MR_COMPLIANCE_IND) are valued for any summary type, software will evaluate M&R Compliance and update and flag if inconsistent.</p> <p>Calculate and value $z = (x/y) * 100$; where $x = B_SAMPLES_REQUIRED$ and $y = B_SAMPLES_COLLECT$. If $z \geq 100$, calculated indicator is Yes", if $z < 89.9$, set calculated indicator to No Major, otherwise default to No Minor.</p> <p>For type MRDL, If field 19 (B_SAMPLES_REQUIRED) > field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if field 21 (B_MR_COMPLIANCE_IND) equals "Yes", set value to calculated indicator and issue message 332 • if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333. ○ Calculated indicator equals "No Major", set value to "No Major" and issue message 334. • if field 21 (B_MR_COMPLIANCE_IND) equals "No Major", and <ul style="list-style-type: none"> ○ Calculated indicator equals "Yes", set value to "Yes" and issue message 333.

MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<ul style="list-style-type: none"> ○ Calculated indicator equals "No Minor", set value to "No Minor" and issue message 334. <p>If field 19 (B_SAMPLES_REQUIRED) <= field 20 (B_SAMPLES_COLLECT),</p> <ul style="list-style-type: none"> • if calculated indicator equals "Yes", <ul style="list-style-type: none"> ○ if field 21 (B_MR_COMPLIANCE_IND) equals "No Minor", set value to "Yes" and issue message 334 ○ if field 21 (B_MR_COMPLIANCE_IND) equals "No Major", set value to "Yes" and issue message 334.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	N	5	OPTIONAL
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	N	6(3)	NOT USED (Blank Fill)
24.	B_HIGHEST_MEASURE	N	5(3)	OPTIONAL - If valued, value must be convertible to a numeric within the range of (5(3)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary HIGHEST_MEASURE and MDBP Summary HIGHEST_MSR_TXT.</i>
25. *	B_LEVEL_COMPLIANCE_INDICATOR	AN	1	<p>OPTIONAL - Must value for level compliance determination to be made. If not valued, calculate and value.</p> <p><u>If field 28 (B_RUNNING_ANNUAL_AVERAGE_MEASURE) valued and associated FANL (Same water system, water system facility, analyte code and unit of measure (UOM) as submitted Summary and Summary type="MRDL" and monitoring period for submitted summary fits within FANL effective dates) can be found, is greater than CONTROL_LVL_MSR in the associated FANL, "No," else "Yes." If no FANL located, set to spaces and issue message 348.</u></p> <p><u>If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) and field</u></p>

MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
				<p><u>28 (RUNNING ANNUAL AVERAGE MEASURE) valued and associated FANL (Same water system, water system facility, analyte code and unit of measure (UOM) as submitted Summary and Summary type="MRDL" and monitoring period for submitted summary fits within FANL effective dates) can be found, software will evaluate level compliance for inconsistency.</u></p> <p><u>If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "Yes" and field 28 (RUNNING ANNUAL AVERAGE MEASURE) is greater than CONTROL_LVL_MSR in the associated FANL, value will be changed to "No" and message 348 will be issued. If field 25 (B_LEVEL_COMPLIANCE_INDICATOR) equals "No" and field 28 (RUNNING ANNUAL AVERAGE MEASURE) is less than or equal to CONTROL_LVL_MSR in the associated FANL, value will be changed to "Yes" and message 348 will be issued.</u></p>
26.	B_MONITORING_PERIOD_AVG_MEASURE	N	7(4)	<p>OPTIONAL - If valued, value must be convertible to a numeric within the range of (7(4)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary MONITORING_PERIOD_AVG_MEASURE and MDBP Summary MONITORING_PERIOD_AVG_MSR_TXT. The SDWIS/STATE team recommends that you value this field.</i></p>
27. *	B_MPA_UOM_CODE	AN	9	<p>CONDITIONALLY MANDATORY - Must be valued if field 26 (MONITORING_PERIOD_AVG_MEASURE) is valued. <i>The only acceptable value is MG/L.</i></p>
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	N	7(4)	<p>OPTIONAL - If valued, value must be convertible to a numeric within the range of (7(4)). <i>Developer note: The software uses the number supplied in this field to value both MDBP Summary RUNNING_ANNUAL_AVERAGE_MEASURE and MDBP Summary RUNNING_ANNUAL_AVERAGE_MSR_TXT. The SDWIS/STATE team recommends that you value this field.</i></p>

