

# Quality Assurance and Quality Control Review and Data Set Build Process, August 2016 Update Faro Mine Remediation Project

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DATE: August 19, 2016  
PROJECT NUMBER: 673709.20.01.02.04.04.DM.01

This technical memorandum summarizes the data sets loaded to the EarthSoft EQuIS database in fiscal year (FY) 2016, including a description and outcome of the quality assurance and quality control reviews and updates performed on the Faro Mine Remediation Project (FMRP) database. The FMRP comprehensive data set is used for analyses and reporting onsite conditions, and preparation and calibration of surface water and groundwater models.

The FY 2016 data were processed and uploaded between April and August 2016 under Task Authorization Request (TAR) 020 – Remediation Design.

CH2M Canada Limited (CH2M) has been contracted by the Government of Yukon (YG) to construct, populate, and manage the FMRP database in accordance with TAR006 (May 10, 2012) and subsequent task authorization amendments.

## Faro Mine Remediation Project EQuIS Data System

FMRP data are stored in an EarthSoft EQuIS database on the Microsoft (MS) Structured Query Language platform. The data are available through the Internet by using Web-based EZView, a component of EQuIS Enterprise, and EQuIS for ArcGIS Server. These tools allow users to create and view standard and geographical information system (GIS) data reports.

The following data were uploaded to the database between April and July 2016:

- December 2014, January–March 2015, and February–March 2016 Non-care and Maintenance Program surface water data collected by Environmental Dynamics Inc. (EDI) and provided in MS Excel and EQuIS electronic data deliverable (EDD) files by YG
- 2016 Care and Maintenance Program data downloaded from the emLine database as of July 8, 2016
- October 2015–April 2016 Care and Maintenance Program meteorological data collected by Tlich Engineering and Environmental Services (TEES), through March 31, 2016, and Parsons Corporation (Parsons), since April 1, 2016, and provided in MS Excel by YG
- Data collected during the CH2M field program completed late in FY 2015 and in FY2016

Attachment 1 lists the original source file names for the data sources listed above. The processes by which the data were prepared and uploaded into EQuIS are described in the following sections.

## Data Preparation and Quality Assurance and Quality Control

### December 2014, January–March 2015, and February–March 2016 Non-care and Maintenance Data

CH2M received field parameter and analytical data collected during December 2014, January to March 2015, and February to March 2016 by Environmental Dynamics Inc. (EDI) under the Non-Care and Maintenance Program. Field parameter data were provided in six MS Excel files that were transformed into EQUIS Historic-formatted electronic data deliverables (EDD) for loading into EQUIS through the EQUIS Data Processor (EDP). Before and during loading, the data were normalized for Chemical Abstract Services (CAS) numbers, analyte names, location names, location types, matrix types, analytical methods, and reporting units for consistency with the EQUIS warehouse valid values.

The corresponding eight laboratory analytical data package EDDs were received from ALS Canada, Ltd. (ALS) in the Critigen Custom EQEDD format. Some updates, primarily regarding sample information, were needed to load the EDDs into EQUIS using EDP.

Loaded data can be tracked to the original files (see Attachment 1).

### emLine Data

FMRP data uploaded to the YG emLine database between March 7 and July 8, 2016 were downloaded into MS Excel spreadsheets. A separate MS Access application was used to import the spreadsheets and compare these analytical data against existing data in EQUIS. A total of 41,646 analytical records were imported and evaluated.

After the March to July 2016 data were imported, a comprehensive quality control evaluation was performed on all emLine data residing in the EQUIS warehouse. A total of 1,054,025 analytical records were evaluated as part of the quality control evaluation. The emLine data were normalized for CAS numbers, analyte names, locations names, location types, matrix types, analytical methods, and reporting units for consistency with the EQUIS warehouse valid values.

Specific automated analytical evaluations included identifying records where the analytical result was the following:

- Designated as a dissolved parameter in emLine but imported as a total parameter
- Designated as an acid-extractable metal but imported as a total metal
- Designated as a field derived analytical value but reported as a laboratory derived value
- Equivalent in both emLine and EQUIS but different reporting units were assigned
- Equivalent in both emLine and EQUIS, including reporting units, but the CAS numbers were not equivalent
- Different in emLine and EQUIS but all other comparison data were equivalent

There were 18,552 analytical records updated in EQUIS after the evaluations. Any remaining analytical records were manually evaluated to determine if they were previously uploaded into EQUIS.

