

September 9, 2020

Attention: Mr. Shane Nelson, RPM/OSC
U.S. Environmental Protection Agency – Region 2
290 Broadway, Floor 19
New York, NY 10007-1866

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report: August 2020

Dear Mr. Nelson

This letter is the progress report required pursuant to the U.S. Environmental Protection Agency (EPA) Consent Decree for the Remedial Design (RD) and Remedial Action (RA) at the Quanta Resources Corporation Superfund Site, OU1, which was finalized with the courts on March 11, 2013.

Health and Safety

Through August 30, 2020, approximately 281,570 labor hours worked.

During August, the efforts detailed in the March and April Progress Reports specific to preventing the spread of the COVID-19 virus during cleanup activities continued. These plans require best practices for site safety, including face covering, gloves, and other appropriate personal protective equipment (PPE) for employees and visitors, random temperature checks of employees, tracking employees who might be ill, and social distancing. Additional efforts have been taken to revise health and safety plans as well as best management practices on site as information becomes available in response to the COVID-19 pandemic. Onsite operations are continually evaluated to make sure onsite staff are safe in light of the current events. Additionally, the team is adhering to New Jersey travel restrictions to high-risk states.

Work Completed

The activities completed during August to comply with the Consent Decree are described in the following subsections. Figure 1 (attached) depicts the work activities completed as of the end of August.

OU1 General Civil Work

- Supported site contractor operations and continued general site maintenance activities.
- Managed Category 1 debris generated from ISS activities.
- Continued realignment of onsite utilities to accommodate future ISS activities.
- Completed relocating north entrance to the property to accommodate placement of tents in Area 4 (southwestern portion of the Site).



September 9, 2020

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report:
August 2020

OU1 ISS

- Managed and maintained the soil stockpile in Area 7A.
- Completed re-mixing a portion of cell 262 in Area 3A (northwestern portion of the Site).
- Began debris removal and ISS activities in ISS Area 4 (southwestern portion of the Site) outside of a tent. Five (5) partial cells (358 CY of material) were treated.
- Began debris removal and ISS activities in ISS Area 5D (southcentral portion of the Site) outside of a tent. Three (3) full cells and two (2) partial cells (1,425 CY of material) were treated.
- Completed debris removal and ISS activities in Tent 5-1 in ISS Areas 5B, 5C, and 5D (southcentral portion of the Site). Two (2) cells (561 CY of material) were treated. Completed load-out of extra overburden for offsite disposal, installation of temporary cap and final air clearance testing. Began relocating tent to the Tent 5-2 location in ISS Areas 5C and 5D (just northwest of the Tent 5-1 location).
- Completed debris removal and ISS activities in Tent 7-3 in ISS Area 7A (northeastern portion of the Site). Twelve (12) cells (2,414 CY of material) were treated. Completed load-out of extra overburden for offsite disposal, installation of temporary cap and final air clearance testing. Relocated tent to the Tent 7-4 location in ISS Area 7A (just south of Tent 7-3 location).

OU1 Bulkhead Installation

- No bulkhead installation work activities occurred during the reporting period.

OU1 Vibration and Air Monitoring

- Continued with vibration and movement monitoring. Observed no vibrations outside the project limits during August.
- Continued perimeter air monitoring in accordance with the Perimeter Air Monitoring Plan and the applicable adjustments/addendums.

OU1 Offsite Waste Disposal

- Non-Hazardous
 - Five (5) 30-cy roll-offs of treated wood debris to Fairless Landfill in Morrisville, PA.
 - One hundred and nineteen (119) 25-cy dump trucks of soil to the Fairless Landfill in Morrisville, PA.
- Hazardous
 - Two (2) 55-gallon drums of NAPL to Cycle Chem in Lewisberry, PA.
 - Two (2) 55-gallon drum of NAPL stained PPE to Cycle Chem in Lewisberry, PA.
 - five (5) 55-gallon drums of drilling fluid to Cycle Chem in Lewisberry, PA.

OU1 NAPL Recovery

- Pumped 35-gallons of NAPL from RW4-2.



September 9, 2020

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report: August 2020

- Sentinel wells measured on August 26.
- NAPL and HCAA-related drum pickup on August 27.

High Concentration Arsenic Area

- Completed injections at IW-018 and associated monitoring at HCAA wells.
- Demobilized supplies and equipment from the site.

Site Security, Maintenance, and Inspections

- Completed weekly boom inspections on August 6, August 11, August 21, and August 25.
- Completed weekly SWPP inspections on August 5, August 14, August 21, and August 28.
- Replaced the inner and outer absorbent booms on the north and south side of the Pier Building on August 21.

Two-Week Look-Ahead

- Continue pumping RW4-2.
- Gauge sentry wells.
- Complete injections associated with the HCAA ZVI pilot study
- Begin clearing, ISS and debris management activities in Tent 5-2 in ISS Areas 5C and 5D (southcentral portion of the Site).
- Complete clearing, ISS and debris management activities in Tent 7-4 in ISS Area 7A (eastern portion of the Site).
- Begin final capping activities at Block 93.

Data and Submittals

- No submittals this period

ISS Compliance Data Summary

All samples required to demonstrate ISS compliance with the unconfined compressive strength and permeability criteria, and the 90 percent leaching reduction goal have been collected as required by the approved remedial action work plan and QAPP this month. As defined by Section 2.6 of the EPA approved UFP-QAPP, conformance testing is performed on samples after a 28-day cure process. As defined by the EPA approved remedial design, conformance testing includes UCS, permeability, and leachability using EPA Method 1315. UCS and permeability tests provide results within 5-days after the 28-day cure process. EPA Method 1315M (the Semi-Dynamic Leaching Modified for Organics) provided as Attachment 2 of the UFP-QAPP, takes a total of 63-days to run (once the 28-day cure time has passed) followed by laboratory analysis, validation, and evaluation. Therefore, leaching results are available approximately 100-days after the 28-day cure time.



September 9, 2020

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report:
August 2020

The attached ISS Results Dashboards (Attachment A) presents results for 28-day cure time conformance data results where available.

Air Monitoring

Provided perimeter and offsite air monitoring data when received (typically daily) to EPA. The website was updated in August to better show offsite results compared to the risk-based screening levels. These results were uploaded upon receipt to www.quantaremediation.com

Other Deliverables and Submittals

- None

Corrective Actions

No corrective actions were required during this reporting period.

Stakeholder Communication and Community Involvement

- Submitted the monthly progress report for July on August 10th.
- Reviewed and updated the Honeywell website as needed. Coordinated preparation of written updates and maps and submitted progress photos. Submitted updated text and graphs of air data over life of the project and began updating those graphs weekly.
- Tracked community concerns and complaints. One concern about early morning weekend work was received by email.
- Provided weekly and as-needed progress updates for email distribution to pier tenants.
- Submitted weekly updates to EPA summarizing upcoming site activities.
- Uploaded daily air monitoring results to www.quantaremediation.com

Activities Planned for Next 6 Weeks

- Continue with NAPL recovery operations.
- Continue weekly boom inspections and SWPPP inspections and associated maintenance.
- Continue clearing, ISS and debris management activities in Tent 5-2 in ISS Areas 5C and 5D (southcentral portion of the Site).
- Load-out extra overburden, install temporary cap and perform final air clearance testing in Tent 7-4 in ISS Area 7A (eastern portion of the Site). Disassemble tent and relocate to Tent 4-1 location in ISS Area 4 (southwestern portion of the Site). Begin debris removal and ISS activities inside of tent.
- Complete final capping activities at Block 93.



September 9, 2020

Subject: Quanta Resources Corporation Superfund Site, Operable Unit 1 (OU1), Edgewater, New Jersey, Progress Report:
August 2020

Schedule Update and Delays

Updated schedule provided to EPA on February 7, 2020 however the schedule is currently being updated in light of the recent impacts on progress related to the COVID-19 pandemic. A revised schedule will be submitted in future status reports.

Percent Complete

Work associated with the entire OU1 Remedial Action is approximately 76 percent complete.

Please feel free to contact me at 267-250-7387 or Steve Coladonato, Honeywell Remediation Manager, at 302-791-6738 if you have any questions or comments regarding the Quanta project.

Sincerely,

Stephen J. Zarlinski
Project Manager

Attachment – Figure 1 - ISS Status Map
In Situ Solidification/Stabilization Results Dashboard

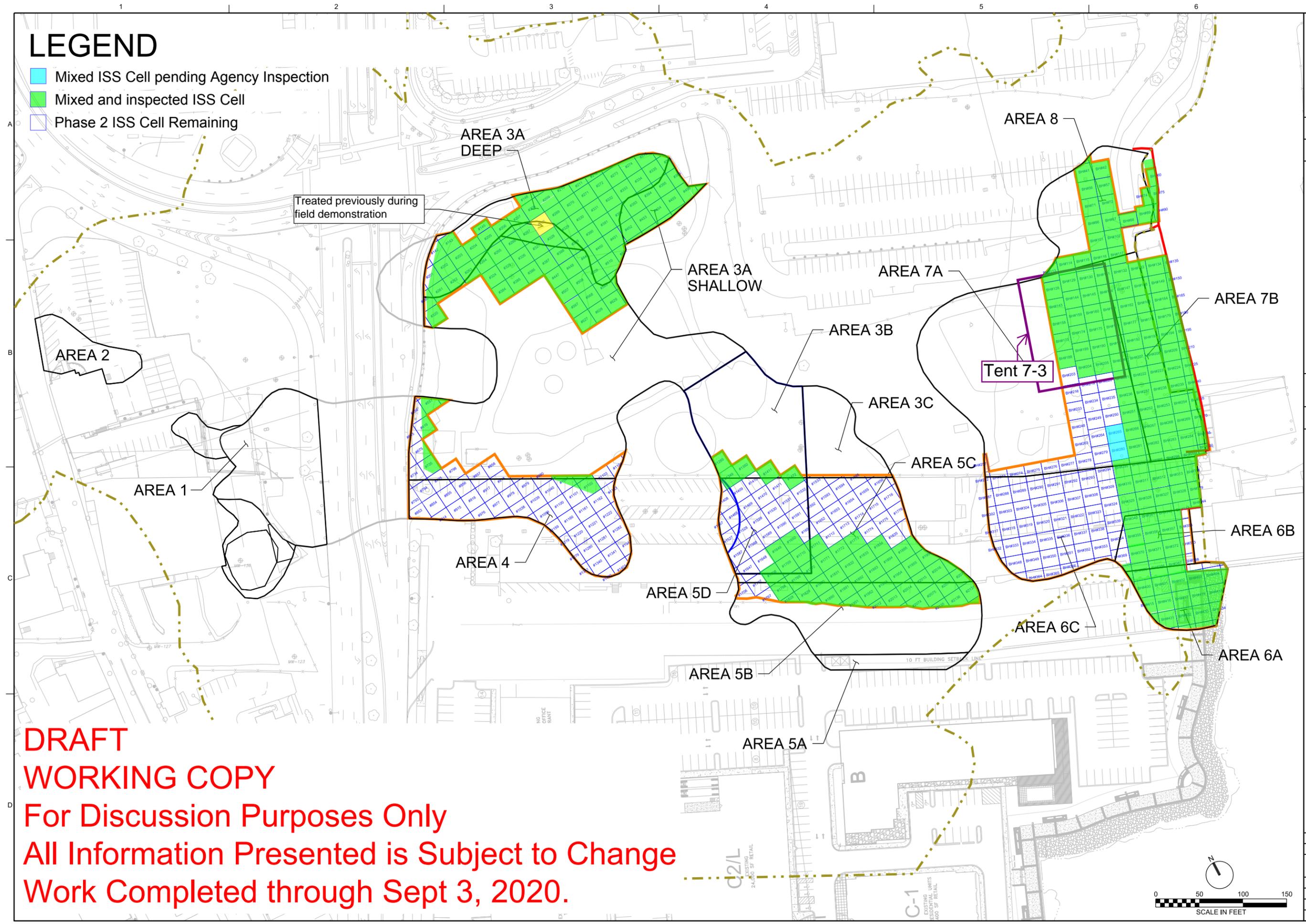
Copies to:

