Environmental Data Management Via FUDSChem, New England District (NAE) Projects

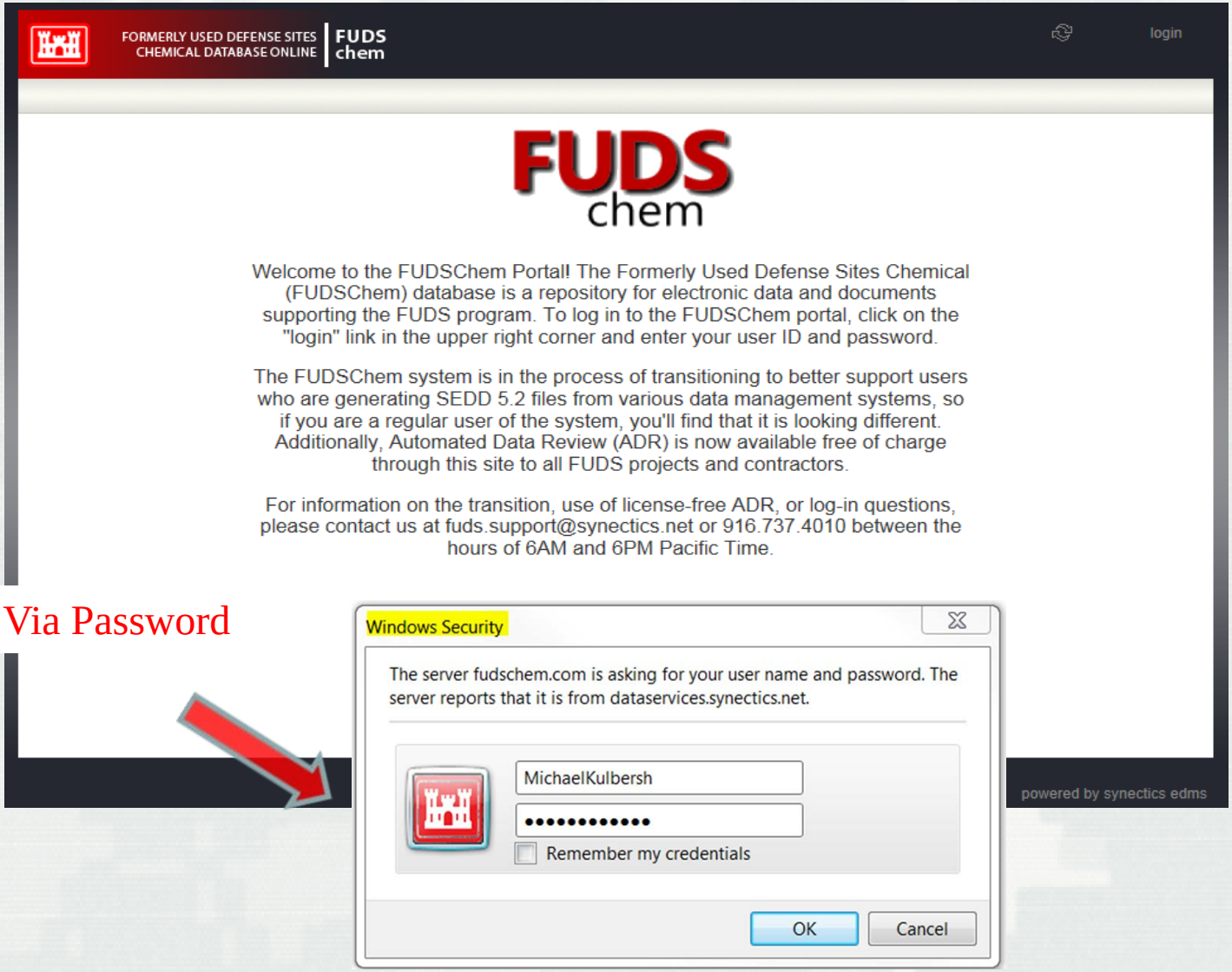
Michael Kulbersh & Carol Charette: USACE, New England District

PRESENTATION OVERVIEW

- FUDSChem A Paradigm Shift from EDMS
- A Web Based Design (www.FUDSChem.com) to Access NAE Chemistry and Geology Data – Soon All USACE
- The New FUDSChem has ADR functionality built into it. A FREE product for our contractors working on FUDS via FUDSChem
- HINGHAM FUDS Site – Eastern, MA - Trial Project for the New FUDSChem Supported by Synectics
- Dashboard – "Where to Go to Navigate FUDSChem"
- Chemical Querying/Water Level Queries/ Well Construction Data Query
- Exporting to Google Earth – WHERE THE FUN BEGINS

- Viewing Sample Locations in Google Earth and Viewing Time-Series Chemical Plots
- Better Understanding of YOUR COLLECTED Data