The manual evaluation indicated that 130,297 emLine analytical records had been determined to be unsuitable for uploaded to EQUIS. Most of those records contained no final result.

### 2015-2016 Meteorological Data

CH2M received meteorological data collected by TEES and Parsons under the Care and Maintenance Program from October 2015 through April 2016. The analytical data were provided in 14 MS Excel files that needed to be transformed into EQUIS Historic-formatted EDDs for loading into EQUIS through EDP.

Before and during loading, the data were normalized for the measurement names, measurement code numbers (analogous to CAS numbers), location names, location types, matrix types, and reporting units for consistency with the EQuIS warehouse valid values.

## EQuIS Data Loading Process for CH2M FY 2015 and FY2016 Field and Analytical Data

This section summarizes the data loading process used for CH2M 2016 field and analytical data. The Faro Mine Complex Data Management Plan (CH2M, 2015) provides a more detailed process description.

The CH2M 2016 field sampling data were managed by using the Sample Tracking Status Program (STSP), which allows users to schedule and track samples. Sample information from the STSP was exported to CH2M's Validation Data Management System (VDMS), and field parameters were populated in the FieldSample\_v1 EDD file format for loading into EQuIS. Laboratory data were delivered in the CH2M LabSpec7 EDD format to facilitate loading into VDMS. The custom format allows VDMS to be used to validate data before loading to EQuIS. Validation findings are reported separately in event-specific technical memorandums.

Loaded data can be tracked to the original files (see Attachment 1).

### Soil Boring Log Data

CH2M tabulated and entered the location, lithology, geologic sample, geotechnical results, and well construction information into the gINT software interface for 20 logs (soil borings, rock cores, and monitoring wells). A senior geologist performed peer review of the data entries to check for accuracy and consistency. The data entered into gINT were exported, processed, and loaded into EQuIS.

### Spatial Data

Spatial data were collected by using handheld GPS instruments and surveys conducted by CH2M's subcontractor, Challenger Geomatics. The spatial data were provided in MS Excel files that needed to be transformed into EQuIS Historic-formatted EDDs for loading into EQuIS through EDP.

### Well Construction Data

For wells installed by CH2M in 2016, construction details were added to the EQuIS database for five locations, including well diameters, well material types, well stickups, screen slot sizes, and well segment depth intervals (e.g., sand packs, seals, blank casing, and sumps).

### Water Level Information

Water level information was uploaded into EQuIS via completed WaterLevel\_v1 data entry templates for direct loading, as well as an emLine database export that was transformed to the HistoricalChemistry\_v1 for loading. Location identifiers (ID) were checked and normalized to existing location IDs (by CH2M in the WaterLevel\_v1 data entry templates and in the emLine database export).

## Faro Mine Remediation Project Database Statistics

In 2016 238,736 analytical results and records were added to the FMRP EQuIS database. Table 1 details the distribution by content and group category.

**Table 1. Distribution by Content and Group Category**  
*Faro Mine Remediation Project*

Group Category	Number of Results/ Measurements	Number of Locations	Sample/Measurement Date	
			From	To
Chemistry				
General Chemistry	18,760	461	12/4/1986	6/23/2016
Metals	44,447	180	5/15/2008	7/18/2016
SVOC	1	1	5/29/2008	5/29/2008
Field Parameters	9,747	258	5/8/1978	7/5/2016
Water Level	1,884	278	5/3/1994	7/5/2016
Purge	1,158	207	6/10/2002	6/23/2016
Flow	1,319	312	10/23/1986	7/5/2016
Bioassay	16	5	3/1/2016	5/25/2016
Geotechnical	190	15	3/3/2016	4/7/2016
Meteorological	160,922	2	9/30/2015	5/2/2016
Lithology	212	24	1/1/2015	3/17/2016
Well Construction	41	9	4/17/2015	3/18/2016
Spatial	39	20	3/3/2016	3/17/2016

Currently, the FMRP EQuS database includes 4,349,492 analytical results and measurements. Table 2 summarizes the total distribution by content and group category contained in the database from inception to July 22, 2016.