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MDBP SUMMARY-MRDL				
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	DOMAIN	SIZE	OPTIONALITY
29. *	B_RAA_UOM_CODE	AN	9	CONDITIONALLY MANDATORY - Must be valued if field 28 (RUNNING_ANNUAL_AVERAGE_MEASURE) is valued. <i>The only acceptable value is MG/L.</i>
30.	B_Q1_IFT_MONITORED_INDICATOR	AN	1	NOT USED (Blank Fill)
31.	B_Q2_IFT_RECORDED_INDICATOR	AN	1	NOT USED (Blank Fill)
32.	B_Q3_IFT_EQUIPMENT_INDICATOR	AN	1	NOT USED (Blank Fill)
33.	B_Q4_IFT_GREATER_1_0_INDICATOR	AN	1	NOT USED (Blank Fill)
34.	B_Q5_IFT_GREATER_0_5_INDICATOR	AN	1	NOT USED (Blank Fill)
35.	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	AN	1	NOT USED (Blank Fill)
36.	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	AN	1	NOT USED (Blank Fill)
37.	B_COMMENTS_TEXT	ANmc	2000	OPTIONAL
38.	B_XMLDOC_RECORD_ID	N	7	OPTIONAL

Due to the complex nature of MDBP Summaries and their relationships to Facility Analyte Levels (FANL) and CDS Compliance determination, it is recommended that those three areas of the User's Guide be reviewed thoroughly prior to creation of MDBP Summary XML documents for migration.

Every MDBP Summary must be associated with a Facility Analyte Level (FANL). *If a FANL that matches the information supplied in the structure set cannot be found, the MDBP Summary will be rejected.*

Overlap check for a Summary is on the combination of:

- The values in the FANL Reference Group fields.
- AND the Monitoring Period specified in fields 8 and 9 (which is also used to retrieve the correct FANL).
- AND the Sampling Point. In this definition, a null value for field 10 (B_Sampling_Point) *is effectively a value in and of itself.*

Additional notes:

- In addition to retrieving the correct Monitoring Period, field 8, B_MON_PERIOD_BEG_DATE, and field 9, B_MON_PERIOD_END_DATE, are used to retrieve the correct FANL. The software identifies the FANL where the Effective Period Begin and End dates cover the specified Monitoring Period Begin Date. It is recommended that FANL Effective Begin and End dates correspond to Monitoring Period Begin and End dates.
- When the summary type is IFT, the software will associate the summary to a FANL whose MDBP Summary Type is 95PT and whose INDIV_FILTER_MNTRG_REQD_FLAG is “Y.”
- Even though the Values in the fields 10, 26, and 27 will not show up in the Water Treatment Summary pages these fields can be viewed in the General MDBP Summary Maintenance pages.

6.8 MDBP_Summary Enumerated Values

This section lists the staging table/column name and the permitted values associated with the columns. These permitted values are those that are maintained in the data model.

MDBP SUMMARY ENUMERATED VALUES			
LINE NO. (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
4.	B_MDBP_SUMMARY_TYPE for Generic or User-Defined Summaries	All summary types in the SDWIS/STATE permitted values table (TINPVALS:TSAMDBPAS1) are permitted value. The current list of federally owned summary types is available in the SDWIS/STATE Online Data Dictionary, the online <i>SDWIS Administration</i> (Permitted Value Maintenance) component, and via RELATION.MDB. OTHR Other.	User Defined in TINPVALS where CODE_NAME = TSAMDBPS1
4.	B_MDBP_SUMMARY_TYPE for Combined Filter Turbidity Summaries	AVGT Combined Filter Effluent (CFT) Average Turbidity MAXT Combined Filter Effluent (CFT) Maximum Turbidity 95PT Combined Filter Effluent (CFT) 95% Turbidity	User Defined in TINPVALS where CODE_NAME = TSAMDBPS1
4.	B_MDBP_SUMMARY_TYPE for Individual Filter Turbidity Summaries	IFT Individual Filter Effluent Turbidity	User Defined in TINPVALS where CODE_NAME = TSAMDBPS1
4.	B_MDBP_SUMMARY_TYPE for Minimal Residual Disinfection Summaries	EPRD Entry Point (EP) Residual Disinfectant Concentration (RDC) SERD State Entry Point (EP) Residual Disinfectant Concentration (RDC) DSRD Distribution Residual Disinfectant Concentration (RDC) SDRD State Distribution Residual Disinfectant Concentration (RDC)	User Defined in TINPVALS where CODE_NAME = TSAMDBPS1
4.	B_MDBP_SUMMARY_TYPE for Chlorine Dioxide/Chlorite Entry Point Summaries	CLO2 Entry Point (EP) Chlorine Dioxide CLO3 Entry Point (EP) Chlorite	User Defined in TINPVALS where CODE_NAME = TSAMDBPS1
4.	B_MDBP_SUMMARY_TYPE for	MRDL Chlorine/Chloramine Maximum Residual Disinfectant Level	User Defined in