Clay Monroe (EPA)
Steve Coladonato (Honeywell)
Erica Bergman (NJDEP)
Helen Fahy (Fahy Associates)
Neil Ravensbergen (USACE)
Frank Rossi (Boswell)
Michael Johnson (USACE)
Devin Sokolich (Hongkun USA)

Rich Puvogel (EPA)
John Mojka (Honeywell)
Greg Franz (Borough of Edgewater)
Tim Johnson (Anchor QEA)
Rich Gajdek (USACE)
Neil Kolb (USACE)

LEGEND

- Mixed ISS Cell pending Agency Inspection
- Mixed and inspected ISS Cell
- Phase 2 ISS Cell Remaining



DRAFT
WORKING COPY
For Discussion Purposes Only
All Information Presented is Subject to Change
Work Completed through Sept 3, 2020.

JACOBS CIVIL PHASE 2 ISS CELLS		HONEYWELL INTERNATIONAL INC. QUANTA RESOURCES CORPORATION SUPERFUND SITE Edgewater, New Jersey		EA MCKENNA DR PA KARABAN CHK REVISION APVD BY APVD
1"=50' VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.		DATE PROJ 428872 DWG FIG-1 SHEET of		NO. DATE DSGN
FILENAME: 10-C-F201-9-24-19.dgn PLOT DATE: 2019/09/25 PLOT TIME: 10:12:09 AM				

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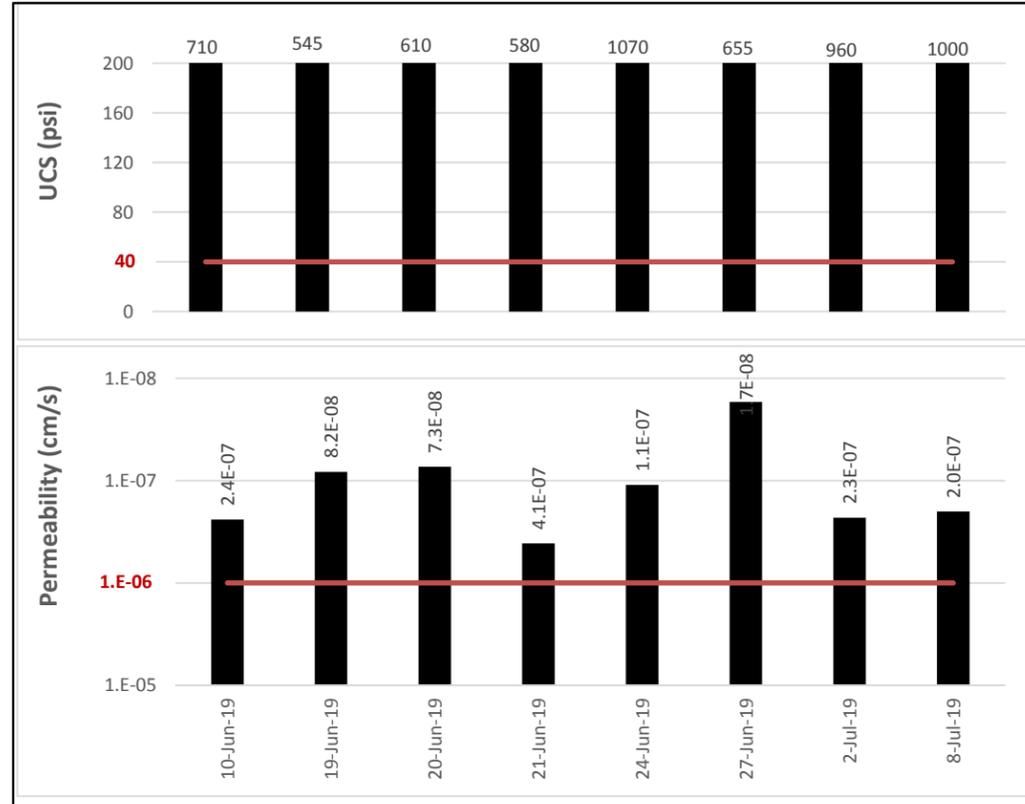
In Situ Solidification/Stabilization Results Dashboard, Tent 3-1 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-1	10-Jun-19	288	2%	6%	710	2.40E-07
3-1	19-Jun-19	167	2%	6%	545	8.20E-08
3-1	20-Jun-19	166	2%	6%	610	7.30E-08
3-1	21-Jun-19	280	2%	6%	580	4.10E-07
3-1	24-Jun-19	147	2%	6%	1070	1.10E-07
3-1	27-Jun-19	343	2%	6%	655	1.70E-08
3-1	2-Jul-19	343	2%	6%	960	2.30E-07
3-1	8-Jul-19	342	2%	6%	1000	2.00E-07

Total CY Mixed: 2076



Leaching Reduction by Constituent		
Site Constituent	8-Jul-19	
1 Arsenic	97%	
2 Benzene	99%	
3 Toluene	99%	
4 Ethylbenzene	99%	
5 Total Xylenes	99%	
6 Naphthalene	96%	
7 Acenaphthene	88%	
8 Acenaphthylene	94%	
9 Anthracene	NE	<1% tPAH
10 Benzo(a)anthracene	NE	<1% tPAH
11 Benzo(a)pyrene	NE	<1% tPAH
12 Benzo(b)fluoranthene	NE	<1% tPAH
13 Benzo(g,h,i)perylene	NE	Not detected
14 Benzo(k)fluoranthene	NE	<1% tPAH
15 Chrysene	NE	<1% tPAH
16 Dibenz(a,h)anthracene	NE	Not detected
17 Fluoranthene	NE	<1% tPAH
18 Fluorene	83%	
19 Indeno(1,2,3-cd)pyrene	NE	Not detected
20 Phenanthrene	53%	
21 Pyrene	NE	<1% tPAH
Constituents Passing	7 of 10	

Leaching calculations for each constituent provided in the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or <1% of tPAH.



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, Tent 3-2 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-2	10-Sep-19	179	2%	6%	470	2.50E-07
3-2	11-Sep-19	339	2%	6%	65	2.30E-07
3-2	12-Sep-19	293	2%	6%	550	3.40E-07
3-2	13-Sep-19	182	2%	6%	490	5.70E-08
3-2	17-Sep-19	343	2%	6%	465	2.10E-07
3-2	23-Sep-19	342	2%	6%	330	2.00E-07
3-2	24-Sep-19	329	2%	6%	405	1.20E-07
3-2	25-Sep-19	328	2%	6%	690	2.30E-07
3-2	27-Sep-19	414	2%	6%	485	1.60E-07
3-2	30-Sep-19	304	2%	6%	830	2.90E-07
3-2	1-Oct-19	348	2%	6%	615	2.90E-07
3-2	2-Oct-19	355	2%	6%	775	2.40E-07
3-2	9-Oct-19	306	2%	6%	270	2.70E-07
3-2	11-Oct-19	320	2%	6%	80	2.60E-07
3-2	14-Oct-19	71	2%	6%	200	2.90E-07
3-2	17-Oct-19	301	2%	6%	145	9.00E-07
3-2	22-Oct-19	320	2%	6%	440	2.30E-07
3-2	29-Oct-19	273	2%	6%	130	2.90E-07
3-2	7-Nov-19	261	2%	6%	560	3.60E-07
3-2	12-Nov-19	327	2%	6%	510	2.10E-07
3-2	13-Nov-19	104	2%	6%	530	3.00E-07
3-2	15-Nov-19	203	2%	6%	205	3.90E-07
3-2	21-Nov-19	319	2%	6%	335	4.30E-07
3-2	22-Nov-19	90	2%	6%	615	6.30E-07
3-2	26-Nov-19	317	2%	6%	115	2.20E-07