**Table 2. Total Distribution by Content and Group Category**  
*Faro Mine Remediation Project*

Group Category	Number of Results/ Measurements	Number of Locations	Sample/Measurement Date	
			From	To
Chemistry				
Biological	141	16	2/1/1977	6/11/2013
General Chemistry	346,596	1,522	6/3/1975	6/23/2016
Metals	1,227,613	1,423	6/3/1975	7/18/2016
Radio Chemistry	14	13	9/28/2012	10/7/2012
SVOC	213	7	5/29/2008	7/29/2014
TPH	200	13	7/25/1989	8/27/2014
VOC	141	7	3/17/2011	8/14/2014
Field Parameters	92,947	971	7/8/1975	7/5/2016
Water Level	278,492	582	11/1/1981	7/5/2016
Purge	5,873	307	6/10/2002	6/23/2016
Flow	131,164	600	8/27/1975	7/5/2016
Benthic	2,929	31	1/1/1988	8/16/2009
Bioassay	634	14	10/23/1986	5/25/2016

**Table 2. Total Distribution by Content and Group Category**

*Faro Mine Remediation Project*

Group Category	Number of Results/ Measurements	Number of Locations	Sample/Measurement Date	
			From	To
Geotechnical	8,545	568	8/13/2001	4/7/2016
Meteorological	2,235,120	3	1/1/1978	5/2/2016
Inclinometer	1,960	20	6/24/2010	12/7/2010
Lithology	9,381	956	9/13/1966	3/17/2016
Well Construction	1,925	728	1/1/1981	3/18/2016
Spatial	5,604	2,171	1/1/1981	3/17/2016

Notes:

SVOC = semivolatile organic compound

TPH = total petroleum hydrocarbons

VOC = volatile organic compound

## Database Quality Assurance and Quality Control Review

As part of the 2015 QA/QC review, several database standardization and organizational observations were noted and recommended for resolution in FY 2016. The observations and recommendations were detailed in the *Faro Mine Complex Quality Assurance and Quality Control Data Review and Database Build Process Technical Memorandum* (CH2M 2015). These were addressed in 2016 and are listed below:

- Reviewed sample information for completeness and correctness:
  - Reviewed and updated, as needed, CAS/chemical\_name in use in database for consistency and checked that only one chemical name is provided per CAS number
  - Reviewed assignment of matrix and sample type codes against locations, location types, and sample IDs for consistency per location; updated as needed
  - Reviewed parent sample ID assignment and checked for missing IDs (if sample type code was incorrect) to ensure that field duplicates are correctly associated with the parent sample; updated as needed
- Qualification and reporting:
  - Reviewed data to confirm that one result per sample/analyte pair is set to report; revised, as needed, so the best reportable value can be determined
  - Reviewed assignment of validated\_yes/no for validated and unvalidated data; revised, as needed, for consistency within the database and the best reportable value can be determined
  - Reviewed codes set in result\_type\_code to ensure accuracy with sample type (e.g., spike samples have “SC”) and analyte type (e.g., surrogates have “SUR”) for consistency within the database; updated as needed
  - Reviewed reportable\_result values (“N”, “Y”, and “Yes”) – consolidated, as need, to “Y”/“N” for consistency within the database
  - Reviewed consistency between detect\_flag = “N” and interpreted\_qualifiers values = “NULL”; revised as needed, to interpreted\_qualifiers = “U”
  - Reviewed consistency between detect\_flag = “Y” and interpreted\_qualifiers values = “U” and revised, as needed, to detect\_flag = “N”

- General chemistry data:
  - Assessed CAS/chemical\_name translation for ammonia and phosphorous/phosphate made during migration from Critigen database; determined changes needed to retain molecular weight reporting and apply them
  - Reviewed CAS number for total inorganic carbon and consolidated to a single CAS number as needed
  - Reviewed CAS number for dissolved organic carbon and consolidated to a single CAS number as needed
- Custom field usage:
  - Reviewed use of custom fields in dt\_sample, dt\_test, and dt\_result and moved data/label data, as needed, so data captured outside the standard Equis format were reassigned to the appropriate EQUIS fields

Table 3 lists each final QA/QC issue addressed along with the additional QC checks performed and the number of records affected.