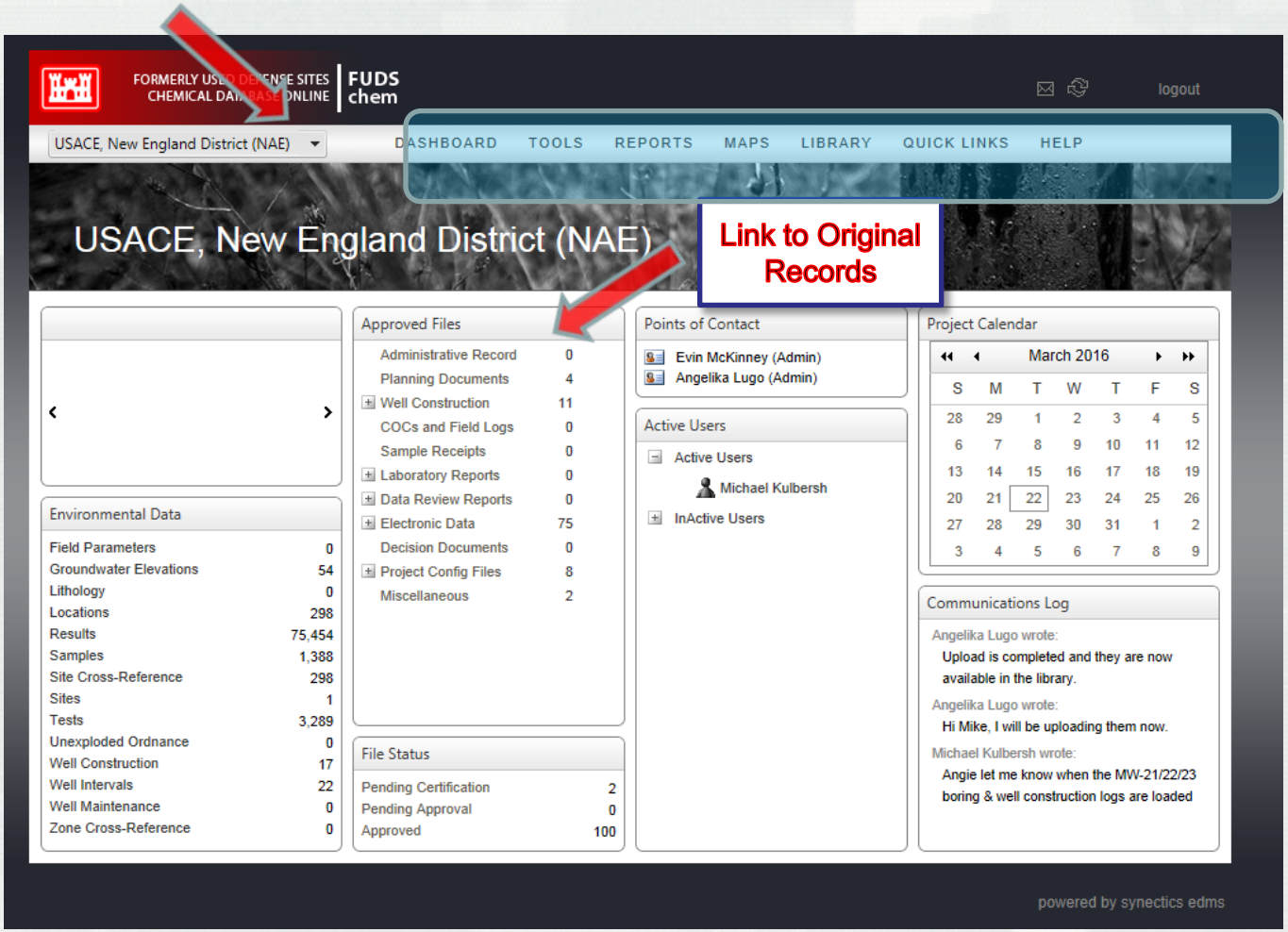
FUDSChem LOGIN



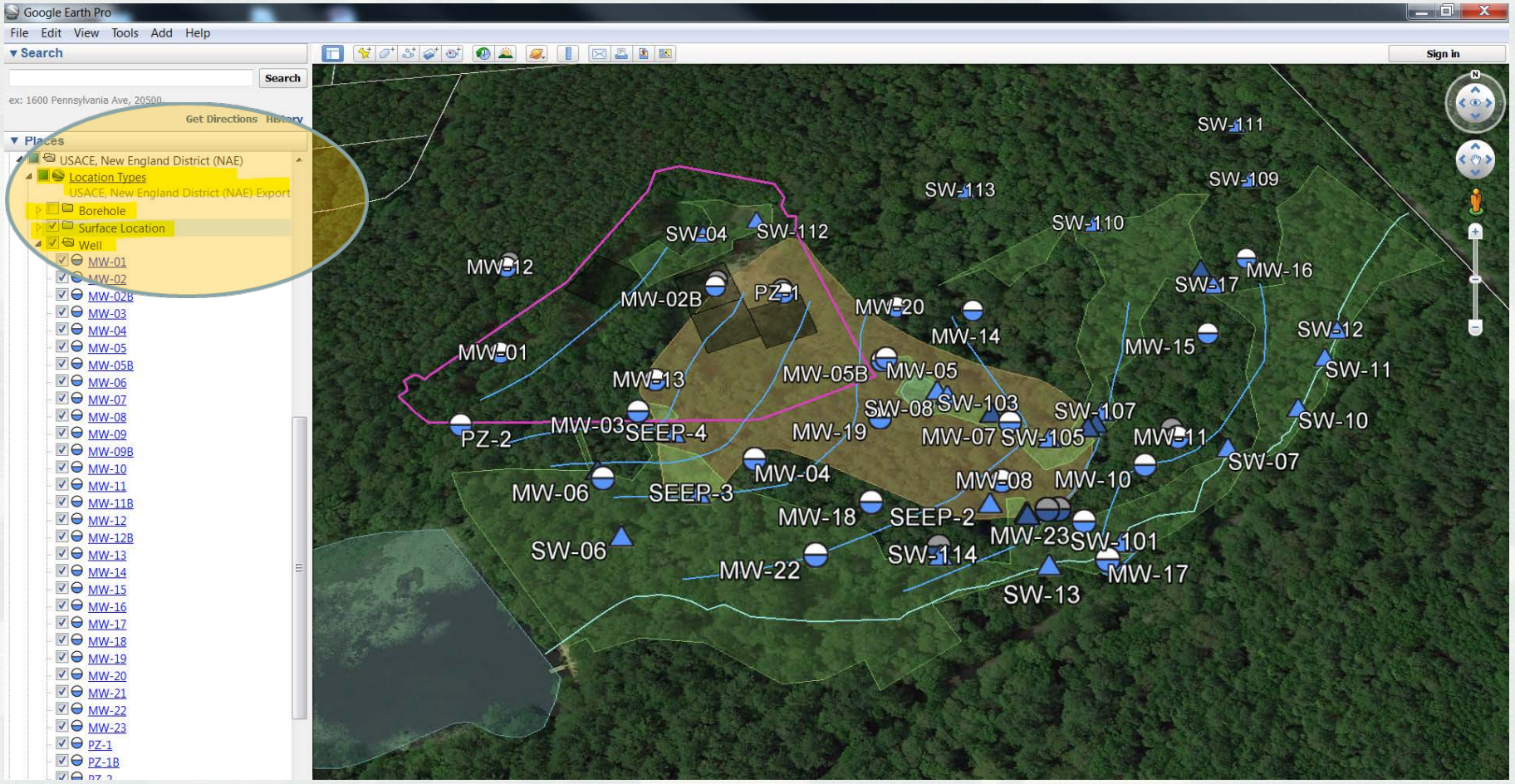
Security Via Password

FUDSChem Dashboard

- **Quick Links to:**
- Approved Files > “Loaded Records” >Team Directories > Share Files for “Team Sharing
- Chemical Reports/Well Construction Logs/Data Exports

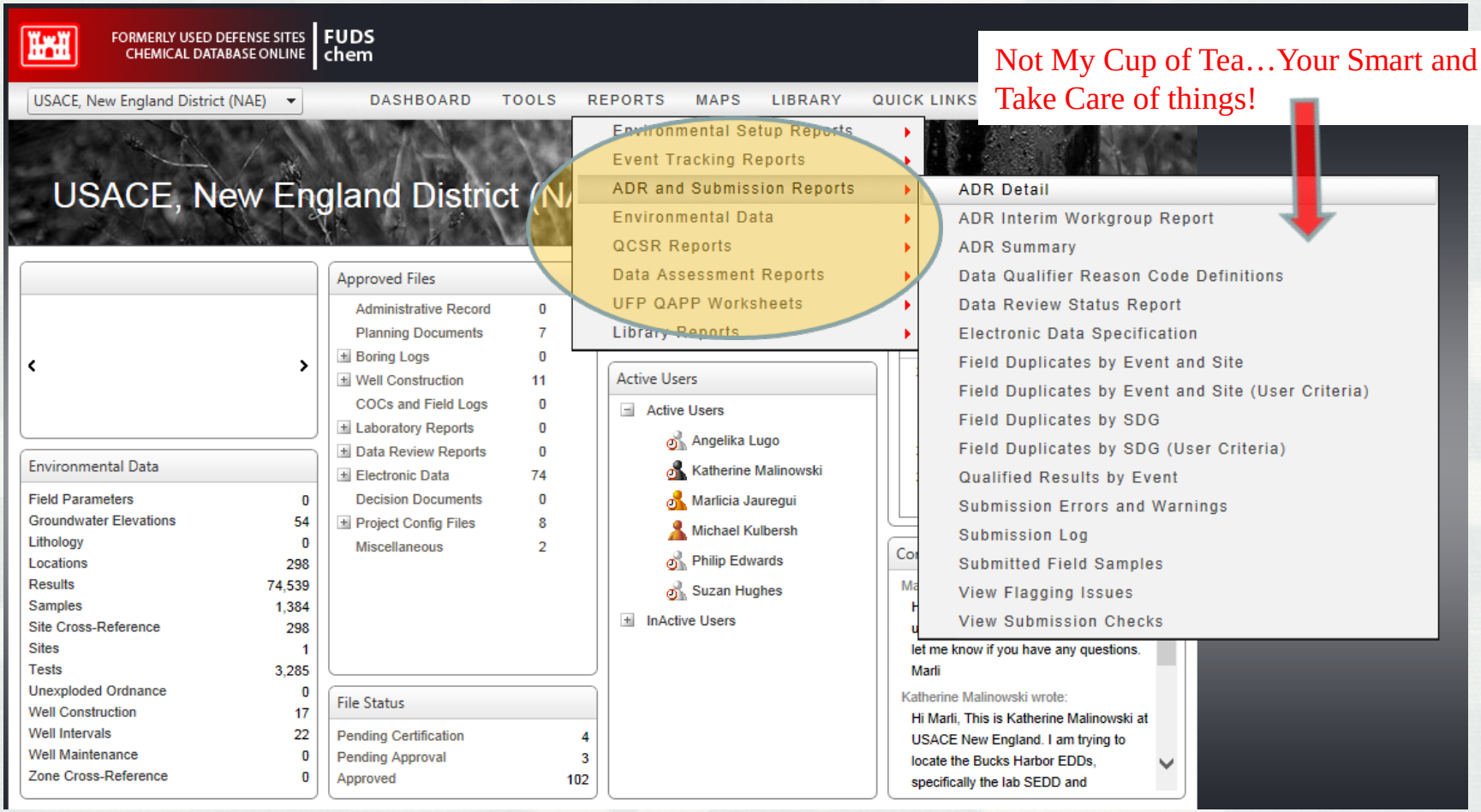


Google Earth – Where the Fun Begins

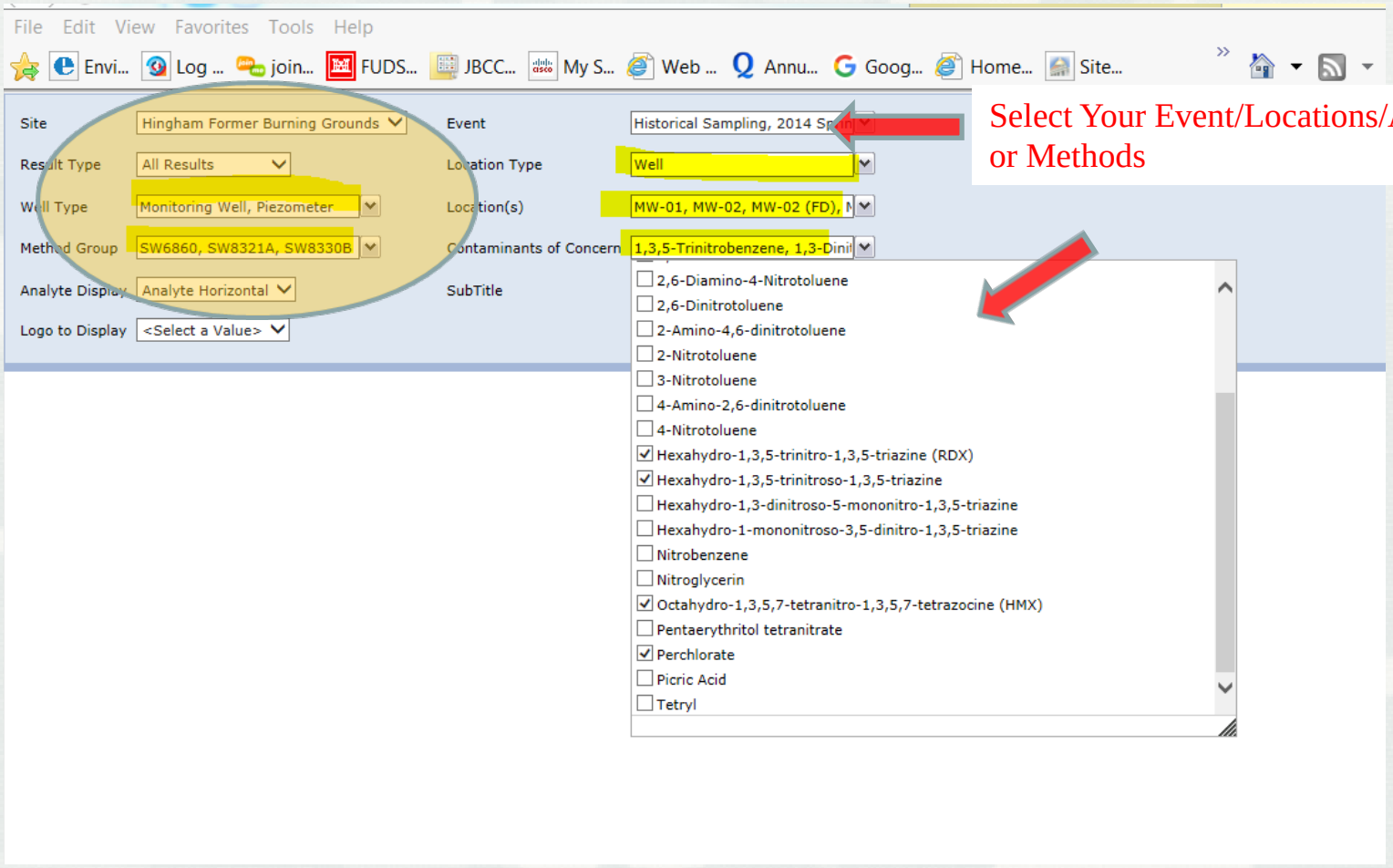


We will Return to this Shortly…Report Querying First!