MDBP SUMMARY ENUMERATED VALUES			
LINE NO. (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
	Chlorine/Chloramine MRDL Summaries	(MRDL)	TINPVALS where CODE_NAME = TSAMDBPS1
7.	B_ANALYTE_CODE for Generic or User-Defined (OTHR) Summaries	All analytes in the SDWIS/STATE Analyte table (TSAANLYT) are permitted value. The current list of federally owned analytes is available in the SDWIS/STATE Online Data Dictionary, the online <i>SDWIS Administration</i> (Analyte Maintenance) component, and via RELATION.MDB.	N/A
7.	B_ANALYTE_CODE for Combined and Individual Filter Turbidity (AVGT, MAXT, 95PT, IFT) Summaries	0100 Turbidity	Fixed
7.	B_ANALYTE_CODE for Minimal Residual Disinfection and Chlorine/Chloramine MRDL (EPRD, SERD, DSRD, SDRD, MRDL) Summaries	0999 Chlorine 1006 Chloramine	Fixed
7.	B_ANALYTE_CODE for Chlorine Dioxide/(CLO2) Summaries	1008 Chlorine Dioxide	Fixed
7.	B_ANALYTE_CODE for Chlorite (CLO3) Summaries	1009 Chlorite	Fixed
12.	B_CERT_AGENCY	Values are defined by the System Administrator in the Permitted Values function of SDWIS/STATE.	User Defined in TINPVALS with code_name 'CERT_AG'
21.	B_MR_COMPLIANCE_IND	YES Yes-In Compliance NMJ No-Major Monitoring Non-Compliance NMN No-Minor Monitoring Non-Compliance	Fixed
25.	B_LEVEL_COMPLIANCE_INDICATOR	Y Yes-In Compliance N No-Not Compliant	Fixed
27.	B_MPA_UOM_CODE for Generic or User-Defined (OTHR) Summaries	%LUM Percent of Luminance (for measuring color) %PUR Percent of Purity (for measuring color) ADMIU American Dye Manufacturers Institute Units (for measuring color) AGGR Aggressive Index (for corrosivity)	User Defined in TSAUOM in column UOM_CODE

MDBP SUMMARY ENUMERATED VALUES			
LINE NO. (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		C Degrees Celsius CM-1 Total Absorbance for UV CT Contact Time CU Color Units F Degrees Fahrenheit FTU Flavor Threshold Units (for measuring taste and odor) LANG Langlier Index (for measuring corrosivity) LBS/CFT Pounds/Cubic Foot (for measuring density) LBS/GAL Pounds/Gallon (for measuring density) MFL Million of Fibers/Liter (for measuring asbestos) MG/L Milligrams/Liter (AKS Parts per Million - ppm) MREM Millirems/Liter MREMY Millirems/Liter/Year NG/L Nanograms/Liter (AKA Parts per Trillion - ppt) NMT Nanometers (to measure color wave length) NTU Nephelometric Turbidity Units OBSVNS Observations/Field at 100 power PH PH Measure (parts hydrogen (pH 0 - 14) PIC/L Picocuries/Liter RATIO Total Organic Carbon SU Standard Units (for measuring color) TON Threshold Odor Number (for odor) UG/L Micrograms/Liter (AKA Parts per Billion - ppb) UMHOS/CM Microhos/Centimeter (for measuring conductivity)	
27.	B_MPA_UOM_CODE for Chlorine/Chloramine MRDL (MRDL) Summaries	MG/L Milligrams/Liter (AKS Parts per Million - ppm)	User Defined in TSAUOM in column UOM_CODE
29.	B_RAA_UOM_CODE for Generic or User-Defined (OTHR) Summaries	%LUM Percent of Luminance (for measuring color) %PUR Percent of Purity (for measuring color) ADMIU American Dye Manufacturers Institute Units (for measuring color) AGGR Aggressive Index (for corrosivity) C Degrees Celsius	User Defined in TSAUOM in column UOM_CODE