## Works Cited

CH2M Canada Limited (CH2M). 2015. *Faro Mine Complex Data Management Plan, Faro Mine Remediation Project*. Final. Prepared for Government of Yukon and Government of Canada as represented by Aboriginal Affairs and Northern Development Canada. December 1.

CH2M Canada Limited (CH2M). 2015. *Faro Mine Complex Quality Assurance and Quality Control Data Review and Database Build Process Technical Memorandum*. Final. Prepared for Government of Yukon and Government of Canada as represented by Aboriginal Affairs and Northern Development Canada. March.

Table 3. Final QA/QC Issues Addressed

Faro Mine Remediation Project

QA/QC Review	Review Outcome	Records Affected
<b>Review Sample Information for Completeness and Correctness</b>		
Review cas_rn/chemical_name in use in database	Updated cas_rn 7664417_N to 7664-41-7 for "Ammonia-nitrogen"	15
	Updated cas_rn ACID to ACID-C for "TOTAL ACIDITY"	1,515
	Updated cas_rn Conductance to COND for "Specific Conductance"	124
	Updated cas_rn HARD_CALC to HARD for "Hardness, calculated"	1,018
	Updated cas_rn HARDNESS to HARD for "Hardness as CaCO3"	6
	Updated cas_rn HCO3 to ALKB for "HCO3"	6
	Updated cas_rn NET_NP to NNP for "Net NP"	45
	Updated cas_rn NO3NO2N to NO3_NO2 for "Nitrogen, Nitrate-Nitrite"	20
	Updated cas_rn NP to NEUPOT for "NP"	45
	Updated cas_rn OH to ALKH for "hydroxide"	6,555
	Updated cas_rn OH_D to ALKH_D for "hydroxide, dissolved"	299
	Updated cas_rn SGRAV to SG for "SPECIFIC GRAVITY"	7
	Updated chemical_name "Ammonia" to "Ammonia-nitrogen" for cas_rn 7664-41-7	16,777
	Updated chemical_name "Electrical Conductivity" to "Conductivity" for cas_rn SC	59
	Updated chemical_name "Hardness, calculated" to "Hardness (as CaCO3)" for cas_rn HARD_CALC	188
	Updated chemical_name "HCO3" to "Alkalinity, Bicarbonate (as CaCO3)" for cas_rn HCO3	537
	Updated chemical_name "hydroxide" to "Alkalinity, Hydroxide (as CaCO3)" for cas_rn OH	103
	Updated chemical_name "TOTAL ACIDITY" to "ACIDITY (CaCO3)" for cas_rn ACID	27
	Deleted duplicate records identified through cas_rn/chemical_name analysis	961
Review assignment of matrix and sample type codes against locations and sample IDs	Updated location types based on master list	2,103
	Updated sample type N to FD based on "DUP" or "FD" in sample ID	128
	Updated sample type N to EB based on "EB" in sample ID	2
	Updated sample type N to FB based on "FB" or "FIELD" in sample ID	17
	Updated sample type N to TB based on "TB" or "TRIP" or "TRAVEL" in sample ID	3
	Updated sample matrix WG or W to WQ for sample type EB (equipment blank)	7
	Updated sample matrix WG, WS, WSEEP, or W to WQ for sample type FB (field blank)	204
	Updated sample matrix WG, WS, or W to WQ for sample type TB (trip blank)	16
	Updated sample matrix WG to WQ for sample type UB (unknown blank)	1
	Updated sample matrix WG or WS to WQ for sample type LR (laboratory replicate)	29
	Updated sample matrix SO to SQ for sample type LR (lab replicate)	34
	Updated sample matrix TI or TP to TQ for sample type LR (lab replicate)	7
	Updated sample matrix WG, WS, or WSEEP to WQ for sample type MS (matrix spike)	165
	Updated sample matrix SO to SQ for sample type MS (matrix spike)	48
	Updated sample matrix TP to TQ for sample type MS (matrix spike)	3
	Updated sample matrix RK to RQ for sample type MS (matrix spike)	1
	Updated sample matrix W to WQ for sample type LB (method blank)	2
	Updated sample matrix SO to SQ for sample type LB (method blank)	5
	Updated sample matrix TI or TP to TQ for sample type LB (method blank)	12
	Updated sample matrix SO to SQ for sample type BS (blank spike)	4
	Updated sample matrix TI or TP to TQ for sample type BS (blank spike)	29
	Updated sample matrix WG to WQ for sample type FS (field spike)	5
	Updated sample matrix WG to WQ for sample type FR (field replicate)	6
	Updated sample matrix starting with W to WG for revised location type BH and sample type N, FD, FP, or SS	2,272
	Updated sample matrix starting with W to WS for revised location type SW and sample type N, FD, FP, or SS	122,031
	Updated sample matrix starting with W to WSEEP for revised location type SE and sample type N, FD, FP, or SS	1,122
	Updated sample matrix starting with W to WG for revised location type MW and sample type N, FD, FP, or SS	1,496