ADR – Chemist Stuff



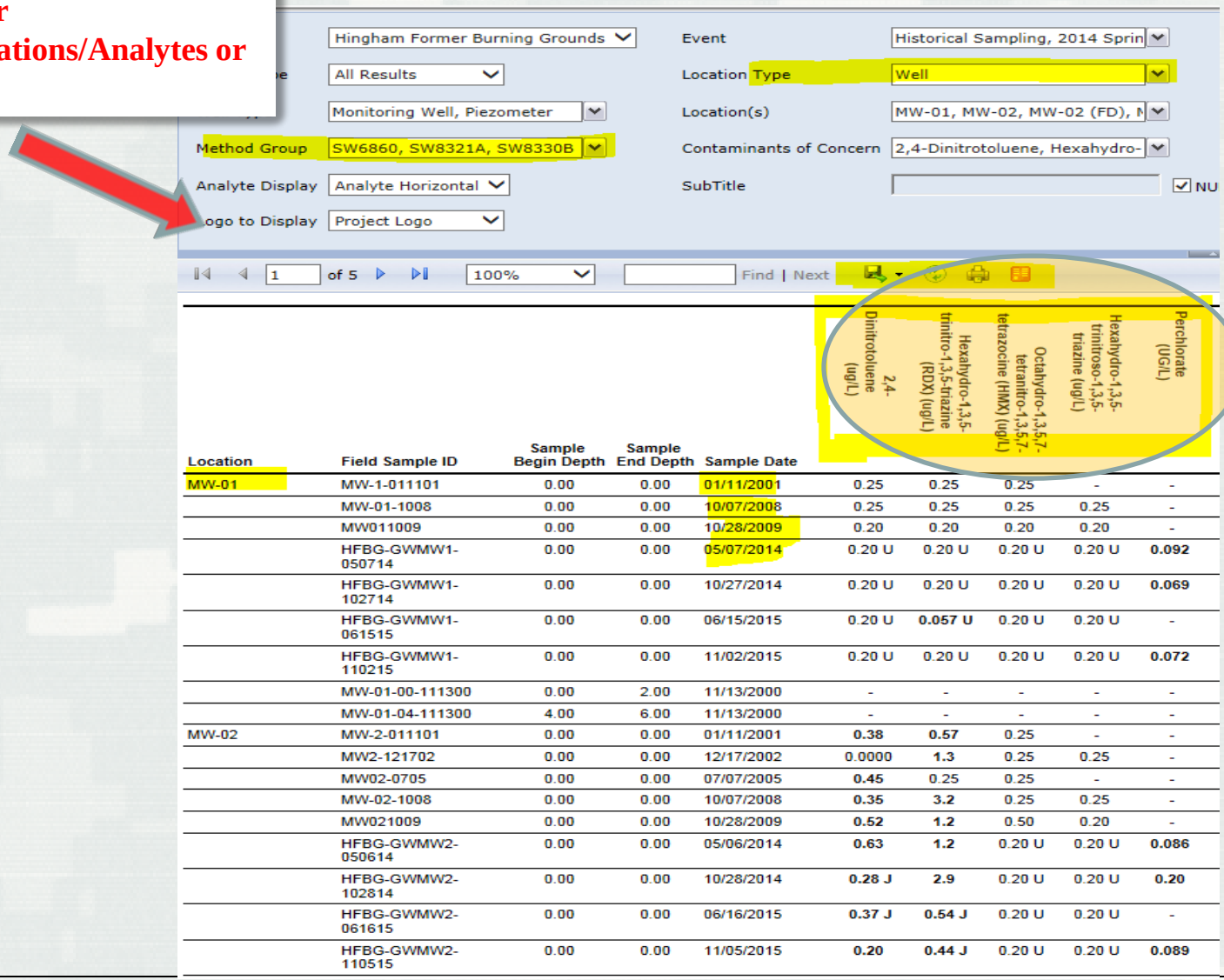
Chemical Queries – Getting to Your Data



Select Your Event/Locations/Analytes or Methods

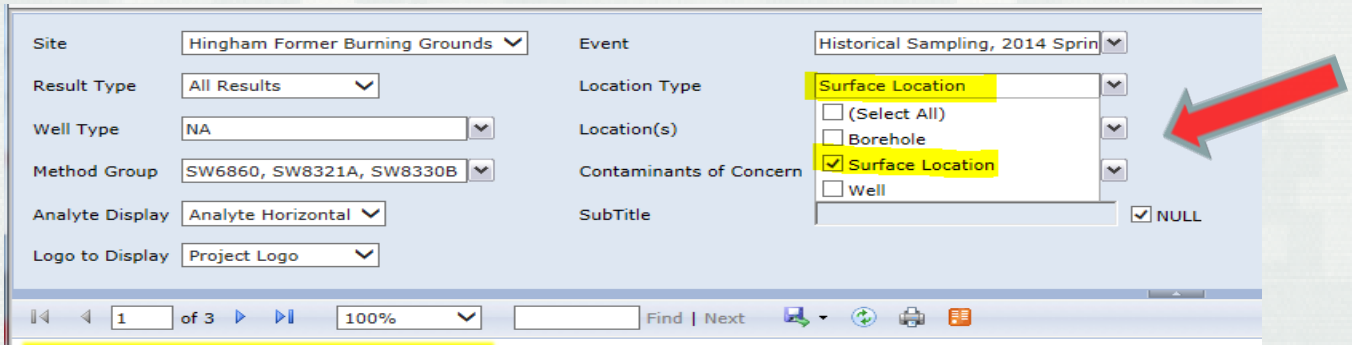
Chemical Well Queries – Getting to Your Data AND RESULTS

Select Your Event/Locations/Analytes or Methods



Location	Field Sample ID	Sample Begin Depth	Sample End Depth	Sample Date	2,4-Dinitrotoluene (ug/L)	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (ug/L)	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) (ug/L)	Hexahydro-1,3,5-trinitroso-1,3,5-triazine (ug/L)	Perchlorate (UG/L)
MW-01	MW-1-011101	0.00	0.00	01/11/2001	0.25	0.25	0.25	-	-
	MW-01-1008	0.00	0.00	10/07/2008	0.25	0.25	0.25	0.25	-
	MW011009	0.00	0.00	10/28/2009	0.20	0.20	0.20	0.20	-
	HFBG-GWMW1-050714	0.00	0.00	05/07/2014	0.20 U	0.20 U	0.20 U	0.20 U	0.092
	HFBG-GWMW1-102714	0.00	0.00	10/27/2014	0.20 U	0.20 U	0.20 U	0.20 U	0.069
	HFBG-GWMW1-061515	0.00	0.00	06/15/2015	0.20 U	0.057 U	0.20 U	0.20 U	-
	HFBG-GWMW1-110215	0.00	0.00	11/02/2015	0.20 U	0.20 U	0.20 U	0.20 U	0.072
	MW-01-00-111300	0.00	2.00	11/13/2000	-	-	-	-	-
	MW-01-04-111300	4.00	6.00	11/13/2000	-	-	-	-	-
MW-02	MW-2-011101	0.00	0.00	01/11/2001	0.38	0.57	0.25	-	-
	MW2-121702	0.00	0.00	12/17/2002	0.0000	1.3	0.25	0.25	-
	MW02-0705	0.00	0.00	07/07/2005	0.45	0.25	0.25	-	-
	MW-02-1008	0.00	0.00	10/07/2008	0.35	3.2	0.25	0.25	-
	MW021009	0.00	0.00	10/28/2009	0.52	1.2	0.50	0.20	-
	HFBG-GWMW2-050614	0.00	0.00	05/06/2014	0.63	1.2	0.20 U	0.20 U	0.086
	HFBG-GWMW2-102814	0.00	0.00	10/28/2014	0.28 J	2.9	0.20 U	0.20 U	0.20
	HFBG-GWMW2-061615	0.00	0.00	06/16/2015	0.37 J	0.54 J	0.20 U	0.20 U	-
	HFBG-GWMW2-110515	0.00	0.00	11/05/2015	0.20	0.44 J	0.20 U	0.20 U	0.089

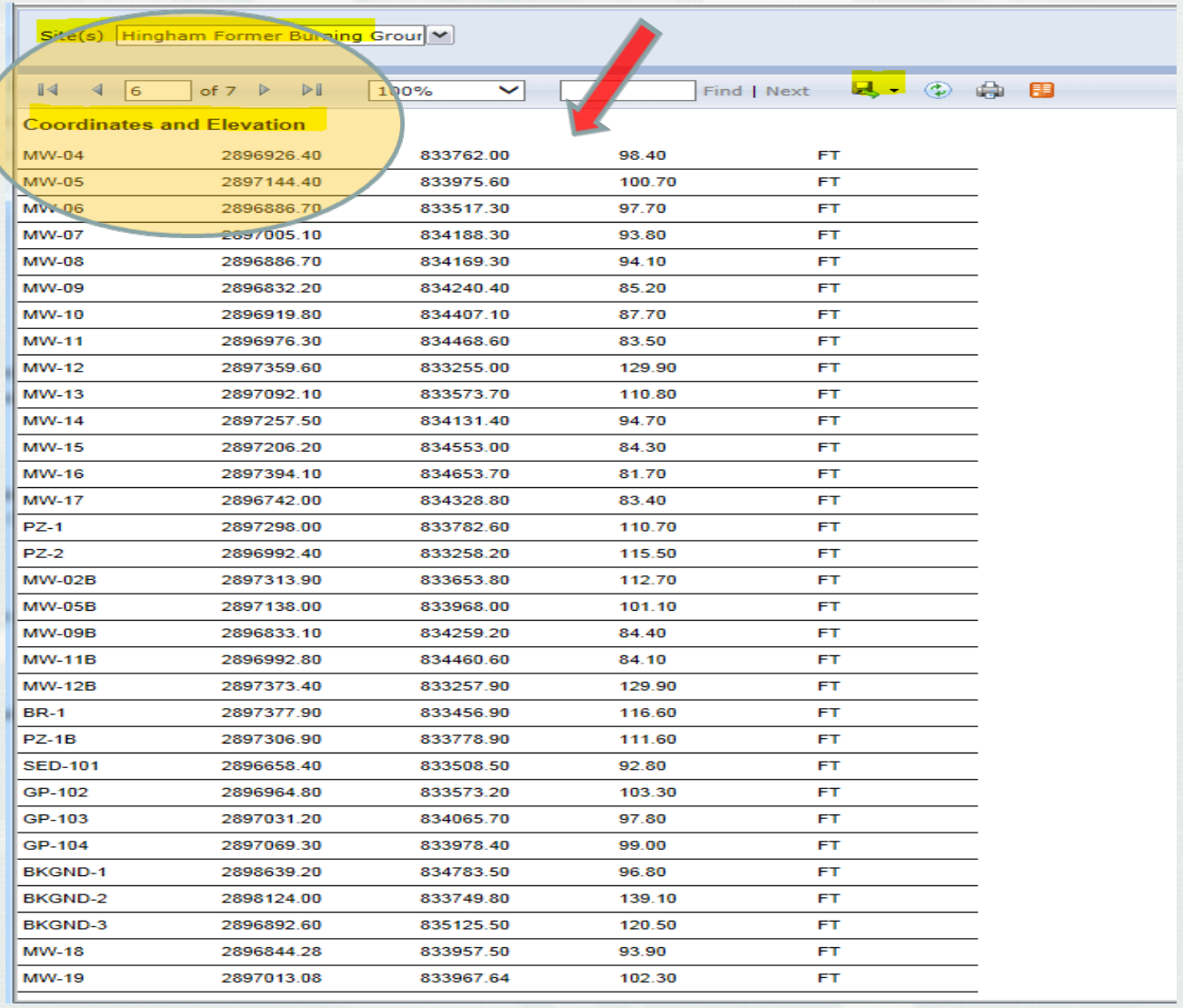
Chemical SW Queries – Choosing Location AND Analytes