MDBP SUMMARY ENUMERATED VALUES			
LINE NO. (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	PERMITTED VALUES	PERMITTED VALUE TYPE
		CM-1 Total Absorbance for UV CT Contact Time CU Color Units F Degrees Fahrenheit FTU Flavor Threshold Units (for measuring taste and odor) LANG Langlier Index (for measuring corrosivity) LBS/CFT Pounds/Cubic Foot (for measuring density) LBS/GAL Pounds/Gallon (for measuring density) MFL Million of Fibers/Liter (for measuring asbestos) MGL/L Milligrams/Liter (AKS Parts per Million - ppm) MREM Millirems/Liter MREMY Millirems/Liter/Year NG/L Nanograms/Liter (AKA Parts per Trillion - ppt) NMT Nanometers (to measure color wave length) NTU Nephelometric Turbidity Units OBSVNS Observations/Field at 100 power PH PH Measure (parts hydrogen (pH 0 - 14) PIC/L Picocuries/Liter RATIO Total Organic Carbon SU Standard Units (for measuring color) TON Threshold Odor Number (for odor) UG/L Micrograms/Liter (AKA Parts per Billion - ppb) UMHOS/CM Microhos/Centimeter (for measuring conductivity)	
29.	B_RAA_UOM_CODE for Chlorine/Chloramine MRDL (MRDL) Summaries	MG/L Milligrams/Liter (AKS Parts per Million - ppm)	User Defined in TSAUOM in column UOM_CODE
30.	B_Q1_IFT_MONITORED_INDICATOR for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y Yes N No	Fixed
31.	B_Q2_IFT_RECORDED_INDICATOR for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y Yes N No	Fixed

MDBP SUMMARY ENUMERATED VALUES				
LINE NO. (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	PERMITTED VALUES		PERMITTED VALUE TYPE
32.	B_Q3_IFT_EQUIPMENT_INDICATOR for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y	Yes	Fixed
		N	No	
33.	B_Q4_IFT_GREATER_1_0_INDICATOR for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y	Yes	Fixed
		N	No	
34.	B_Q5_IFT_GREATER_0_5_INDICATOR for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y	Yes	Fixed
		N	No	
35.	B_Q6_IFT_GREATER_1_DUR_3_MON_IND for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y	Yes	Fixed
		N	No	
36.	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IN D for Generic or User-Defined and Individual Filter Turbidities (OTHR, IFT) Summaries	Y	Yes	Fixed
		N	No	

6.9 MDBP Summary Mapping from XML Schema Tag to SDWIS/STATE Entities and Attributes

This section has the mapping between the staging table/columns, SDWIS/STATE Table/Column in both the data model and the physical database and the Schema tags in the XML Sampling schemas for MDBP Summary business object.

MDBP SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
1. #	N/A	JOB_ID	N/A	N/A	N/A
2. #	N/A	B_MDBP_SUMMARY_ IS_NUMBER	N/A	N/A	N/A
3. #	N/A	B_STATUS	N/A	N/A	N/A