Table 3. Final QA/QC Issues Addressed

Faro Mine Remediation Project

QA/QC Review	Review Outcome	Records Affected
	Updated sample matrix null to SO for sample type GT (geotechnical from gINT)	2,256
	Updated sample date null to drill dates for sample type GT (geotechnical from gINT)	2,256
Review parent sample ID assignment and check for missing IDs (if sample type code was incorrect)	Updated parent sample codes where null and parent samples could be identified for sample types FD, LR, MS, and SS	1,269
<b>Qualification/Reporting</b>		
Review data to confirm that one result per sample/analyte pair is set to report; revise if needed	Updated Reportable_Result so only one result per sample/analyte pair	141,775
Review assignment of validated_yn for validated and invalidated data	Updated blank fields to "Y" or "N" depending on data set	150,407
Review codes set in result_type_code to ensure accuracy with sample type (e.g., spike samples have "SC") and analyte type (e.g., surrogates have "SUR").	Updated Sample Types "FS", "MS", "BS", "LCSD", and "UB" analyte types from "TRG" to "SC"	24,126
Review inconsistent [reportable_result] values ("N", "Y", and "Yes")	Updated "Yes" to "Y" Updated "No" to "N"	831,428 12,108
Review [detect_flag] = "N" and [interpreted_qualifiers] inconsistency	All are consistent	0
Review [detect_flag] = "Y" and [interpreted_qualifiers] inconsistency	Updated Detected flags of "Y" to "N" when flag was "U"	73
<b>General Chemistry Data</b>		
Assess CAS_registry number (rn)/chemical_name translation for ammonia and phosphorous/phosphate made during migration from Critigen database; determine changes needed to retain molecular weight reporting and apply them	Evaluation showed no apparent variation in reporting formula weights for ammonia/nitrogen and phosphorous/phosphate	0
Total Inorganic Carbon reported with two different [cas_rn] values – consolidate to a single [cas_rn] value.	Inorganic Carbon (as CaCO3 Equivalent) with CAS CACO3EQ (755) and Inorganic Carbon with CAS TIC (1241) both match the analyte assigned.	0
	Total Organic Carbon with wrong ID 7440-44-0 changed to TOC	786
Dissolved Organic Carbon reported with two different [cas_rn] values – consolidate to a single [cas_rn] value.	7440-44-0_D changed to DOC	258
	Organic Carbon analytes with wrong CAS 7440-44-0_D changed to TOC	130
<b>Custom Field Usage</b>		
Review use of custom fields in dt_sample, dt_test, and dt_result and move data/label data for consistency and clarity	See list in notes at bottom of this table.	
<b>Additional QA/QC checks</b>		
Check Reportable Result matches qualifiers	Updated "Y" to "N" for rejected or excluded flagged data	28148
Check that depth units are correct and consistent	Fixed default depths (-999) units of "ft" to "m" Fixed depths of 0 with units of "ft" to "m"	4811 2162
Check that units are consistent among pH, SAR, SC, and ORP	Fixed pH units of "pH" to "pH units" Fixed Temp units of "pH units" to "Deg C" SAR units are fine.	895 1 0
	Fixed Conductivity units from "mS/cm/deg C" to "uS/cm"	1138
	Fixed Conductivity units from "dS/cm" to "uS/cm"	548
	Fixed Conductivity units from "ms/cm" to "uS/cm"	162
	Fixed Conductivity units from "umhos/cm" to "uS/cm"	908
	ORP units are fine	0
Check CAS are consistent and correct for analytes listed in custom_field_1	Fixed CAS of "Temp" to "TEMPC"	9774
Check sample beginning depths are less than end depths	Fixed start depths greater than end depths	148
Check depths are consistent units in dt_well_segment	Depth units are consistent	0
Check TOCs are in the same units in dt_well and default values are consistent	Update missing depth units to "m"	601
Check coordinate units are correct and consistent in dt_coordinate	Update missing elevation units to "m"	711
CH14-015-MW004, CH14-015-MW006, CH14-015-MW008, and CH14-106-MW009 need depth ranges for soil gas samples	Fixed CH14-015-MW004, CH14-015-MW006, CH14-015-MW008, and CH14-106-MW009 to have depth ranges	16
Incorrect interpreted qualifier of "="	Fixed "=" interpreted qualifier to be null	16823
Percent units consistent in results	Fixed "%" result units to be "percent"	20435
Check that depths are consistent with Loc Types of SE or WS	Fixed depths of -999 to 0	1234