Analytes & Results

Location	Field Sample ID	Sample Begin Depth	Sample End Depth	Sample Date	2,4-Dinitrotoluene (ug/L)	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (ug/L)	Hexahydro-1,3,5-trinitroso-1,3,5-triazine (ug/L)	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) (ug/L)	Perchlorate (UG/L)
Seep-1	HFBG-SEEP01-050514	0.00	0.00	05/05/2014	0.40	0.92	0.052 J	0.27	-
	HFBG-SEEP01-102914	0.00	0.00	10/29/2014	0.29 J	1.2	0.038 U	0.28	-
	HFBG-SEEP01-061715	0.00	0.00	06/17/2015	0.26 J	1.5 J	0.20 U	0.38 J	-
	HFBG-SEEP01-103015	0.00	0.00	10/30/2015	0.22 J	1.1 J	0.044 UJ	0.31 J	-
Seep-2	HFBG-SEEP02-050514	0.00	0.00	05/05/2014	0.62	2.2 J	0.039 J	0.17 J	-
	HFBG-SEEP02-102914	0.00	0.00	10/29/2014	0.34	1.1	0.20 U	0.23	-
	HFBG-SEEP02-061715	0.00	0.00	06/17/2015	0.43	0.55 J	0.20 U	0.18	-
	HFBG-SEEP02-103015	0.00	0.00	10/30/2015	0.084 J	0.81 J	0.20 U	0.28 U	-
Seep-2 (FD)	HFBG-SEEP-DUP-04	0.00	0.00	10/30/2015	0.076 J	0.97	-	0.28 U	-
Seep-3	HFBG-SEEP03-050514	0.00	0.00	05/05/2014	0.20 U	0.99 J	0.052 J	0.056 J	-
	HFBG-SEEP03-103014	0.00	0.00	10/30/2014	0.20 U	0.37	0.069 J	0.057 U	-
	HFBG-SEEP03-061615	0.00	0.00	06/16/2015	0.20 U	0.38 J	0.20 U	0.20 U	-

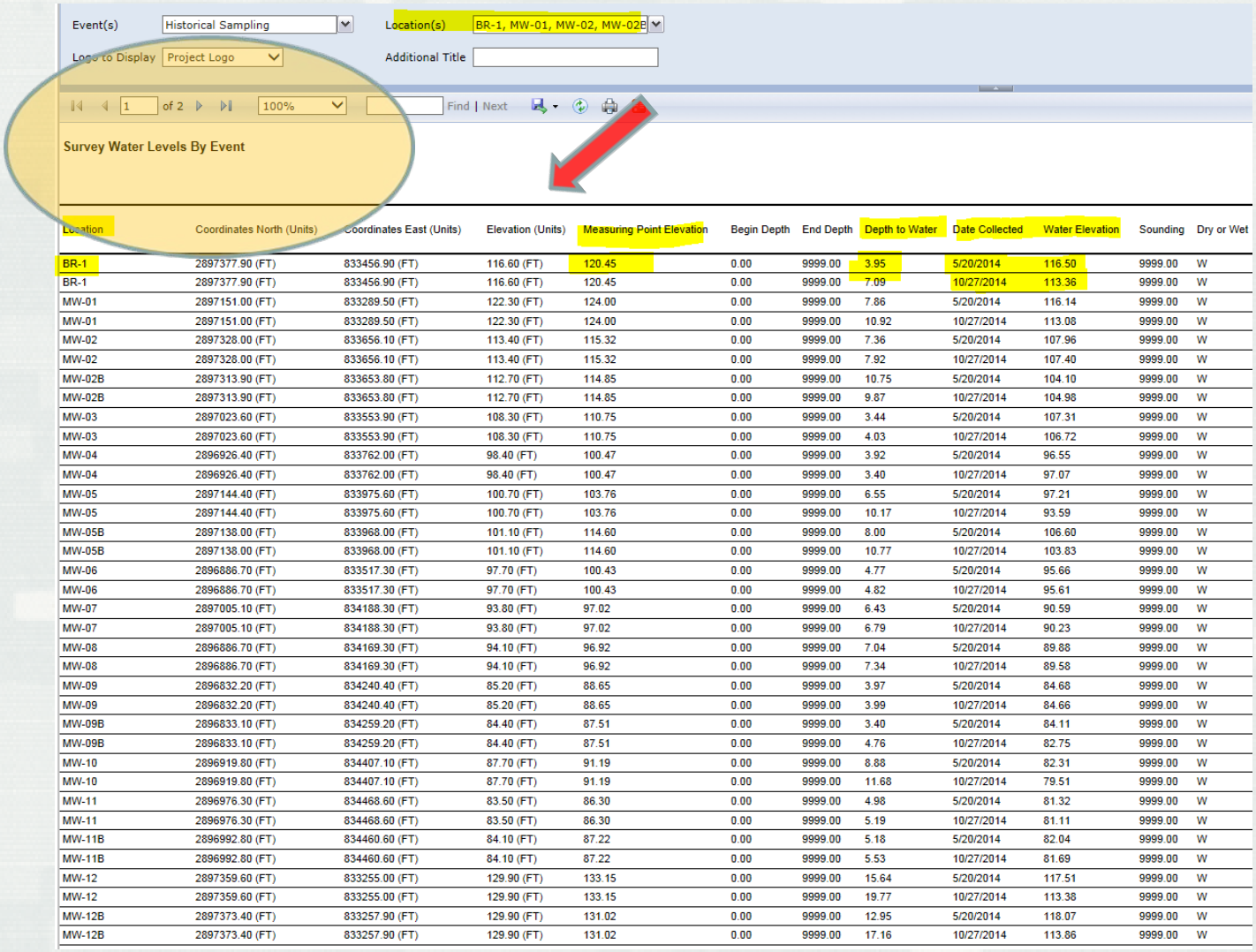
Location Query – Where are Your Samples Located & What is Its Elevation?



Coordinates and Elevation

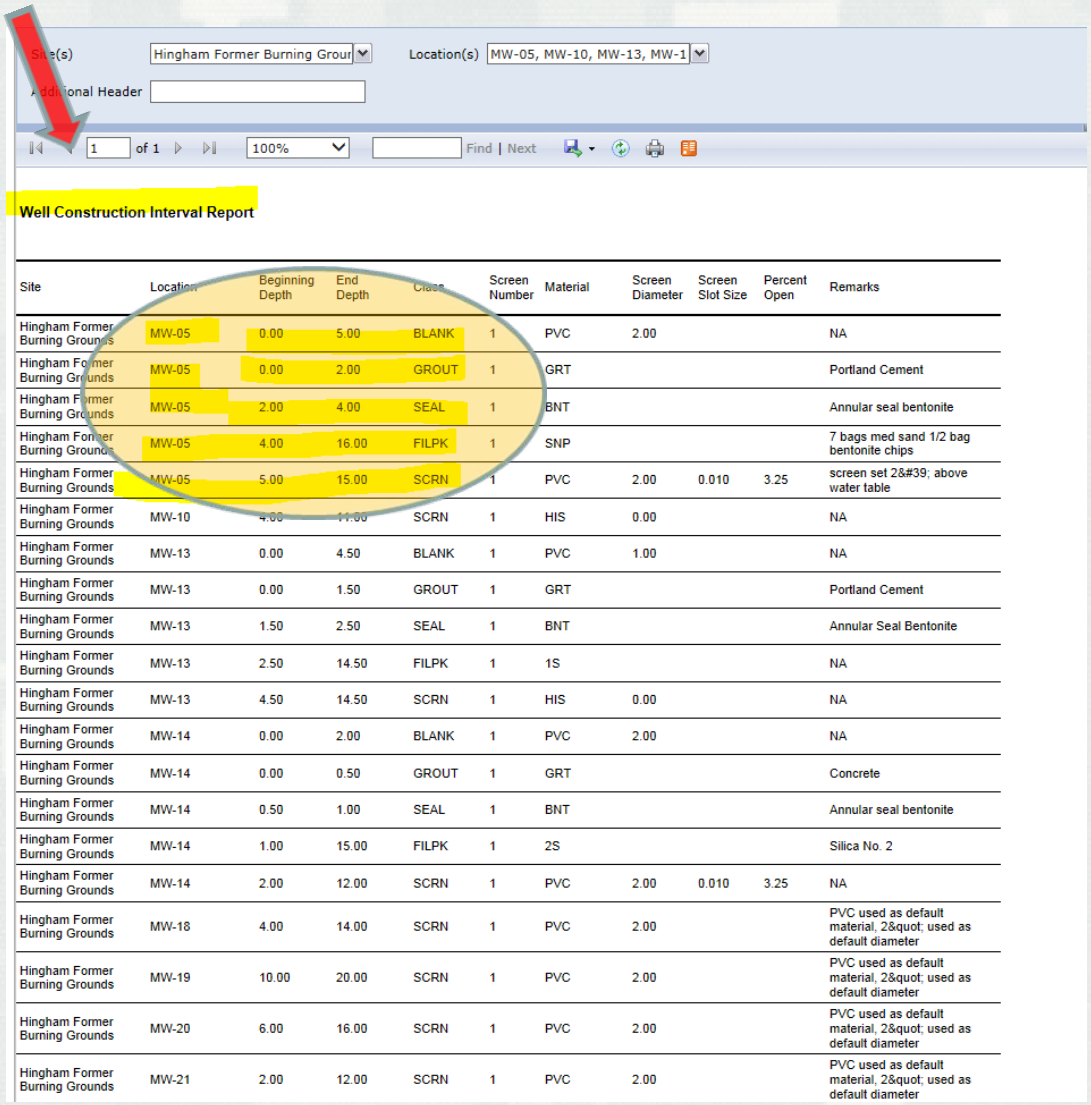
MW-04	2896926.40	833762.00	98.40	FT
MW-05	2897144.40	833975.60	100.70	FT
MW-06	2896886.70	833517.30	97.70	FT
MW-07	2897005.10	834188.30	93.80	FT
MW-08	2896886.70	834169.30	94.10	FT
MW-09	2896832.20	834240.40	85.20	FT
MW-10	2896919.80	834407.10	87.70	FT
MW-11	2896976.30	834468.60	83.50	FT
MW-12	2897359.60	833255.00	129.90	FT
MW-13	2897092.10	833573.70	110.80	FT
MW-14	2897257.50	834131.40	94.70	FT
MW-15	2897206.20	834553.00	84.30	FT
MW-16	2897394.10	834653.70	81.70	FT
MW-17	2896742.00	834328.80	83.40	FT
PZ-1	2897298.00	833782.60	110.70	FT
PZ-2	2896992.40	833258.20	115.50	FT
MW-02B	2897313.90	833653.80	112.70	FT
MW-05B	2897138.00	833968.00	101.10	FT
MW-09B	2896833.10	834259.20	84.40	FT
MW-11B	2896992.80	834460.60	84.10	FT
MW-12B	2897373.40	833257.90	129.90	FT
BR-1	2897377.90	833456.90	116.60	FT
PZ-1B	2897306.90	833778.90	111.60	FT
SED-101	2896658.40	833508.50	92.80	FT
GP-102	2896964.80	833573.20	103.30	FT
GP-103	2897031.20	834065.70	97.80	FT
GP-104	2897069.30	833978.40	99.00	FT
BKGND-1	2898639.20	834783.50	96.80	FT
BKGND-2	2898124.00	833749.80	139.10	FT
BKGND-3	2896892.60	835125.50	120.50	FT
MW-18	2896844.28	833957.50	93.90	FT
MW-19	2897013.08	833967.64	102.30	FT