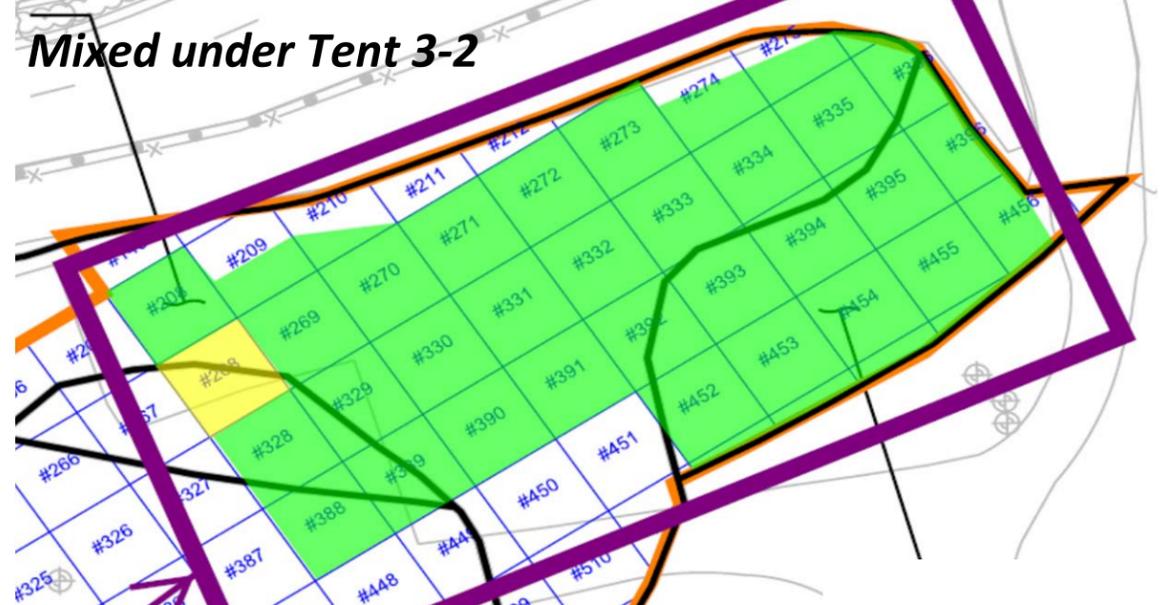
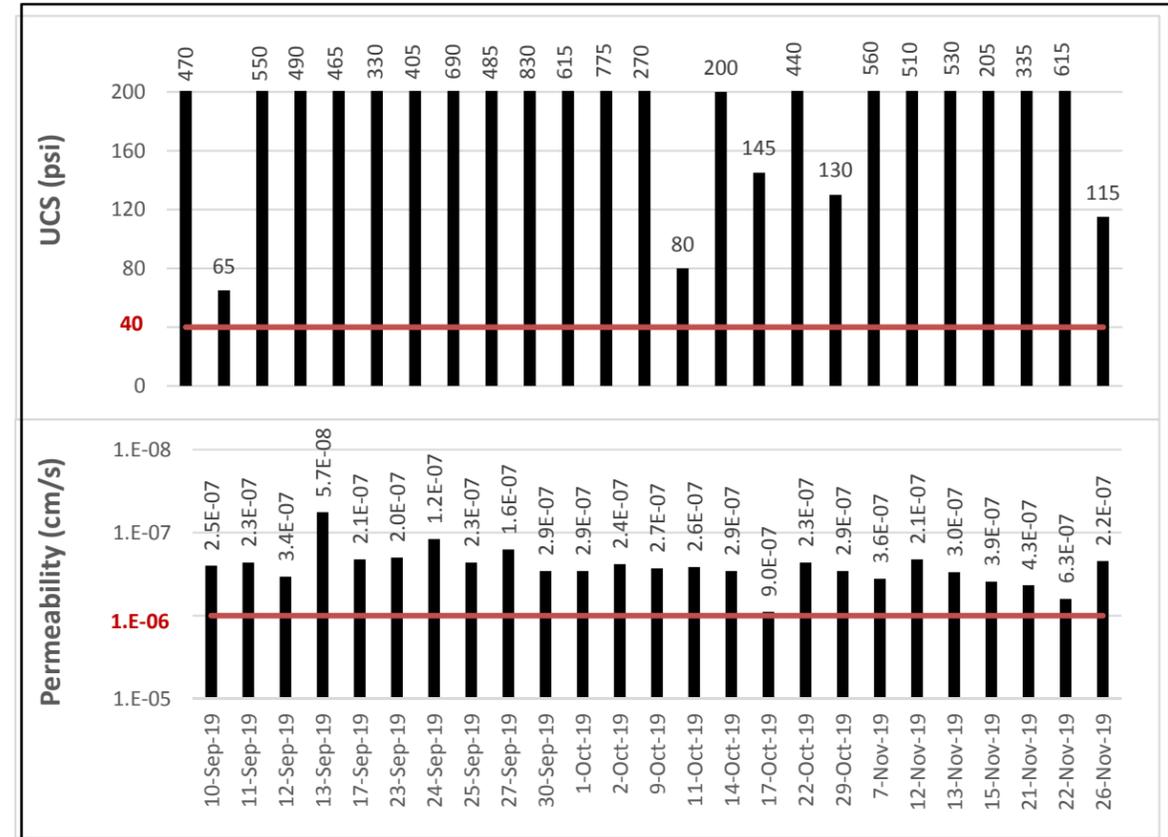
Total CY Mixed: 6968

Leaching Reduction by Constituent

Site Constituent	11-Oct-19	Site Constituent	11-Oct-19
1 Arsenic	98%	12 Benzo(b)fluoranthene	NE
2 Benzene	80%	13 Benzo(g,h,i)perylene	NE
3 Toluene	82%	14 Benzo(k)fluoranthene	NE
4 Ethylbenzene	80%	15 Benzo(a)fluoranthene	NE
5 Total Xylenes	78%	16 Benzo(a)anthracene	0%
6 Naphthalene		17 Indeno(1,2,3-cd)pyrene	1%
7 Acenaphthene		18 Phenanthrene	NE
8 Acenaphthylene		19 Anthracene	0%
9 Anthracene		20 Pyrene	0%
10 Benzo(a)anthracene	NE		
11 Benzo(a)pyrene	NE		

Constituents Passing: N/A Extra Sample

Extra Sample; See Tent 3-1 Dashboard for Batch 5 Leaching Results



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

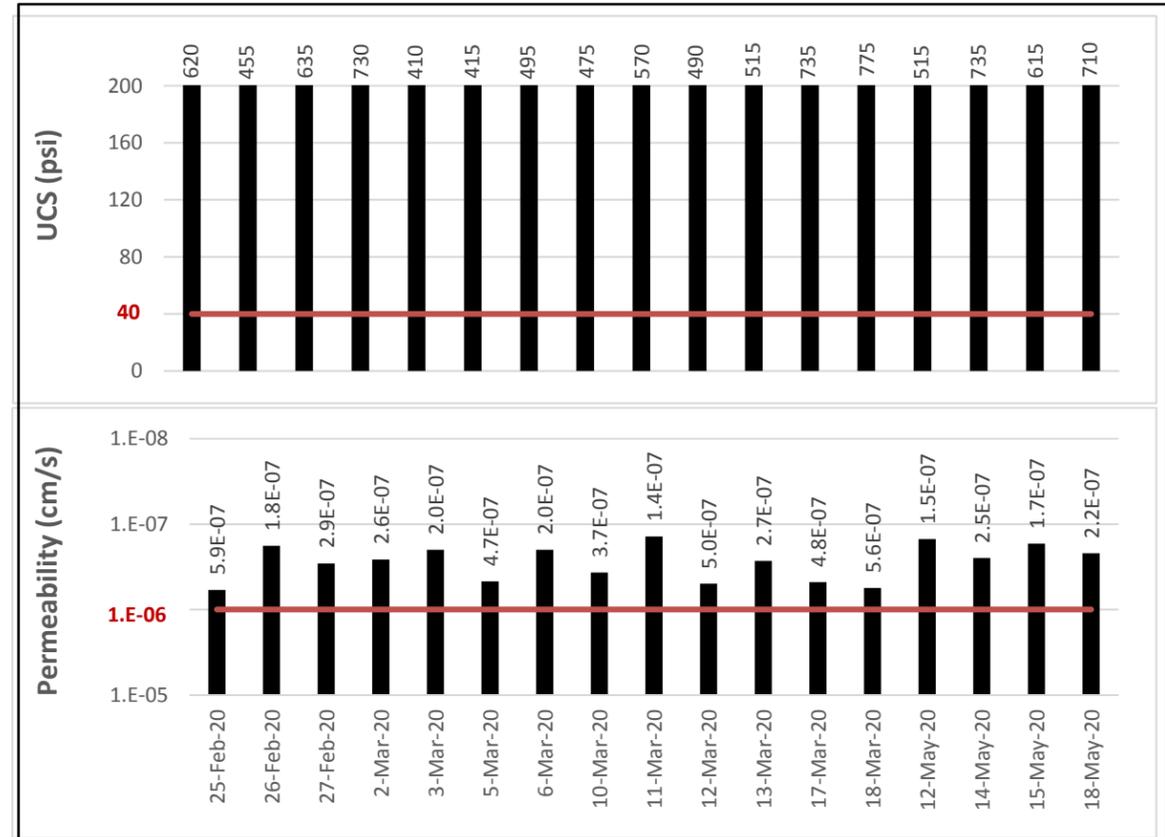
In Situ Solidification/Stabilization Results Dashboard, Tents 3-3 and 3-4 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
3-3	25-Feb-20	313	2%	6%	620	5.90E-07
3-3	26-Feb-20	327	2%	6%	455	1.80E-07
3-3	27-Feb-20	173	2%	6%	635	2.90E-07
3-3	2-Mar-20	173	2%	6%	730	2.60E-07
3-3	3-Mar-20	210	2%	6%	410	2.00E-07
3-3	5-Mar-20	173	2%	6%	415	4.70E-07
3-3	6-Mar-20	36	2%	6%	495	2.00E-07
3-3	10-Mar-20	323	2%	6%	475	3.70E-07
3-3	11-Mar-20	173	2%	6%	570	1.40E-07
3-3	12-Mar-20	152	2%	6%	490	5.00E-07
3-3	13-Mar-20	173	2%	6%	515	2.70E-07
3-3	17-Mar-20	327	2%	6%	735	4.80E-07
3-3	18-Mar-20	125	2%	6%	775	5.60E-07
3-4	12-May-20	686	2%	6%	515	1.50E-07
3-4	14-May-20	610	2%	6%	735	2.50E-07
3-4	15-May-20	531	2%	6%	615	1.70E-07
3-4	18-May-20	347	2%	6%	710	2.20E-07

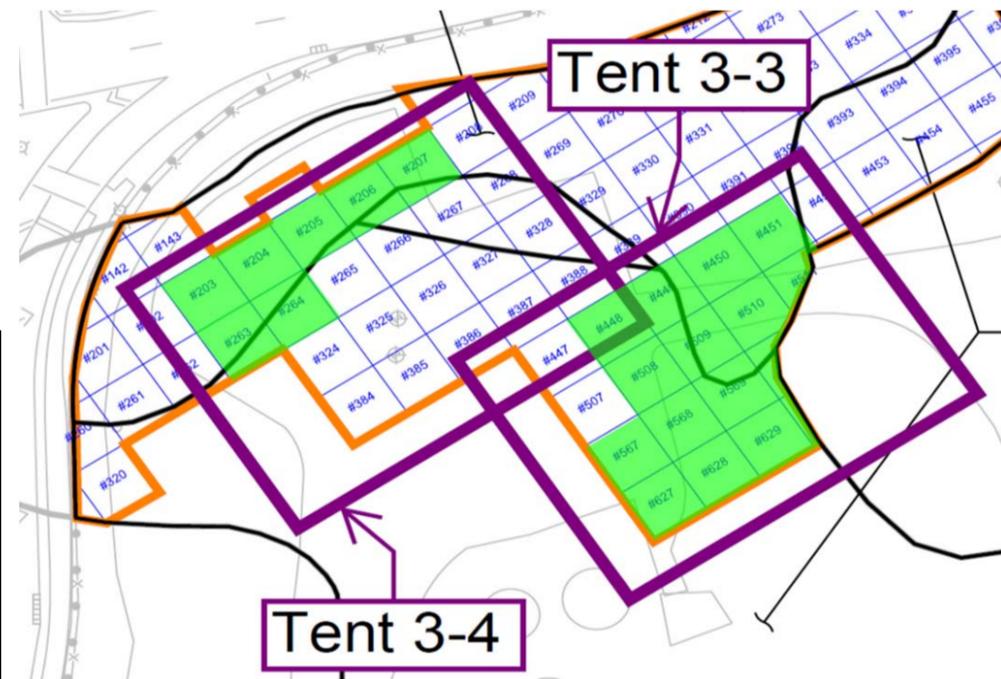
Total CY Mixed: 4855



Leaching Sample on February 27 Held; See Tent 3-1 Dashboard for Batch 5 Leaching

Leaching Reduction by Constituent	
Site Constituent	Site Constituent
1 Arsenic	12 Benzo(b)fluoranthene
2 Benzene	13 Benzo(g,h,i)perylene
3 Toluene	14 Benzo(k)fluoranthene
4 Ethylbenzene	15 Chrysene
5 Total Xylenes	16 Dibenz(a,h)anthracene
6 Naphthalene	17 Fluoranthene
7 Acenaphthene	18 Fluorene
8 Acenaphthylene	19 Indeno(1,2,3-cd)pyrene
9 Anthracene	20 Phenanthrene
10 Benzo(a)anthracene	21 Pyrene
11 Benzo(a)pyrene	