Notes:

Table	Total Records in Table	Custom_field_1	Custom_field_2	Custom_field_3	Custom_field_4	Custom_field_5	Added field
dt_Action_Level	96	Null	Null	Null	Null	Null	
dt_Action_Level_Parameter	12,225	Analyte type or analyte name (1752)	upload person (89)	Null	Null	Null	
dt_Basic_results	2,089,506	Parameter name (354159)	Null	Null	Null	Comments (219127)	CH2M_CF_01 - change comments (238955); CH2M_CF_02 - change comments (272129)
dt_Chain_of_Custody	737	Null	Null	Null	Null	Null	
dt_Coordinate	4,271	collection method (1)	Null	Null	Null	Null	
dt_Downhole_point_data	64	Null	Null	Null	Null	Null	
dt_Drill_Activity	797	Null	Drill company (111)	Null	Null	Null	
dt_Facility	1	Null	Null	Null	Null	Null	
dt_Location	2,674	ASTM code (1948)	Null	Binary(36)	change request or filename (130)	end depth (6354)	CH2M_orig_Sys_Loc_Code (34)
dt_Lithology	8,584	Task code (6)	XY comment (209)	Null	Null	origin code (11)	CH2M_CF_01 - end depths (5965); CH2M_CF_02 - depth units (6795); CH2M_CF_03 -GrainDistributionDepth (64); CH2M_CF_04 -PercentGravel (558); CH2M_CF_05-PercentSand (558); CH2M_CF_06 -PercentFines(562)
dt_Person	2	Null	Null	Null	Null	Null	
dt_Phase	41	Manually append comment (41)	Null	Null	Null	Null	
dt_Pump_Rate	210	Null	Null	Null	Null	Null	CH2M_CF_01 (null) and CH2M_Origin (null)
dt_Purge	1,530	Null	Null	Null	Null	Null	CH2M_Origin (490)
dt_Result	18,166,982	analyte name (1690434)	sys_loc or matrix changes (4953)	Filename or orig Cas (1043715)	Filename (1320738)	Comments (148528)	
dt_Result_QC	496,393	Null	Null	Null	Null	Null	
dt_Sample	206,189	SDG or Sys_sample_code (13524)	sys_Sample_Code or comment (5472)	orig Sys_Loc (7573)	Fieldqc or parent ID (333)	lrtype or comment (317)	
dt_Sample_Parameter	1,932	Null	Null	Null	Null	Null	CH2M_Origin (223)
dt_Static_Props	231	Null	Null	Null	Null	Null	
dt_Subfacility	8	Null	Null	Null	Null	Null	
dt_Task	230	Null	Null	Null	Null	Null	
dt_Test	446,102	SDG or correction (55650)	orphaned test record (7701)	Null	sdg? (76154)	emline sdg (76046)	
dt_Water_Level	275,349	Originals or changes (29284)	Synopic or well install (141)	update comment (32276)	Null	Date/time (89720)	CH2M_Origin (38322); CH2M_Elev_Unit (33986); CH2M_Frozen (36424)
dt_Water_table	145	Null	Null	Null	Null	Null	CH2M_Origin (null)
dt_Well	1,302	Canal dike info (14)	Soil type (325)	Null	Location ID (15)	Sys_Loc change (34)	CH2M_Inclination (226)
dt_Well_segment	1,273	comment depth or material info (258)	Null	Null	Null	Null	