MDBP SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
4.	MDBPSummary MDBPSummaryDetails MDBPSummaryTypeCode	B_MDBP_SUMMARY _TYPE	TSAMDBPS.TYPE_CODE_C V TMNFANL.SUM_TYPE_CODE _CV	MDBP Summary Facility Analyte Level	TYPE_CODE_CV SUMMARY_TYPE_CODE_CV <i>(Foreign Key)</i>
5.	MDBPSummary MDBPSummaryDetails PWSIdentifier	B_PWS_NUMBER	TINWSYS.NUMBER	Water System	NUMBER <i>(Foreign Key)</i>
6.	MDBPSummary MDBPSummaryDetails PWSFacilityIdentifier	B_WSF_STATE_ASGN _ID	TINWSF.ST_ASGN_IDENT_C D	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE <i>(Foreign Key)</i>
7.	MDBPSummary MDBPSummaryDetails AnalyteCode	B_ANALYTE_CODE	TSAANLYT.CODE	Analyte	CODE <i>(Foreign Key)</i>
8.	MDBPSummary MDBPSummaryDetails MonitoringPeriodBeginDate	B_MON_PERIOD_BEG _DATE	TMNMPRD.BEGIN_DATE TMNFANL.EFFECTIVE_BEG_ DAT	Monitoring Period Facility Analyte Level	BEGIN_DATE <i>(Foreign Key)</i> EFFECTIVE_BEGIN_DATE <i>(Foreign Key)</i>
9.	MDBPSummary MDBPSummaryDetails MonitoringPeriodEndDate	B_MON_PERIOD_END _DATE	TMNMPRD.END_DATE	Monitoring Period	END_DATE <i>(Foreign Key)</i>
10.	MDBPSummary MDBPSummaryDetails SampleLocationIdentifier	B_SAMPLING_POINT	TSASMPPT.IDENTIFICATION _CD	Sampling Point	IDENTIFICATION_CODE <i>(Foreign Key)</i>
11.	MDBPSummary MDBPSummaryDetails LabAccreditation LabAccreditationIdentifier	B_LAB_ID_NUMBER	TSALAB.LAB_ID_NUMBER	Laboratory	LAB_ID_NUMBER
12.	MDBPSummary MDBPSummaryDetails LabAccreditation LabAccreditationAuthorityName	B_CERT_AGENCY	TSALAB.CERT_AGENCY	Laboratory	CERT_AGENCY <i>(Foreign Key)</i>
18.	MDBPSummary MDBPSummaryDetails ReportedDate	B_REPORTED_DATE	TSAMDBPS.REPORTED_DAT E	MDBP Summary	REPORTED_DATE

MDBP SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
19.	MDBPSummary MDBPSummaryDetails SamplesRequiredQuantity	B_SAMPLES_REQUIR ED	TSAMDBPS.SAMPLES_REQUI RED	MDBP Summary	SAMPLES_REQUIRED
20.	MDBPSummary MDBPSummaryDetails SamplesCollectedQuantity	B_SAMPLES_COLLEC T	TSAMDBPS.SAMPLES_COLLE CTED	MDBP Summary	SAMPLES_COLLECTED
21.	MDBPSummary MDBPSummaryDetails MonitoringRequirementComplianceInd icator	B_MR_COMPLIANCE_ IND	TSAMDBPS.MR_COMPLIANC E_IND	MDBP Summary	MR_COMPLIANCE_INDICATOR
22.	MDBPSummary MDBPSummaryDetails SamplesBeyondMeasureLevelQuantity	B_TOTAL_SAMPLES_ BEYOND_MSR_LVL	TSAMDBPS.SMPLS_BYND_M EA_LVL	MDBP Summary	TOTAL_SAMPLES_BEYOND_MSR_LVL
23.	MDBPSummary MDBPSummaryDetails SamplesBeyondMeasureLevelPercenta ge	B_PERCENT_SAMPLE S_BEYOND_MSR_LVL	TSAMDBPS.PRCNT_BYND_M EA_LVL	MDBP Summary	PERCENT_SAMPLES_BEYOND_MSR_LVL PERCENT_SAMPS_BYND_MSR_LVL_TXT
24.	MDBPSummary MDBPSummaryDetails HighestMeasureValue	B_HIGHEST_MEASUR E	TSAMDBPS.HIGHEST_MSR	MDBP Summary	HIGHEST_MEASURE HIGHEST_MSR_TXT
25.	MDBPSummary MDBPSummaryDetails LevelComplianceIndicator	B_LEVEL_COMPLIAN CE_INDICATOR	TSAMDBPS.LVL_COMPLIAN CE_IND	MDBP Summary	LEVEL_COMPLIANCE_INDICATOR
26.	MDBPSummary MDBPSummaryDetails MonitoringPeriodAverage MeasurementValue	B_MONITORING_PERI OD_AVG_MEASURE	TSAMDBPS.MON_PER_AVG_ MSR	MDBP Summary	MONITORING_PERIOD_AVG_MEASURE MONITORING_PERIOD_AVG_MSR_TXT