Constituents Passing



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

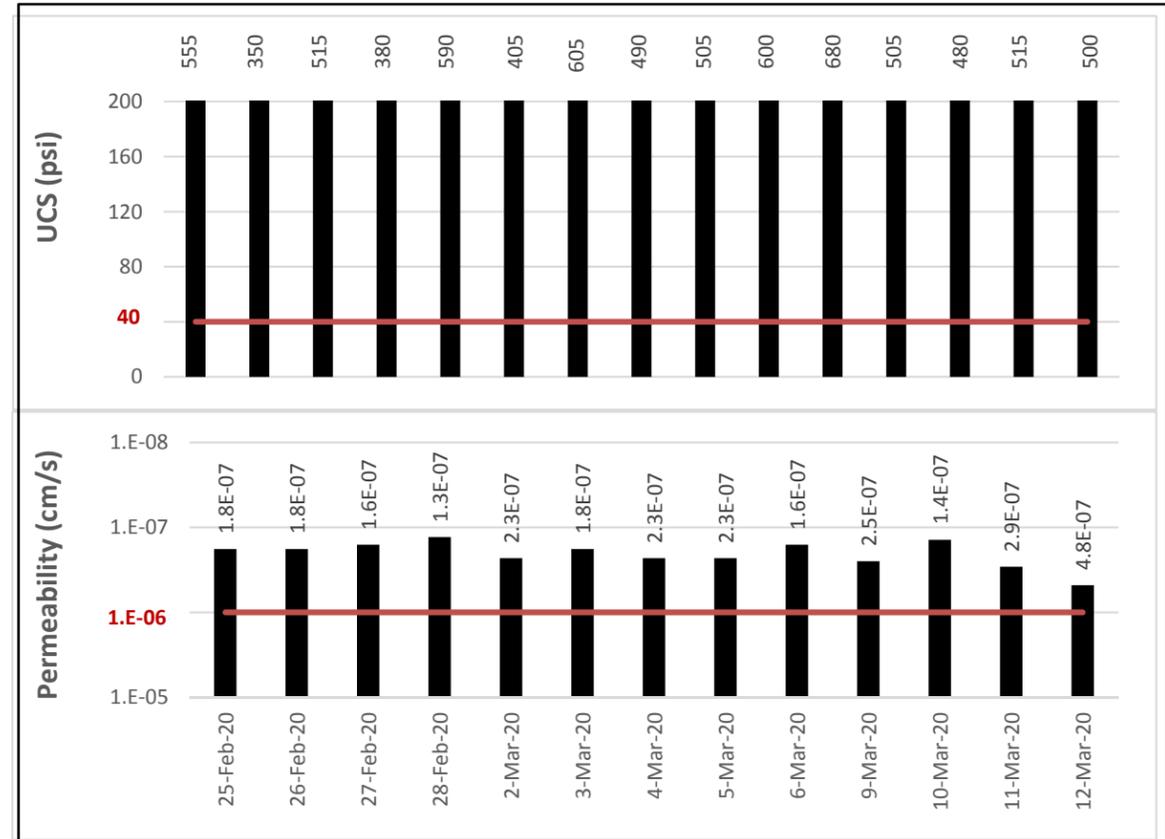
In Situ Solidification/Stabilization Results Dashboard, NT-31, 32, 33 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-33	25-Feb-20	39	2%	6%	555	1.80E-07
NT-32	26-Feb-20	131	2%	6%	350	1.80E-07
NT-32	27-Feb-20	269	2%	6%	515	1.60E-07
NT-32	28-Feb-20	258	2%	6%	380	1.30E-07
NT-32	2-Mar-20	291	2%	6%	590	2.30E-07
NT-32	3-Mar-20	66	2%	6%	405	1.80E-07
NT-31	4-Mar-20	367	2%	6%	605	2.30E-07
NT-31	5-Mar-20	166	2%	6%	490	2.30E-07
NT-31	6-Mar-20	167	2%	6%	505	1.60E-07
NT-31	9-Mar-20	151	2%	6%	600	2.50E-07
NT-31	10-Mar-20	333	2%	6%	680	1.40E-07
NT-31	11-Mar-20	167	2%	6%	505	2.90E-07
NT-31	12-Mar-20	303	2%	6%	480	4.80E-07
NT-31	17-Mar-20	173	2%	6%	515	9.10E-07
NT-31	24-Mar-20	333	2%	6%	500	2.10E-07

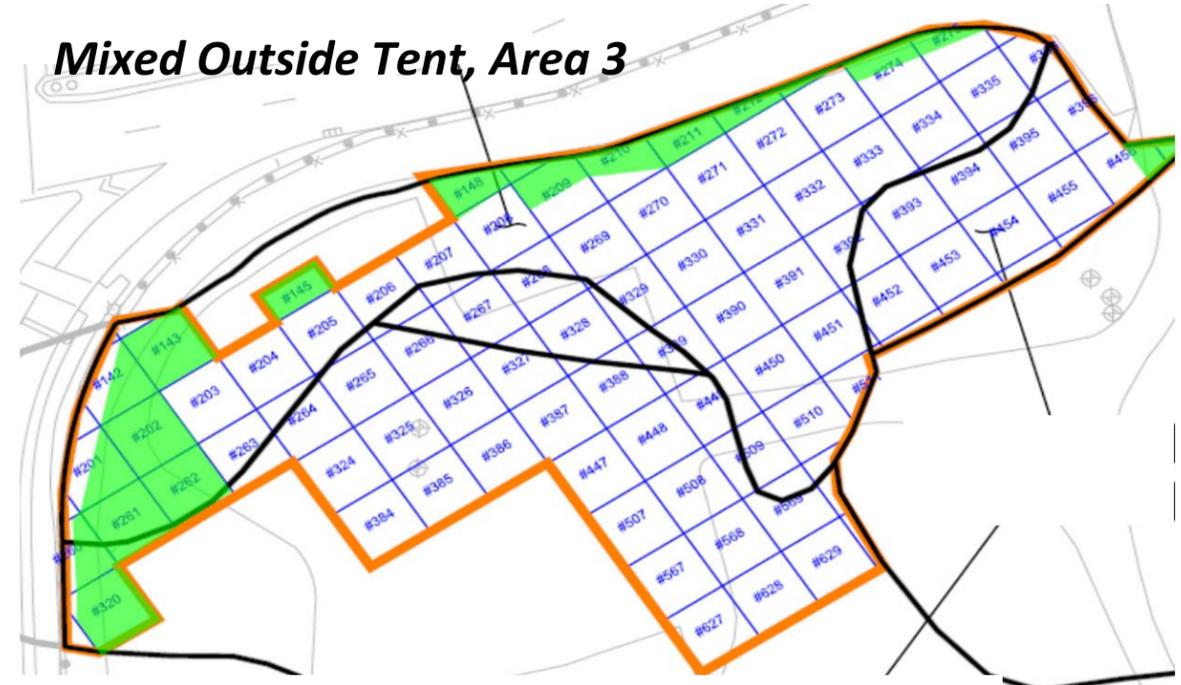
Total CY Mixed: **3215**



Leaching Reduction by Constituent	
Site Constituent	10-Mar-20
1	Arsenic
2	Benzene
3	Toluene
4	Ethylbenzene
5	Total Xylenes
6	Naphthalene
7	Acenaphthene
8	Acenaphthylene
9	Anthracene
10	Benzo(a)anthracene
11	Benzo(a)pyrene
12	Benzo(b)fluoranthene
13	Benzo(g,h,i)perylene
14	Benzo(k)fluoranthene
15	Chrysene
16	Dibenz(a,h)anthracene
17	Fluoranthene
18	Fluorene
19	Indeno(1,2,3-cd)pyrene
20	Phenanthrene
21	Pyrene
Constituents Passing	