Attachment 1  
April – July 2016 Data Sources  
Data Sources

**Attachment 1. April–July 2016 Data Sources**  
*Faro Mine Remediation Project*

<b>Contractor</b>	<b>Data Description</b>	<b>Source Filename</b>
Laberge	Faro Pit Lake Field data March 2016 Laberge	Laberge_UnderIce_EquisFieldData.xlsx
CH2M HILL	2016 March Pelly Aquatics - EDI-SDG L1742600	L1742600.FARO_MINE.zip
CH2M HILL	2016 March Pelly Aquatics - EDI-SDG L1743643	L1743643.FARO_MINE.zip
CH2M HILL	2016 March Pelly Aquatics - EDI - field data	2016 03 10 - WQ Data Table - Pelly Aquatics - EDI - Mar_2016_eac.xlsx
CH2M HILL	Oct 2015 - Apr 2016 Faro Dump Meteorological Data	Faro Dump_MetData.zip
CH2M HILL	Oct 2015 - Apr 2016 Grum Dump Meteorological Data	Grum Dump_Met Data.zip
EDI	Pelly Aquatics - EDI - February 2016 - SDG L1730327	L1730327.FARO_MINE_20160204.zip
EDI	Pelly Aquatics - EDI - February 2016 - SDG L1731435	L1731435.FARO_MINE.zip
CH2M HILL	Preferred Coordinate Data March 2016 Sampling, New Spring 2016 SEEPs, and New Survey	PreferredXY (002)_TDG_Update.xlsx
CH2M HILL	Faro Mine 2016 Spring Seep Field Measurements	Equis_Data-Seep_062116_TDG_mhc.xlsx
CH2M HILL	June 2016 Field data for Groundwater	Equis_GW_Purge_2016-06.xlsx
CH2M HILL	June 2016 Field data for Pore Gas	Equis_PoreGas_2016-06.xlsx
CH2M HILL	June 2016 Field data for Thermistor	Equis_Thermistor.xlsx
CH2M HILL	June 2016 Water level data	Equis_WaterLevels_2016-06.xlsx
EDI	Pelly Aquatics EDI December 2014 analytical and field data	L1562159.FARO_MINE.Zip
EDI	Pelly Aquatics EDI January 2015 analytical and field data	L1569921.FARO_MINE.Zip
EDI	Pelly Aquatics EDI February 2015 analytical and field data	L1582194.FARO_MINE.Zip
EDI	Pelly Aquatics EDI March 2015 analytical and field data	L1591939.FARO_MINE.Zip
EMLINE	2016 July emLine Data	2016_07.zip
CH2M HILL	Faro Mine Spring SEEP 2016, Faro Valley Aquifer Testing 2016, WRD Monitoring 2016	FaroMine_dat050716_1214_V2.mdb
CH2M HILL	Well completion logs for CH16-102-MW003, CH16-102-MW004, CH16-102-MW005, CH16-102-MW006, and CH16-102-MW007	Faro_Well_2016.xls
CH2M HILL	Well completion logs for CH16-102-MW003, CH16-102-MW004, CH16-102-MW005, CH16-102-MW006, and CH16-102-MW007	Faro_WellConstruction_2016.xls
CH2M HILL	Lithology for CH16-201-BH005 to CH16-201-BH012A	CVD_IP_Borings_Equis.xls
CH2M HILL	Lithology for CH16-102-BH008, CH16-102-MW003 to CH16-102-MW007	FCD_Borings_Equis.xls
CH2M HILL	Lithology and well info for BGC Slope CH15-102-MW001, CH15-102-MW002, CH15-102-SI001, and CH15-102-SI002	FaroMine_2015_TAR21_export_withrockcorelogMW_020216.xlsx
CH2M HILL	CVP and IDP Drilling 2016	FaroMine_dat250716_1010_V2.mdb