Water Level Query – What is the Depth to Water and Groundwater Elevation over Time



Location	Coordinates North (Units)	Coordinates East (Units)	Elevation (Units)	Measuring Point Elevation	Begin Depth	End Depth	Depth to Water	Date Collected	Water Elevation	Sounding	Dry or Wet
BR-1	2897377.90 (FT)	833456.90 (FT)	116.60 (FT)	120.45	0.00	9999.00	3.95	5/20/2014	116.50	9999.00	W
BR-1	2897377.90 (FT)	833456.90 (FT)	116.60 (FT)	120.45	0.00	9999.00	7.09	10/27/2014	113.36	9999.00	W
MW-01	2897151.00 (FT)	833289.50 (FT)	122.30 (FT)	124.00	0.00	9999.00	7.86	5/20/2014	116.14	9999.00	W
MW-01	2897151.00 (FT)	833289.50 (FT)	122.30 (FT)	124.00	0.00	9999.00	10.92	10/27/2014	113.08	9999.00	W
MW-02	2897328.00 (FT)	833656.10 (FT)	113.40 (FT)	115.32	0.00	9999.00	7.36	5/20/2014	107.96	9999.00	W
MW-02	2897328.00 (FT)	833656.10 (FT)	113.40 (FT)	115.32	0.00	9999.00	7.92	10/27/2014	107.40	9999.00	W
MW-02B	2897313.90 (FT)	833653.80 (FT)	112.70 (FT)	114.85	0.00	9999.00	10.75	5/20/2014	104.10	9999.00	W
MW-02B	2897313.90 (FT)	833653.80 (FT)	112.70 (FT)	114.85	0.00	9999.00	9.87	10/27/2014	104.98	9999.00	W
MW-03	2897023.60 (FT)	833553.90 (FT)	108.30 (FT)	110.75	0.00	9999.00	3.44	5/20/2014	107.31	9999.00	W
MW-03	2897023.60 (FT)	833553.90 (FT)	108.30 (FT)	110.75	0.00	9999.00	4.03	10/27/2014	106.72	9999.00	W
MW-04	2896926.40 (FT)	833762.00 (FT)	98.40 (FT)	100.47	0.00	9999.00	3.92	5/20/2014	96.55	9999.00	W
MW-04	2896926.40 (FT)	833762.00 (FT)	98.40 (FT)	100.47	0.00	9999.00	3.40	10/27/2014	97.07	9999.00	W
MW-05	2897144.40 (FT)	833975.60 (FT)	100.70 (FT)	103.76	0.00	9999.00	6.55	5/20/2014	97.21	9999.00	W
MW-05	2897144.40 (FT)	833975.60 (FT)	100.70 (FT)	103.76	0.00	9999.00	10.17	10/27/2014	93.59	9999.00	W
MW-05B	2897138.00 (FT)	833968.00 (FT)	101.10 (FT)	114.60	0.00	9999.00	8.00	5/20/2014	106.60	9999.00	W
MW-05B	2897138.00 (FT)	833968.00 (FT)	101.10 (FT)	114.60	0.00	9999.00	10.77	10/27/2014	103.83	9999.00	W
MW-06	2896886.70 (FT)	833517.30 (FT)	97.70 (FT)	100.43	0.00	9999.00	4.77	5/20/2014	95.66	9999.00	W
MW-06	2896886.70 (FT)	833517.30 (FT)	97.70 (FT)	100.43	0.00	9999.00	4.82	10/27/2014	95.61	9999.00	W
MW-07	2897005.10 (FT)	834188.30 (FT)	93.80 (FT)	97.02	0.00	9999.00	6.43	5/20/2014	90.59	9999.00	W
MW-07	2897005.10 (FT)	834188.30 (FT)	93.80 (FT)	97.02	0.00	9999.00	6.79	10/27/2014	90.23	9999.00	W
MW-08	2896886.70 (FT)	834169.30 (FT)	94.10 (FT)	96.92	0.00	9999.00	7.04	5/20/2014	89.88	9999.00	W
MW-08	2896886.70 (FT)	834169.30 (FT)	94.10 (FT)	96.92	0.00	9999.00	7.34	10/27/2014	89.58	9999.00	W
MW-09	2896832.20 (FT)	834240.40 (FT)	85.20 (FT)	88.65	0.00	9999.00	3.97	5/20/2014	84.68	9999.00	W
MW-09	2896832.20 (FT)	834240.40 (FT)	85.20 (FT)	88.65	0.00	9999.00	3.99	10/27/2014	84.66	9999.00	W
MW-09B	2896833.10 (FT)	834259.20 (FT)	84.40 (FT)	87.51	0.00	9999.00	3.40	5/20/2014	84.11	9999.00	W
MW-09B	2896833.10 (FT)	834259.20 (FT)	84.40 (FT)	87.51	0.00	9999.00	4.76	10/27/2014	82.75	9999.00	W
MW-10	2896919.80 (FT)	834407.10 (FT)	87.70 (FT)	91.19	0.00	9999.00	8.88	5/20/2014	82.31	9999.00	W
MW-10	2896919.80 (FT)	834407.10 (FT)	87.70 (FT)	91.19	0.00	9999.00	11.68	10/27/2014	79.51	9999.00	W
MW-11	2896976.30 (FT)	834468.60 (FT)	83.50 (FT)	86.30	0.00	9999.00	4.98	5/20/2014	81.32	9999.00	W
MW-11	2896976.30 (FT)	834468.60 (FT)	83.50 (FT)	86.30	0.00	9999.00	5.19	10/27/2014	81.11	9999.00	W
MW-11B	2896992.80 (FT)	834460.60 (FT)	84.10 (FT)	87.22	0.00	9999.00	5.18	5/20/2014	82.04	9999.00	W
MW-11B	2896992.80 (FT)	834460.60 (FT)	84.10 (FT)	87.22	0.00	9999.00	5.53	10/27/2014	81.69	9999.00	W
MW-12	2897359.60 (FT)	833255.00 (FT)	129.90 (FT)	133.15	0.00	9999.00	15.64	5/20/2014	117.51	9999.00	W
MW-12	2897359.60 (FT)	833255.00 (FT)	129.90 (FT)	133.15	0.00	9999.00	19.77	10/27/2014	113.38	9999.00	W
MW-12B	2897373.40 (FT)	833257.90 (FT)	129.90 (FT)	131.02	0.00	9999.00	12.95	5/20/2014	118.07	9999.00	W
MW-12B	2897373.40 (FT)	833257.90 (FT)	129.90 (FT)	131.02	0.00	9999.00	17.16	10/27/2014	113.86	9999.00	W

Well Construction Query – How is Your Well Constructed?