Sample on March 10 Held; See Tent 3-1 Dashboard for Batch 5 Leaching Results

Mixed Outside Tent, Area 3



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

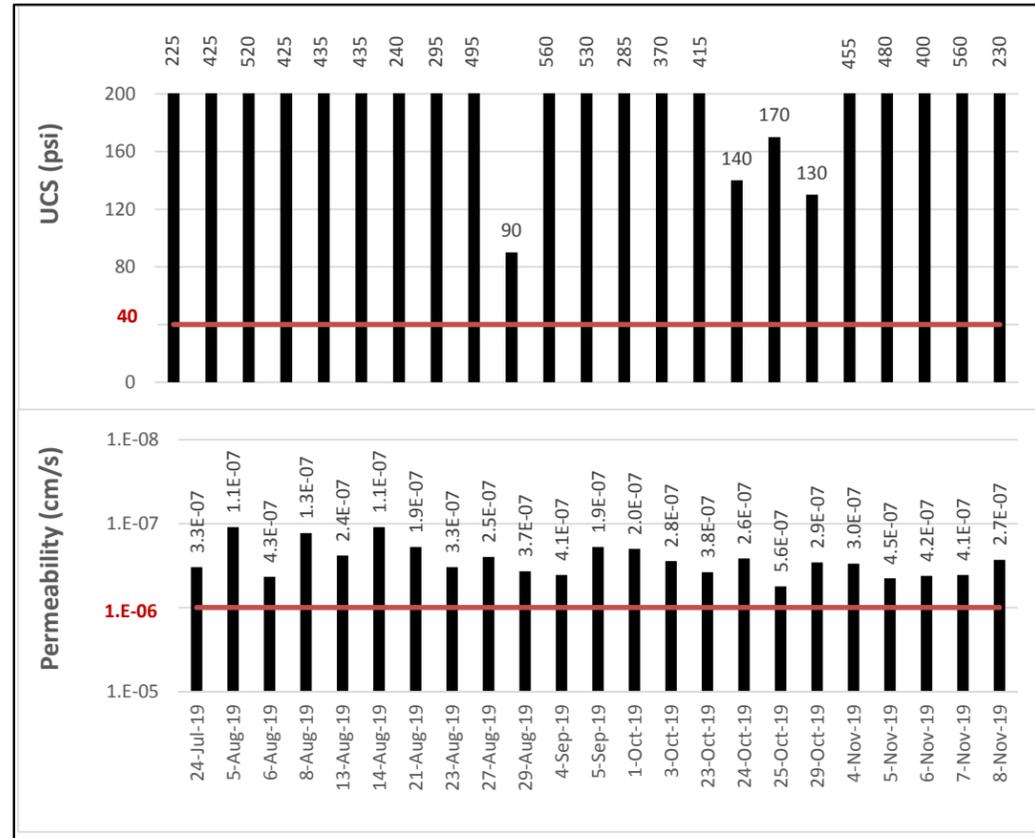
In Situ Solidification/Stabilization Results Dashboard, Tent 7-1 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-1	24-Jul-19	536	2%	6%	225	3.3E-07
7-1	5-Aug-19	494	2%	6%	425	1.1E-07
7-1	6-Aug-19	488	2%	6%	520	4.3E-07
7-1	8-Aug-19	468	2%	6%	425	1.3E-07
7-1	13-Aug-19	502	2%	6%	435	2.4E-07
7-1	14-Aug-19	524	2%	6%	435	1.1E-07
7-1	21-Aug-19	354	2%	6%	240	1.9E-07
7-1	23-Aug-19	323	2%	6%	295	3.3E-07
7-1	27-Aug-19	291	2%	6%	495	2.5E-07
7-1	29-Aug-19	298	2%	6%	90	3.7E-07
7-1	4-Sep-19	335	2%	6%	560	4.1E-07
7-1	5-Sep-19	282	2%	6%	530	1.9E-07
7-1	1-Oct-19	457	2%	6%	285	2.0E-07
7-1	3-Oct-19	246	2%	6%	370	2.8E-07
7-1	23-Oct-19	596	2%	6%	415	3.8E-07
7-1	24-Oct-19	290	2%	6%	140	2.6E-07
7-1	25-Oct-19	308	2%	6%	170	5.6E-07
7-1	29-Oct-19	296	2%	6%	130	2.9E-07
7-1	4-Nov-19	260	2%	6%	455	3.0E-07
7-1	5-Nov-19	268	2%	6%	480	4.5E-07
7-1	6-Nov-19	159	2%	6%	400	4.2E-07
7-1	7-Nov-19	262	2%	6%	560	4.1E-07
7-1	8-Nov-19	276	2%	6%	230	2.7E-07

Total CY Mixed: **8311**



Leaching Reduction by Constituent		8-Aug-19	23-Oct-19
1	Arsenic	100%	HELD SAMPLE; See August 8 results for Batch 6
2	Benzene	100%	
3	Toluene	100%	
4	Ethylbenzene	98%	
5	Total Xylenes	97%	
6	Naphthalene	99%	
7	Acenaphthene	NE; <1% tPAH	
8	Acenaphthylene	NE; <1% tPAH	
9	Anthracene	NE; <1% tPAH	
10	Benzo(a)anthracene	NE; <1% tPAH	
11	Benzo(a)pyrene	NE; <1% tPAH	
12	Benzo(b)fluoranthene	NE; <1% tPAH	
13	Benzo(g,h,i)perylene	NE; not detected	
14	Benzo(k)fluoranthene	NE; not detected	
15	Chrysene	NE; <1% tPAH	
16	Dibenz(a,h)anthracene	NE; not detected	
17	Fluoranthene	NE; <1% tPAH	
18	Fluorene	NE; <1% tPAH	
19	Indeno(1,2,3-cd)pyrene	NE; not detected	
20	Phenanthrene	NE; <1% tPAH	
21	Pyrene	NE; <1% tPAH	
Constituents Passing		6 of 6	

Leaching calculations for each constituent provided in Attachment 5 of the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or comprises less than 1% of total PAHs



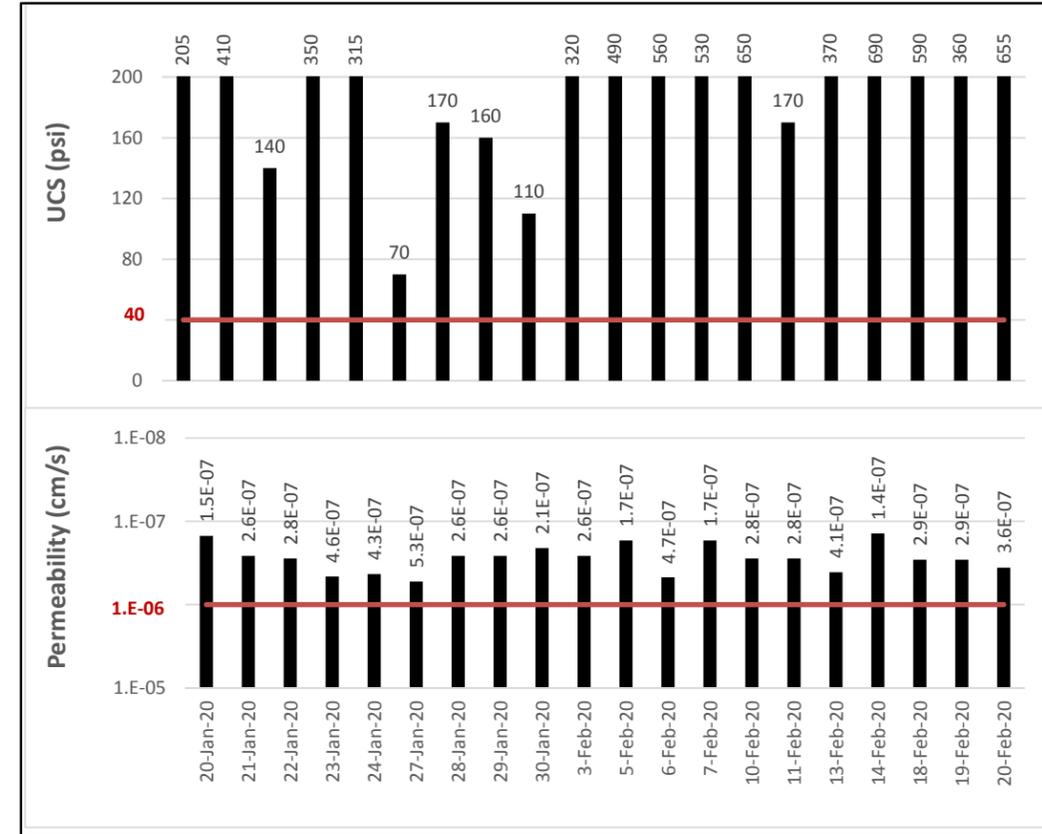
In Situ Solidification/Stabilization Results Dashboard, Tent 7-2 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-2	20-Jan-20	312	4%	6%	205	1.5E-07
7-2	21-Jan-20	472	4%	6%	410	2.6E-07
7-2	22-Jan-20	564	4%	6%	140	2.8E-07
7-2	23-Jan-20	394	4%	6%	350	4.6E-07
7-2	24-Jan-20	538	4%	6%	315	4.3E-07
7-2	27-Jan-20	256	4%	6%	70	5.3E-07
7-2	28-Jan-20	295	4%	6%	170	2.6E-07
7-2	29-Jan-20	242	4%	6%	160	2.6E-07
7-2	30-Jan-20	329	4%	6%	110	2.1E-07
7-2	3-Feb-20	252	4%	6%	320	2.6E-07
7-2	5-Feb-20	198	4%	6%	490	1.7E-07
7-2	6-Feb-20	247	4%	6%	560	4.7E-07
7-2	7-Feb-20	249	4%	6%	530	1.7E-07
7-2	10-Feb-20	258	4%	6%	650	2.8E-07
7-2	11-Feb-20	239	4%	6%	170	2.8E-07
7-2	13-Feb-20	198	4%	6%	370	4.1E-07
7-2	14-Feb-20	214	4%	6%	690	1.4E-07
7-2	18-Feb-20	204	4%	6%	590	2.9E-07
7-2	19-Feb-20	237	4%	6%	360	2.9E-07
7-2	20-Feb-20	185	4%	6%	655	3.6E-07

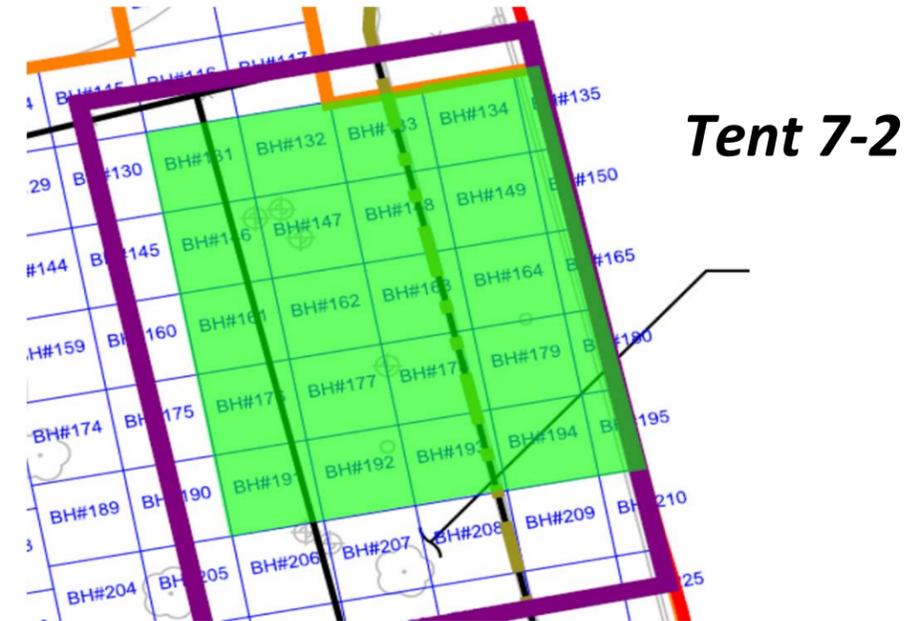
Total CY Mixed: **5882**



Leaching Reduction by Constituent	30-Jan-20
1 Arsenic	
2 Benzene	
3 Toluene	
4 Ethylbenzene	
5 Total Xylenes	
6 Naphthalene	
7 Acenaphthene	
8 Acenaphthylene	
9 Anthracene	
10 Benzo(a)anthracene	
11 Benzo(a)pyrene	
12 Benzo(b)fluoranthene	
13 Benzo(g,h,i)perylene	
14 Benzo(k)fluoranthene	
15 Chrysene	
16 Dibenz(a,h)anthracene	
17 Fluoranthene	
18 Fluorene	
19 Indeno(1,2,3-cd)pyrene	
20 Phenanthrene	
21 Pyrene	

Constituents Passing

Held Sample, See Tent 7-1 Dashboard for Batch 6 Results



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, Tent 7-3 (Leaching Batch 6)