MDBP SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
27.	MDBPSummary MDBPSummaryDetails MonitoringPeriodAverage MeasurementUnit	B_MPA_UOM_CODE	TSAMDBPS.MPA_UOM_CODE	MDBP Summary	MPA_UOM_CODE
28.	MDBPSummary MDBPSummaryDetails RunningAnnualAverage MeasurementValue	B_RUNNING_ANNUAL_AVERAGE_MEASURE	TSAMDBPS.RUN_ANL_AVG_MSR	MDBP Summary	RUNNING_ANNUAL_AVERAGE_MEASURE RUNNING_ANNUAL_AVERAGE_MSR_TX T
29.	MDBPSummary MDBPSummaryDetails RunningAnnualAverage MeasurementUnit	B_RAA_UOM_CODE	TSAMDBPS.RAA_UOM_CODE	MDBP Summary	RAA_UOM_CODE
30.	MDBPSummary MDBPSummaryDetails IFTMonitoredIndicator	B_Q1_IFT_MONITORED_INDICATOR	TSAMDBPS.Q1_IFT_MONITRD_IND	MDBP Summary	Q1_IFT_MONITORED_INDICATOR
31.	MDBPSummary MDBPSummaryDetails IFTRecordedEveryFifteenMinuteIndicator	B_Q2_IFT_RECORDED_INDICATOR	TSAMDBPS.Q2_IFT_RECORDED_IND	MDBP Summary	Q2_IFT_RECORDED_INDICATOR
32.	MDBPSummary MDBPSummaryDetails IFTEquipmentFailureIndicator	B_Q3_IFT_EQUIPMENT_INDICATOR	TSAMDBPS.Q3_IFT_EQUIPMENT_IND	MDBP Summary	Q3_IFT_EQUIPMENT_INDICATOR
33.	MDBPSummary MDBPSummaryDetails IFTGreater Than 1 In 2 Consecutive Measurement Indicator	B_Q4_IFT_GREATER_1_0_INDICATOR	TSAMDBPS.Q4_IFT_OVER_1_IND	MDBP Summary	Q4_IFT_GREATER_1_0_INDICATOR
34.	MDBPSummary MDBPSummaryDetails IFTGreater Than 05 In 2 Consecutive Measurement Indicator	B_Q5_IFT_GREATER_0_5_INDICATOR	TSAMDBPS.Q5_IFT_OVER_0_5_IND	MDBP Summary	Q5_IFT_GREATER_0_5_INDICATOR

MDBP SUMMARY SCHEMA TAG MAPPING TO SDWIS/STATE					
LINE NO. (field)	SCHEMA TAG NAME	Staging Table Column Name	SDWIS/STATE Table and Column Name	SDWIS/STATE Entity Name	SDWIS/STATE ATTRIBUTE
35.	MDBPSummary MDBPSummaryDetails IFTGreater Than 1 In 2 Consecutive Measurement in 3 Month Indicator	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	TSAMDBPS.Q6_IFT_1_IN_3M_IND	MDBP Summary	Q6_IFT_GREATER_1_DUR_3_MON_IND
36.	MDBPSummary MDBPSummaryDetails IFTGreater Than 2 In 2 Consecutive Measurement in 2 Month Indicator	B_Q7_IFT_GREATER_2_0_DUR_2_MON_IND	TSAMDBPS.Q7_IFT_2_in_2M_IND	MDBP Summary	Q7_IFT_GREATER_2_0_DUR_2_MON_IND
37.	MDBPSummary MDBPSummaryDetails Comments	B_COMMENT_TEXT	TSAMDBPS.COMMENT_TEXT	MDBP Summary	COMMENT_TEXT
38.	MDBPSummary MDBPSummaryDetails RecordID	B_XMLDOC_RECORD_S_ID	N/A	N/A	N/A

6.10 MDBP Summary Definitions

This section has the mapping between the staging table/columns, SDWIS State Table/Column in both the data model and the physical database and the Schema tags in the XML Sampling schemas for MDBP Summary business object.