Site(s): Hingham Former Burning Grour | Location(s): MW-05, MW-10, MW-13, MW-1

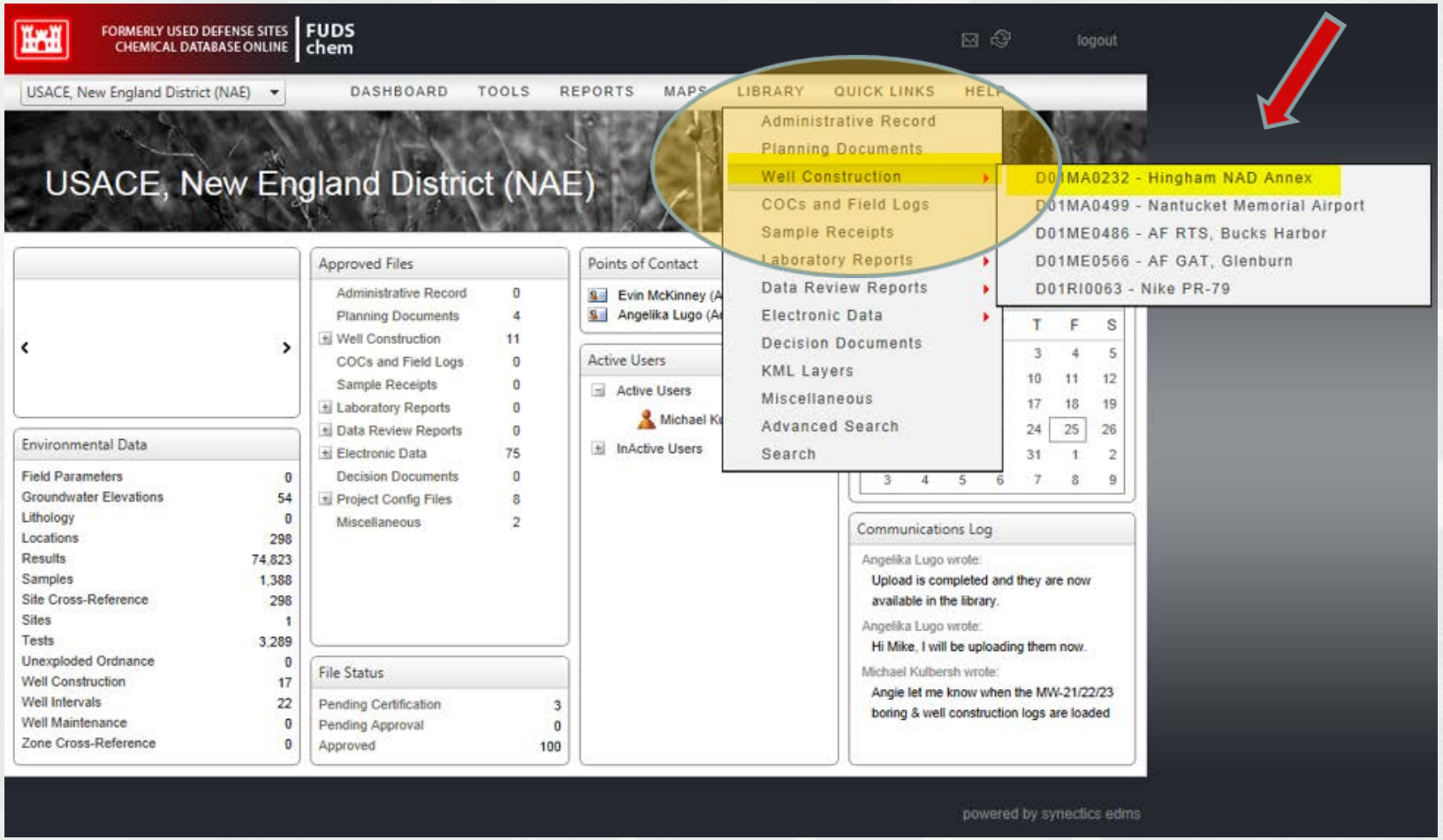
Additional Header:

1 of 1 | 100% | Find | Next

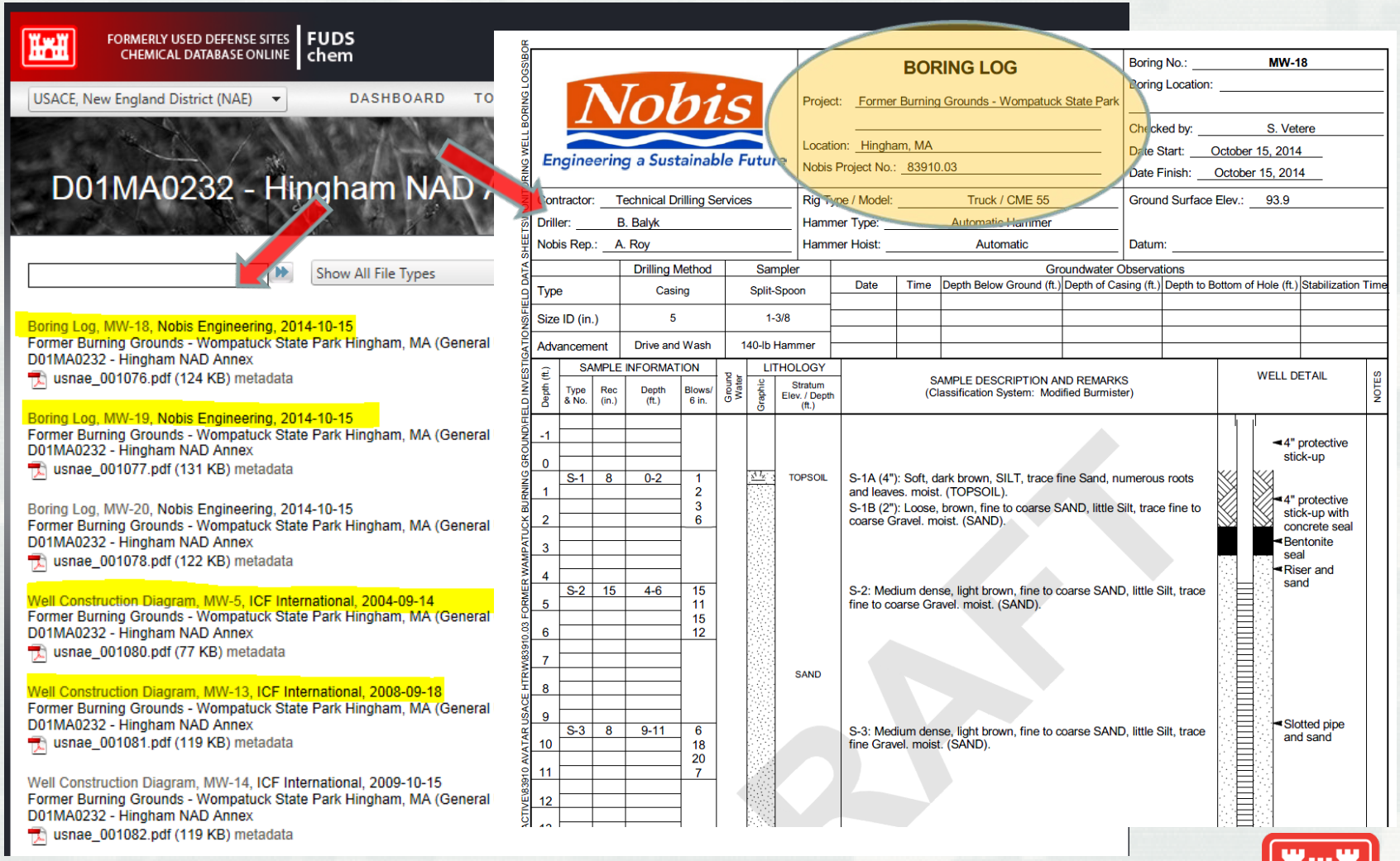
Well Construction Interval Report

Site	Location	Beginning Depth	End Depth	Class	Screen Number	Material	Screen Diameter	Screen Slot Size	Percent Open	Remarks
Hingham Former Burning Grounds	MW-05	0.00	5.00	BLANK	1	PVC	2.00			NA
Hingham Former Burning Grounds	MW-05	0.00	2.00	GROUT	1	GRT				Portland Cement
Hingham Former Burning Grounds	MW-05	2.00	4.00	SEAL	1	BNT				Annular seal bentonite
Hingham Former Burning Grounds	MW-05	4.00	16.00	FILPK	1	SNP				7 bags med sand 1/2 bag bentonite chips
Hingham Former Burning Grounds	MW-05	5.00	15.00	SCRN	1	PVC	2.00	0.010	3.25	screen set 2' above water table
Hingham Former Burning Grounds	MW-10	4.00	14.00	SCRN	1	HIS	0.00			NA
Hingham Former Burning Grounds	MW-13	0.00	4.50	BLANK	1	PVC	1.00			NA
Hingham Former Burning Grounds	MW-13	0.00	1.50	GROUT	1	GRT				Portland Cement
Hingham Former Burning Grounds	MW-13	1.50	2.50	SEAL	1	BNT				Annular Seal Bentonite
Hingham Former Burning Grounds	MW-13	2.50	14.50	FILPK	1	1S				NA
Hingham Former Burning Grounds	MW-13	4.50	14.50	SCRN	1	HIS	0.00			NA
Hingham Former Burning Grounds	MW-14	0.00	2.00	BLANK	1	PVC	2.00			NA
Hingham Former Burning Grounds	MW-14	0.00	0.50	GROUT	1	GRT				Concrete
Hingham Former Burning Grounds	MW-14	0.50	1.00	SEAL	1	BNT				Annular seal bentonite
Hingham Former Burning Grounds	MW-14	1.00	15.00	FILPK	1	2S				Silica No. 2
Hingham Former Burning Grounds	MW-14	2.00	12.00	SCRN	1	PVC	2.00	0.010	3.25	NA
Hingham Former Burning Grounds	MW-18	4.00	14.00	SCRN	1	PVC	2.00			PVC used as default material, 2" used as default diameter
Hingham Former Burning Grounds	MW-19	10.00	20.00	SCRN	1	PVC	2.00			PVC used as default material, 2" used as default diameter
Hingham Former Burning Grounds	MW-20	6.00	16.00	SCRN	1	PVC	2.00			PVC used as default material, 2" used as default diameter
Hingham Former Burning Grounds	MW-21	2.00	12.00	SCRN	1	PVC	2.00			PVC used as default material, 2" used as default diameter

Need a Well Construction/Boring Log ?