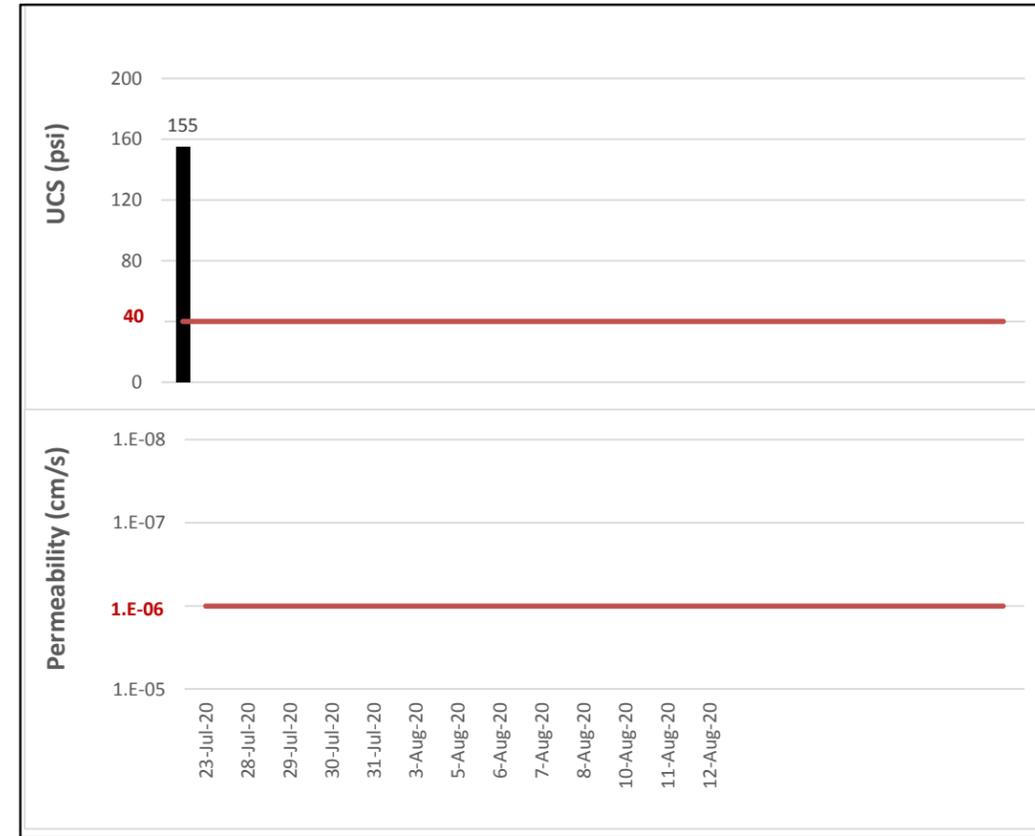
Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-3	23-Jul-20	182	2%	6%	155	
7-3	28-Jul-20	183	2%	6%		
7-3	29-Jul-20	236	2%	6%		
7-3	30-Jul-20	180	2%	6%		
7-3	31-Jul-20	253	2%	6%		
7-3	3-Aug-20	225	2%	6%		
7-3	5-Aug-20	221	2%	6%		
7-3	6-Aug-20	341	2%	6%		
7-3	7-Aug-20	429	2%	6%		
7-3	8-Aug-20	204	2%	6%		
7-3	10-Aug-20	417	2%	6%		
7-3	11-Aug-20	534	2%	6%		
7-3	12-Aug-20	171	2%	6%		

Data Pending

Total CY Mixed: **3575**

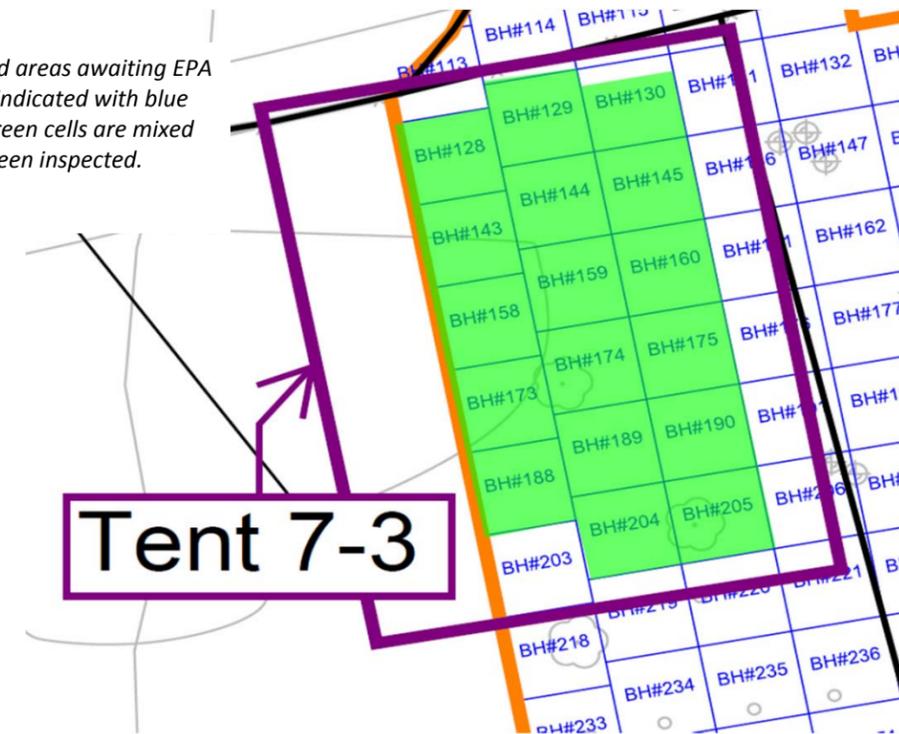


Leaching Reduction by Constituent	
1	Arsenic
2	Benzene
3	Toluene
4	Ethylbenzene
5	Total Xylenes
6	Naphthalene
7	Acenaphthene
8	Acenaphthylene
9	Anthracene
10	Benzo(a)anthracene
11	Benzo(a)pyrene
12	Benzo(b)fluoranthene
13	Benzo(g,h,i)perylene
14	Benzo(k)fluoranthene
15	Chrysene
16	Dibenz(a,h)anthracene
17	Fluoranthene
18	Fluorene
19	Indeno(1,2,3-cd)pyrene
20	Phenanthrene
21	Pyrene

Constituents Passing:

Held Sample, See Tent 7-1 Dashboard for Batch 6 Results

Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.



In Situ Solidification/Stabilization Results Dashboard, NT-61 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

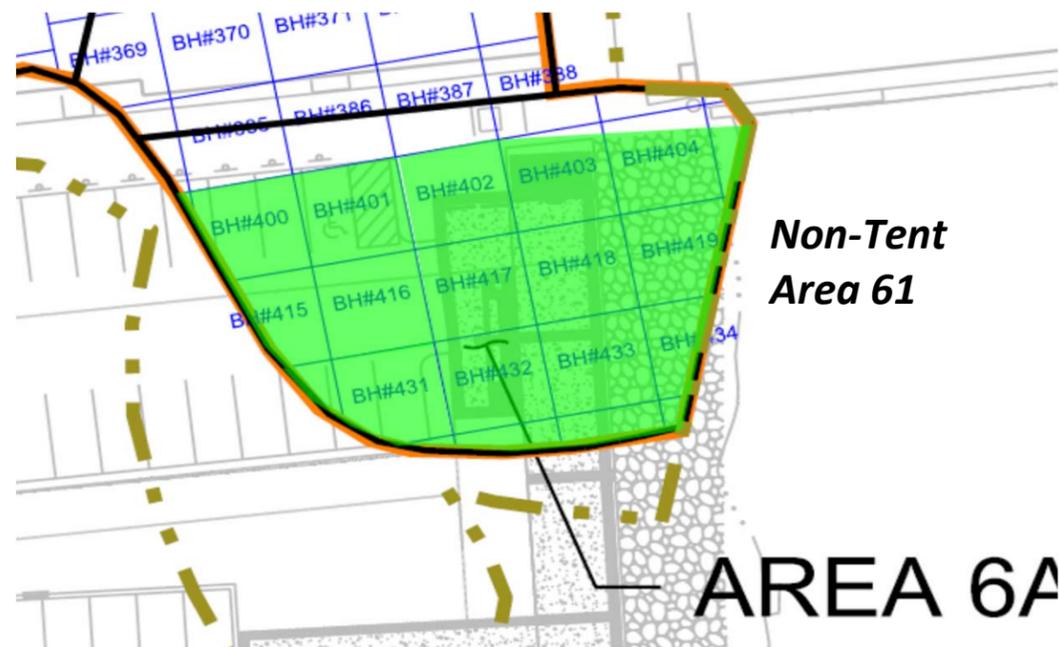
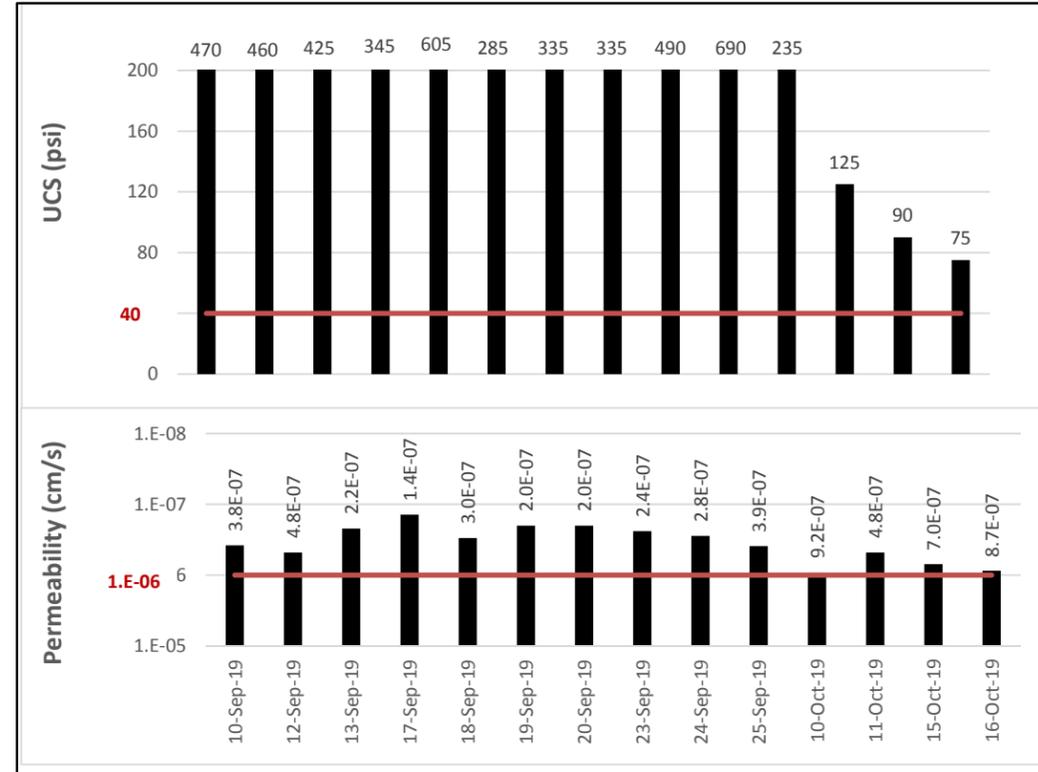
Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-61	10-Sep-19	237	4%	6%	470	3.8E-07
NT-61	12-Sep-19	247	4%	6%	460	4.8E-07
NT-61	13-Sep-19	220	4%	6%	425	2.2E-07
NT-61	17-Sep-19	292	4%	6%	345	1.4E-07
NT-61	18-Sep-19	266	4%	6%	605	3.0E-07
NT-61	19-Sep-19	354	4%	6%	285	2.0E-07
NT-61	20-Sep-19	239	4%	6%	335	2.0E-07
NT-61	23-Sep-19	244	4%	6%	335	2.4E-07
NT-61	24-Sep-19	221	4%	6%	490	2.8E-07
NT-61	25-Sep-19	226	4%	6%	690	3.9E-07
NT-61	10-Oct-19	225	4%	6%	235	9.2E-07
NT-61	11-Oct-19	210	4%	6%	125	4.8E-07
NT-61	15-Oct-19	172	4%	6%	90	7.0E-07
NT-61	16-Oct-19	118	4%	6%	75	8.7E-07