MDBP SUMMARY DEFINITIONS		
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	MDBP SUMMARY COLUMN DESCRIPTION
1. #	TMGJOB_IS_NUMBER	The identification number of the job.
2.	B_TMGMDBPS_IS_NUMBER	A system_generated value which uniquely identifies the entity occurrence.
3.	B_STATUS	The current status of the record. <SPACES> = unprocessed, C = processed w/ changes, P = processed , R = rejected

MDBP SUMMARY DEFINITIONS		
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	MDBP SUMMARY COLUMN DESCRIPTION
4. *	B_MDBP_SUMMARY_TYPE	The type of MDBP summary.
5.	B_PWS_NUMBER	The Public Water System identification number.
6.	B_WSF_STATE_ASGN_ID	The water system facility state assigned id number.
7. *	B_ANALYTE_CODE	The code of the substance being measure in the analytical result.
8.	B_MON_PERIOD_BEG_DATE	The start date of the monitoring period to which the referenced MDBP summary is assigned.
9.	B_MON_PERIOD_END_DATE	The end date of the monitoring period to which the referenced MDBP summary is assigned.
10.	B_SAMPLING_POINT	The identification number of the sampling point at which the MDBP summary was taken.
11.	B_LAB_ID_NUMBER	The identification code assigned by the the certifying agency to this laboratory.
12.	B_CERT_AGENCY	The certifying agency that issued the Laboratory the ID Number under which is it reporting.
13.	B_ANALYST_NO	The id number for the analyst for the MDBP summary.
14.	B_ANALYST_LAST_NAME	The last name of the analyst for the MDBP summary.
15.	B_ANALYST_FIRST_NAME	The first name of the analyst for the MDBP summary.
16.	B_ANALYST_ORGANIZATION_NAME	The organization name of the analyst for the MDBP summary.
17.	B_ANALYST_MAIL_STOP_TEXT	The mail stop of the analyst for the MDBP summary.
18.	B_REPORTED_DATE	The date the MDBP summary was reported.
19.	B_SAMPLES_REQUIRED	The number of samples required.
20.	B_SAMPLES_COLLECT	The number of samples collected.
21. *	B_MR_COMPLIANCE_IND	Indicates status of M&R compliance for specified analyte and water system facility.
22.	B_TOTAL_SAMPLES_BEYOND_MSR_LVL	The number of samples beyond measure level.
23.	B_PERCENT_SAMPLES_BEYOND_MSR_LVL	The percent of samples beyond measure level.
24.	B_HIGHEST_MEASURE	The highest measure during the specified monitoring period.
25. *	B_LEVEL_COMPLIANCE_INDICATOR	Indicates status of Level compliance for specified analyte and water system facility.
26.	B_MONITORING_PERIOD_AVG_MEASURE	The monitoring period average measure.
27. *	B_MPA_UOM_CODE	The unit of measure for the monitoring period average measure.

MDBP SUMMARY DEFINITIONS		
LINE NO (field)	STAGING TABLE (TMGMDBPS) COLUMN NAME	MDBP SUMMARY COLUMN DESCRIPTION
28.	B_RUNNING_ANNUAL_AVERAGE_MEASURE	The running annual average measure.
29. *	B_RAA_UOM_CODE	The unit of measure for the running annual average measure.
30. *	B_Q1_IFT_MONITORED_INDICATOR	Individual Filtered Turbidity Monitored Indicator
31. *	B_Q2_IFT_RECORDED_INDICATOR	Individual Filtered Turbidity Recorded Indicator
32. *	B_Q3_IFT_EQUIPMENT_INDICATOR	Individual Filtered Turbidity Equipment Indicator
33. *	B_Q4_IFT_GREATER_1_0_INDICATOR	Individual Filtered Turbidity Greater Than 1.0 Indicator
34. *	B_Q5_IFT_GREATER_0_5_INDICATOR	Individual Filtered Turbidity Greater Than 0.5 Indicator
35. *	B_Q6_IFT_GREATER_1_DUR_3_MON_IND	Individual Filtered Turbidity Greater Than 1.0 during 3 consecutive months Indicator
36. *	B_Q7_IFT_GREAT_2_0_DUR_2_MON_IND	Individual Filtered Turbidity Greater Than 2.0 during 2 consecutive months Indicator
37.	B_COMMENT_TEXT	Additional information about this MDBP summary.
38.	B_XMLDOC_RECORD_ID	A number that uniquely identifies a record within an XML document.