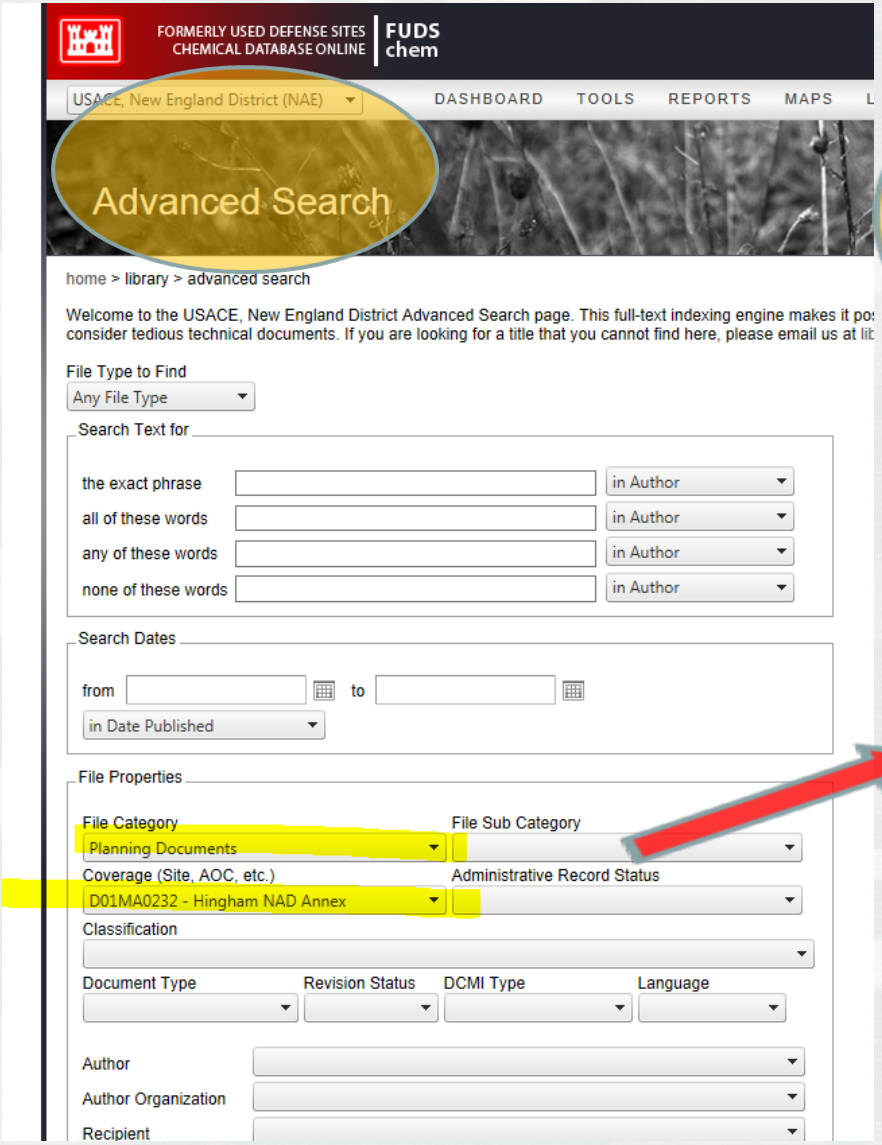


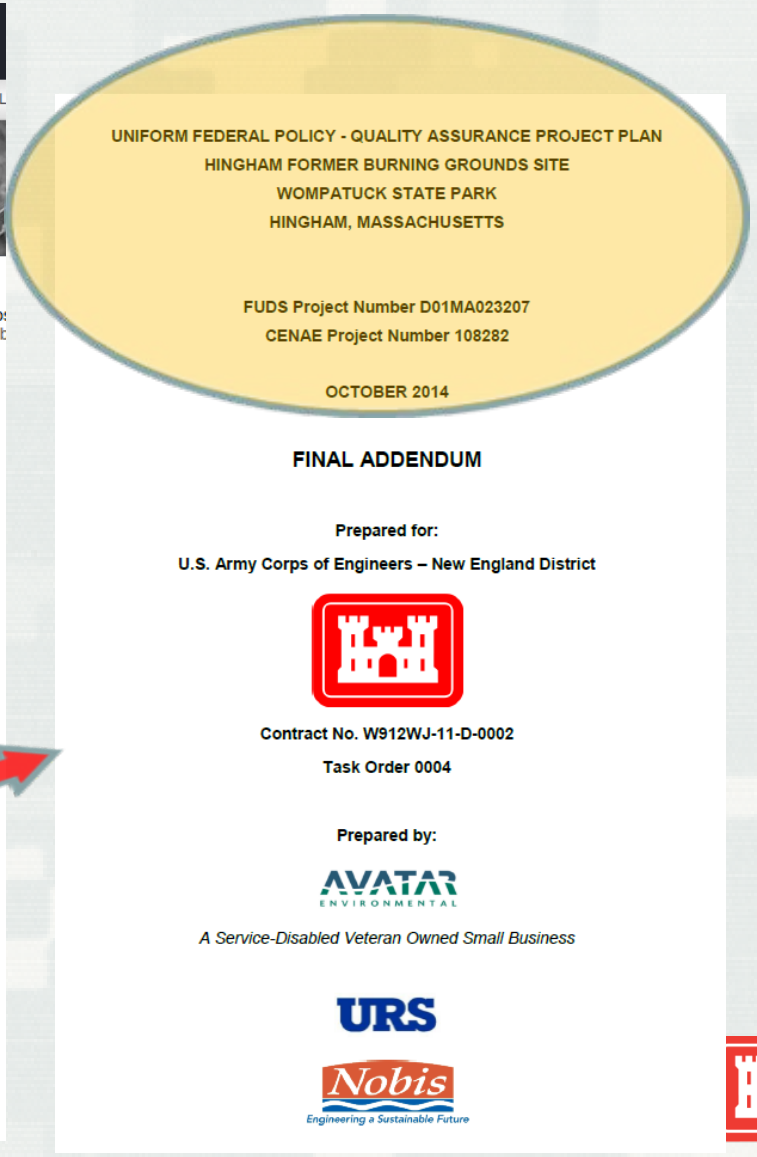
Need a Hard Copy of Well Construction/Boring Log ?



BUILDING STRONG®

Need To Find A QAPP Document ? Use The Advanced Search





UNIFORM FEDERAL POLICY - QUALITY ASSURANCE PROJECT PLAN
HINGHAM FORMER BURNING GROUNDS SITE
WOMPATUCK STATE PARK
HINGHAM, MASSACHUSETTS

FUDS Project Number D01MA023207
CENAE Project Number 108282

OCTOBER 2014

FINAL ADDENDUM

Prepared for:

U.S. Army Corps of Engineers – New England District

Contract No. W912WJ-11-D-0002

Task Order 0004

Prepared by:

AVATAR ENVIRONMENTAL

A Service-Disabled Veteran Owned Small Business

URS

Nobis
Engineering a Sustainable Future

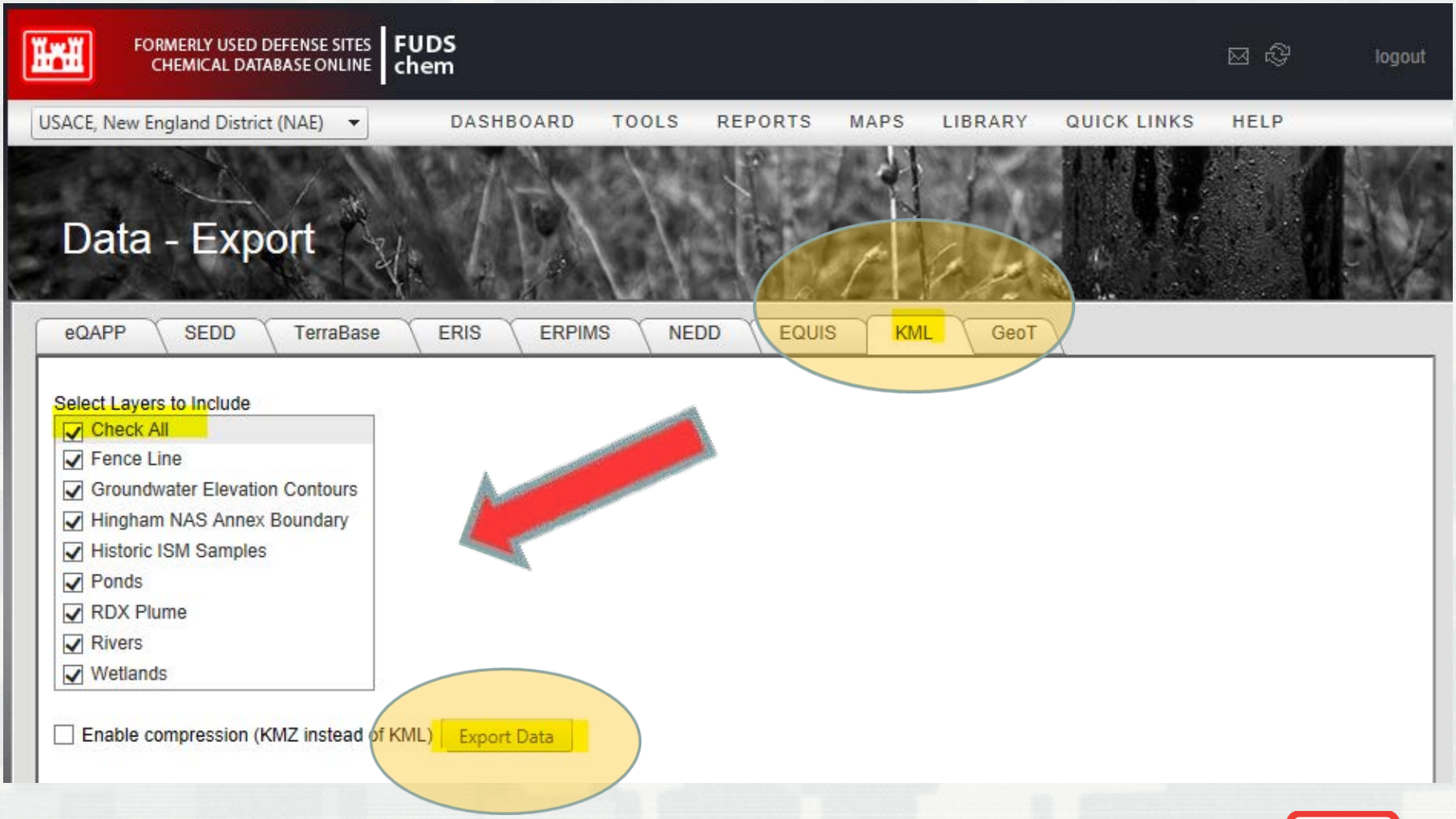
REVIEWING AND EVALUATING YOUR DATA IN GOOGLE EARTH

➢Google Earth

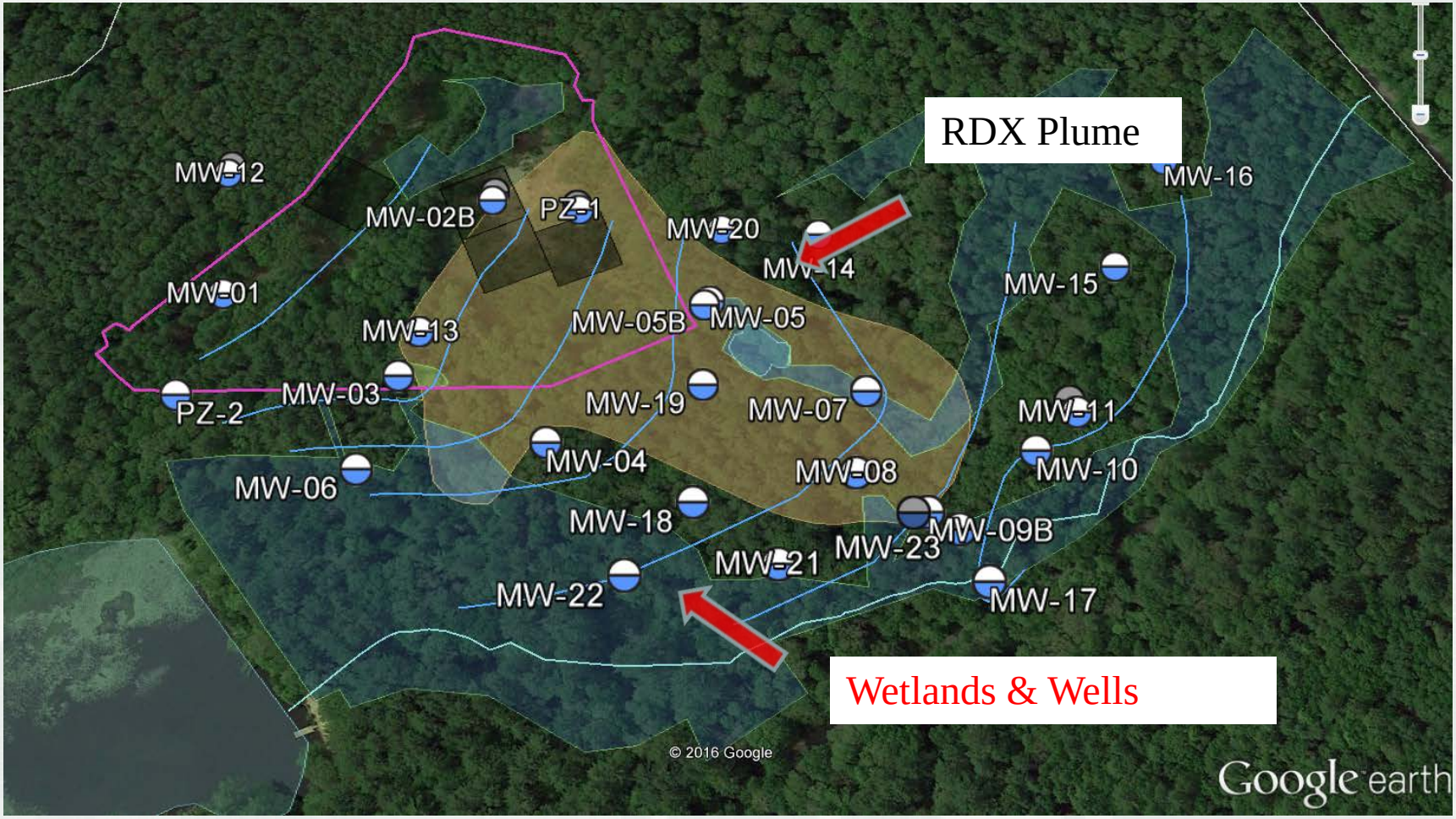
- Where are YOUR Samples Located
- How to Begin to Understand The Chemistry at Your Site
- Choose A Location Type (**Wells/Surface Water/Borings**)
- ARCGIS Shapefiles can be uploaded into FUDSChem and exported to Google Earth as a group or individually exported!
- With Google Earth PRO users can import Shapefiles and other Coverages, if needed to Customize View AND better understand YOUR data

➢ Project Team Involvement

Data Export to Google Earth

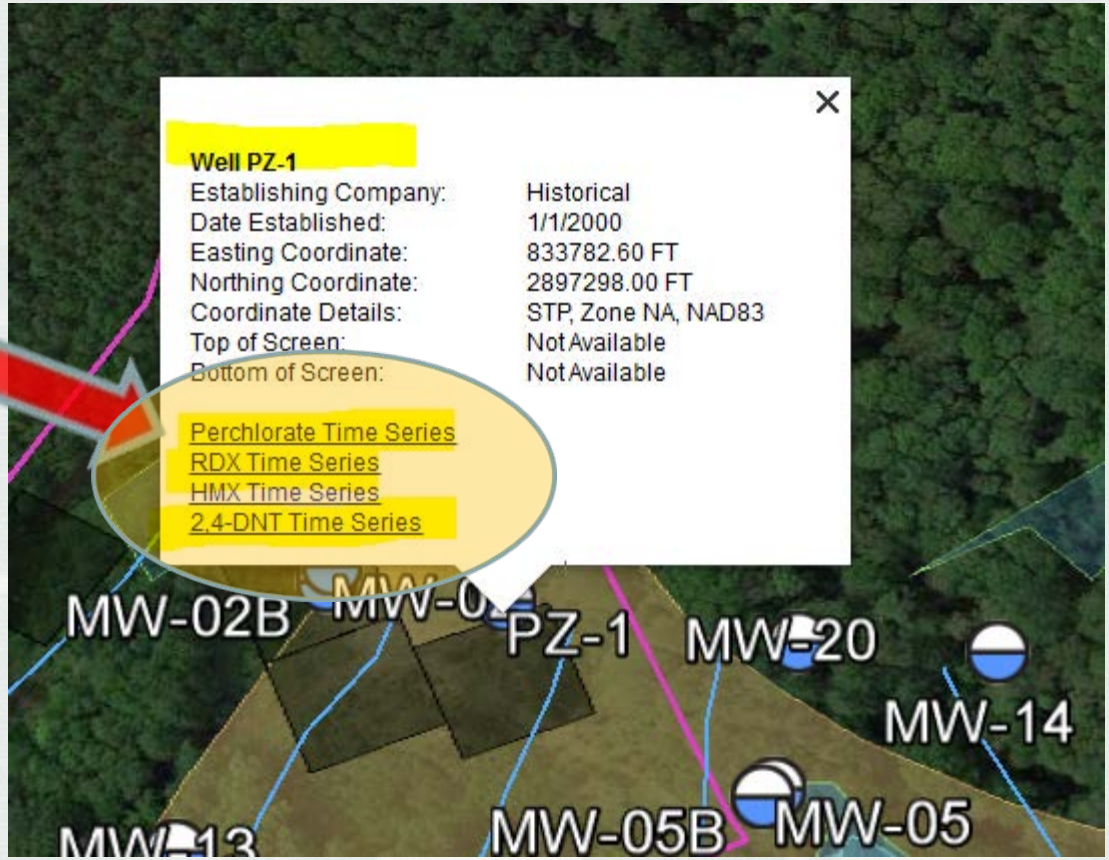


Viewing Well Data in Google Earth



Choose Analyte for Time-Series Plot in Google Earth

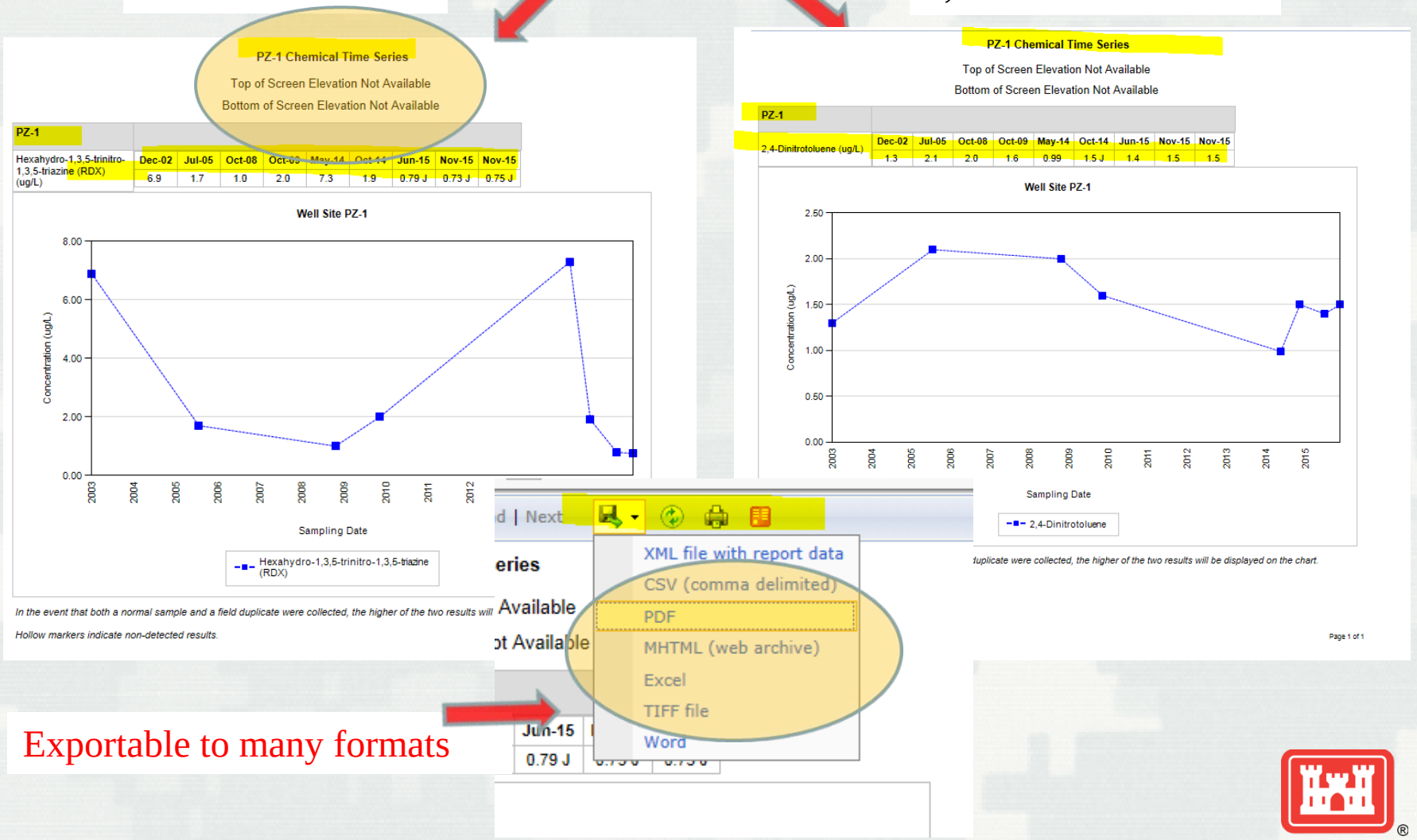
Analytes to Be Customizable



Time-Series Plots in Google Earth

RDX Time-Series

2,4-DNT Time-Series



Exportable to many formats

CONCLUSION

- FUDSChem IS A TOOL for Importing Validated SEDD Data Deliverables & Querying Chemistry and Geology Data
- Archiving Laboratory Data Reports/ Validated SEDD Deliverables /Boring Logs/ Well Construction Logs / ARCGIS Files…and MUCH More!
- Can be used to Share Documents with the Project Team
- Has Advanced Search Capabilities to find Project Documents
- Exports to Google Earth to View Sample Locations/Sample types
  - Customizable Analytes for Viewing Chemical Data
  - Viewing Time-Series Chemical Plots
- Project Team Better Understands the Data and Feels a Sense of Ownership

QUESTIONS ???