Total CY Mixed: **3271**

Leaching Reduction by Constituent		
Site Constituent	13-Sep-19	
1 Arsenic	100%	
2 Benzene	NE; not detected	
3 Toluene	NE; not detected	
4 Ethylbenzene	NE; not detected	
5 Total Xylenes	NE; not detected	
6 Naphthalene	NE; not detected	
7 Acenaphthene	NE; not detected	
8 Acenaphthylene	NE; not detected	
9 Anthracene	NE; not detected	
10 Benzo(a)anthracene	NE; not detected	
11 Benzo(a)pyrene	NE; not detected	
12 Benzo(b)fluoranthene	NE; not detected	
13 Benzo(g,h,i)perylene	NE; not detected	
14 Benzo(k)fluoranthene	NE; not detected	
15 Chrysene	NE; not detected	
16 Dibenz(a,h)anthracene	NE; not detected	
17 Fluoranthene	NE; not detected	
18 Fluorene	0%	Low baseline; no reduction
19 Indeno(1,2,3-cd)pyrene	NE; not detected	
20 Phenanthrene	0%	Low baseline; no reduction
21 Pyrene	0%	Low baseline; no reduction
Constituents Passing	1 of 4	

Leaching calculations for each constituent provided in the ISS Memo for this Parcel. Boxed sample dates on table above indicate collection of a leaching sample. Constituents with 90+% reduction are shaded green. NE - Not Evaluated; constituent not detected in baseline sample or <1% of tPAH.



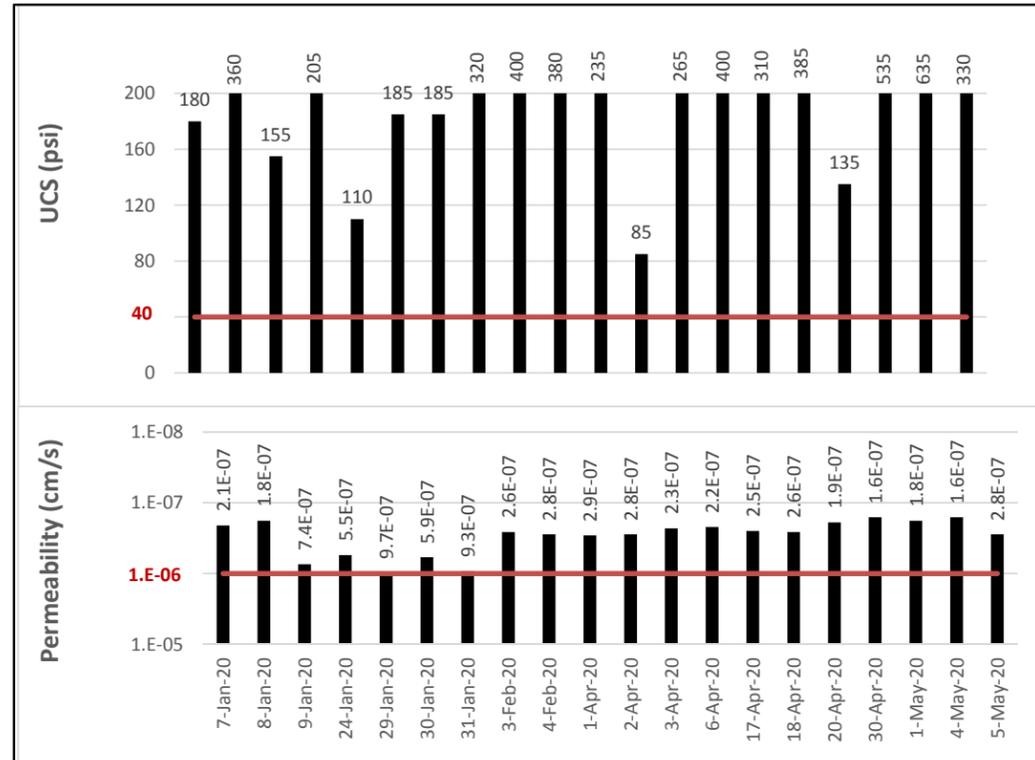
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, NT-62/63 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

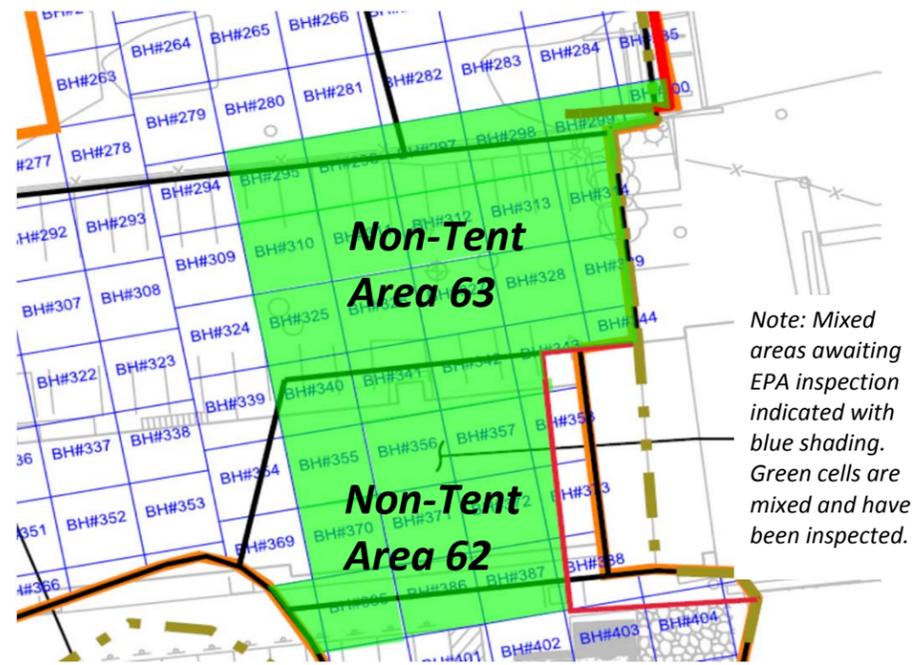
Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-62	7-Jan-20	236	4%	6%	180	2.1E-07
NT-62	8-Jan-20	188	4%	6%	360	1.8E-07
NT-62	9-Jan-20	142	4%	6%	155	7.4E-07
NT-62	24-Jan-20	271	4%	6%	205	5.5E-07
NT-62	29-Jan-20	206	4%	6%	110	9.7E-07
NT-62	30-Jan-20	195	4%	6%	185	5.9E-07
NT-62	31-Jan-20	180	4%	6%	185	9.3E-07
NT-62	3-Feb-20	235	4%	6%	320	2.6E-07
NT-62	4-Feb-20	170	4%	6%	400	2.8E-07
NT-63	1-Apr-20	225	4%	6%	380	2.9E-07
NT-63	2-Apr-20	187	4%	6%	235	2.8E-07
NT-63	3-Apr-20	253	4%	6%	85	2.3E-07
NT-63	6-Apr-20	333	4%	6%	265	2.2E-07
NT-63	17-Apr-20	319	4%	6%	400	2.5E-07
NT-64	18-Apr-20	230	4%	6%	310	2.6E-07
NT-65	20-Apr-20	222	4%	6%	385	1.9E-07
NT-66	30-Apr-20	90	4%	6%	135	1.6E-07
NT-67	1-May-20	296	4%	6%	535	1.8E-07
NT-68	4-May-20	189	4%	6%	635	1.6E-07
NT-69	5-May-20	374	4%	6%	330	2.8E-07
Total CY Mixed:		4541				



Leaching Reduction by Constituent			
Site Constituent		Site Constituent	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benzo(g,h,i)perylene
3	Toluene	14	Benzo(k)fluoranthene
4	Ethylbenzene		
5	Total Xylenes		
6	Naphthalene		
7	Acenaphthene		
8	Acenaphthylene	19	Indeno(1,2,3-cd)pyrene
9	Anthracene	20	Phenanthrene
10	Benzo(a)anthracene	21	Pyrene
11	Benzo(a)pyrene		
Constituents Passing			

Sample Collected May 5, 2020; data pending



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, Area 8 (Leaching Batch 8)

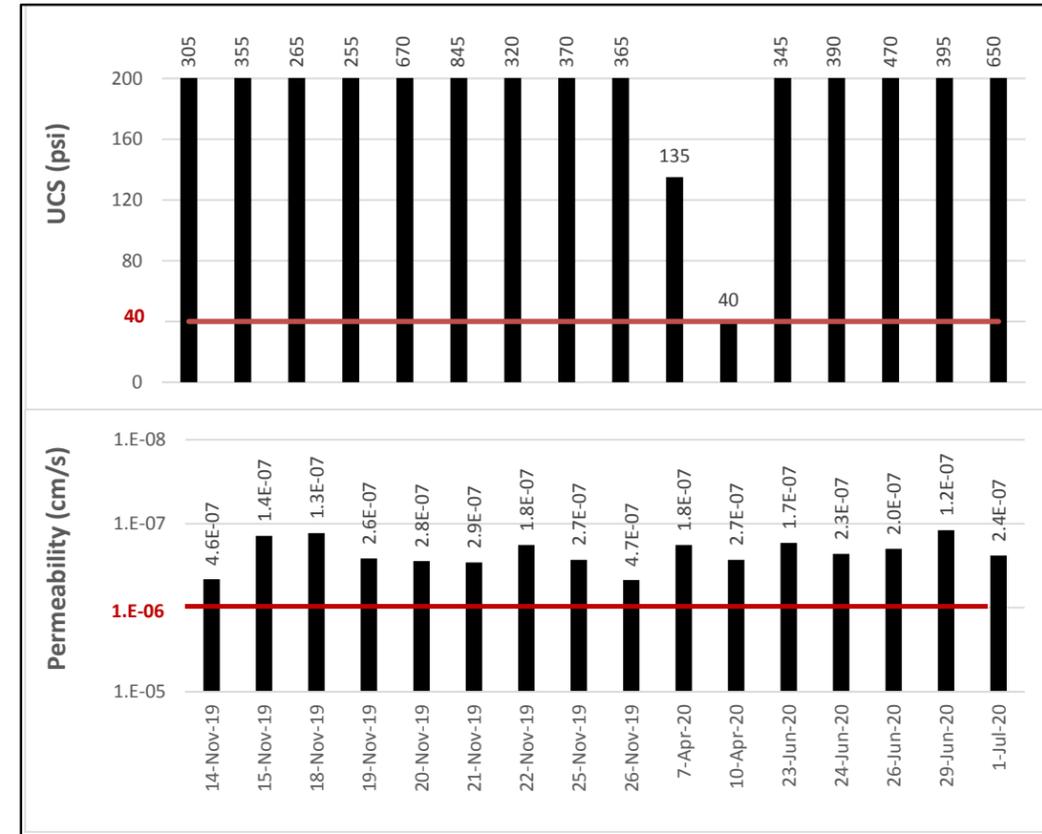
Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
8	14-Nov-19	234	2%	6%	305	4.6E-07
8	15-Nov-19	115	2%	6%	355	1.4E-07
8	18-Nov-19	172	2%	6%	265	1.3E-07
8	19-Nov-19	304	2%	6%	255	2.6E-07
8	20-Nov-19	116	2%	6%	670	2.8E-07
8	21-Nov-19	173	2%	6%	845	2.9E-07
8	22-Nov-19	104	2%	6%	320	1.8E-07
8	25-Nov-19	123	2%	6%	370	2.7E-07
8	26-Nov-19	88	2%	6%	365	4.7E-07
8	7-Apr-20	310	4%	6%	135	1.8E-07
8	10-Apr-20	568	2%	6%	40	2.7E-07
8	23-Jun-20	231	2%	6%	345	1.7E-07
8	24-Jun-20	211	2%	6%	390	2.3E-07
8	26-Jun-20	226	2%	6%	470	2.0E-07
8	29-Jun-20	129	2%	6%	395	1.2E-07
8	1-Jul-20	221	2%	6%	650	2.4E-07

Total CY Mixed: **3324**

Leaching Reduction by Constituent		
Site Constituent	25-Nov-19	
1 Arsenic	97.19%	
2 Benzene	98.63%	
3 Toluene	97.23%	
4 Ethylbenzene	95.71%	
5 Total Xylenes	95.57%	
6 Naphthalene	95.94%	
7 Acenaphthene	93.38%	
8 Acenaphthylene	NE	<1% tPAH
9 Anthracene	NE	<1% tPAH
10 Benzo(a)anthracene	NE	<1% tPAH
11 Benzo(a)pyrene	NE	Not detected
12 Benzo(b)fluoranthene	NE	Not detected
13 Benzo(g,h,i)perylene	NE	Not detected
14 Benzo(k)fluoranthene	NE	Not detected
15 Chrysene	NE	<1% tPAH
16 Dibenz(a,h)anthracene	NE	Not detected
17 Fluoranthene	NE	<1% tPAH
18 Fluorene	NE	<1% tPAH
19 Indeno(1,2,3-cd)pyrene	NE	Not detected
20 Phenanthrene	NE	<1% tPAH
21 Pyrene	NE	<1% tPAH
Constituents Passing	7 of 7	



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been



In Situ Solidification/Stabilization Results Dashboard, Area 4 (Leaching Batch 9)

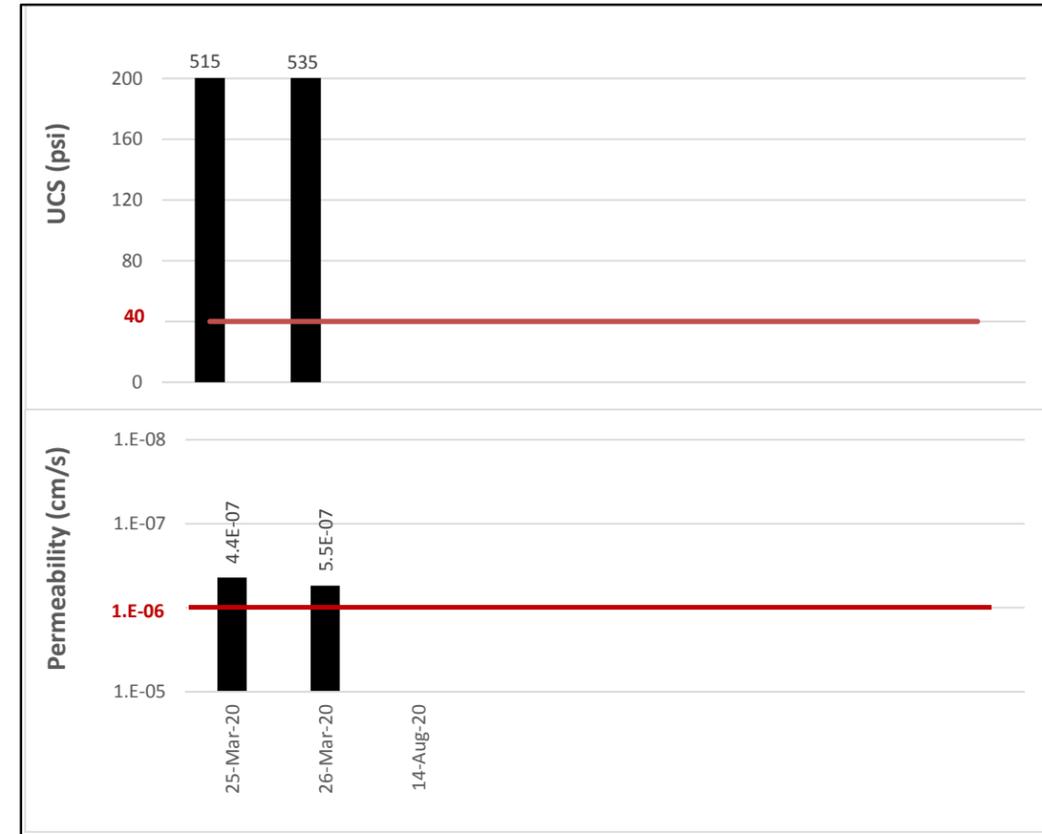
Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-41	25-Mar-20	249	2%	6%	515	4.4E-07
NT-41	26-Mar-20	317	2%	6%	535	5.5E-07
NT-42	14-Aug-20	372	2%	6%		

Total CY Mixed: **938**

Data Pending



Leaching Reduction by Constituent	
Site Constituent	
1	Arsenic
2	Benzene
3	Toluene
4	Ethylbenzene
5	Total Xylenes
6	Naphthalene
7	Acenaphthene
8	Acenaphthylene
9	Anthracene
10	Benzo(a)anthracene
11	Benzo(a)pyrene
12	Benzo(b)fluoranthene
13	Benzo(g,h,i)perylene
14	Benzo(k)fluoranthene
15	Chrysene
16	Dibenz(a,h)anthracene
17	Fluoranthene
18	Fluorene
19	Indeno(1,2,3-cd)pyrene
20	Phenanthrene
21	Pyrene
Constituents Passing	



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green

In Situ Solidification/Stabilization Results Dashboard, Tent 5-1 (Leaching Batch 10)

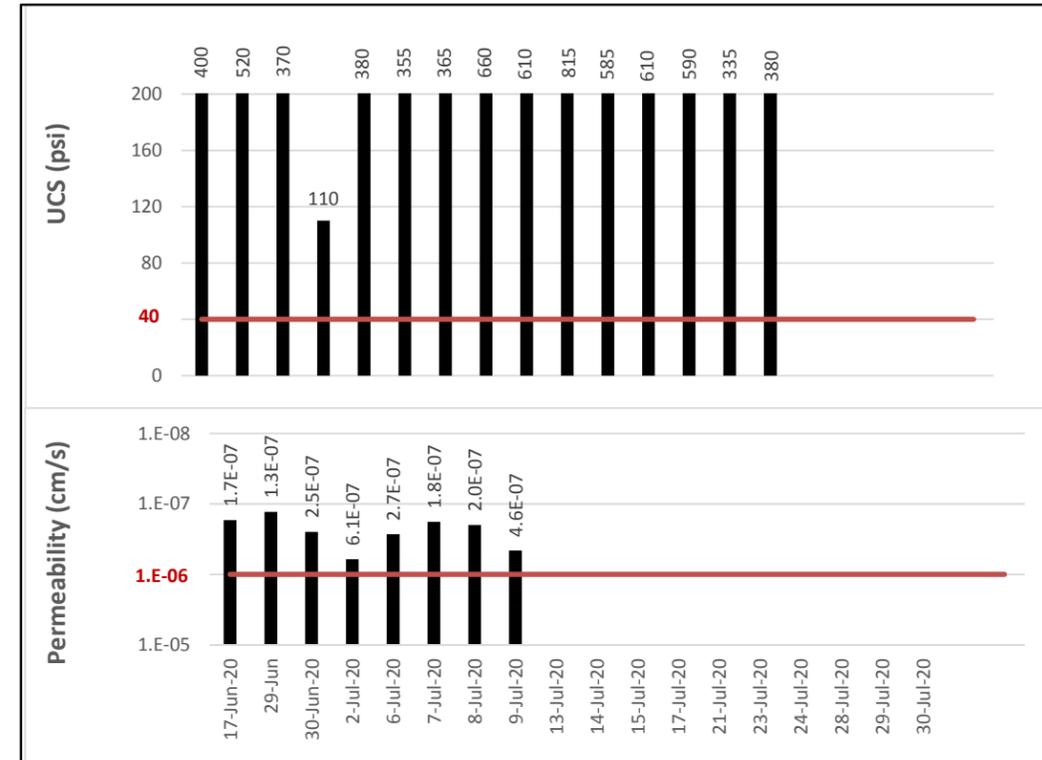
Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
5-1	17-Jun-20	273	2%	6%	400	1.7E-07
5-1	29-Jun-20	169	2%	6%	520	1.3E-07
5-1	30-Jun-20	314	2%	6%	370	2.5E-07
5-1	2-Jul-20	198	2%	6%	110	6.1E-07
5-1	6-Jul-20	267	2%	6%	380	2.7E-07
5-1	7-Jul-20	252	2%	6%	355	1.8E-07
5-1	8-Jul-20	427	2%	6%	365	2.0E-07
5-1	9-Jul-20	423	2%	6%	660	4.6E-07
5-1	13-Jul-20	122	2%	6%	610	
5-1	14-Jul-20	398	2%	6%	815	
5-1	15-Jul-20	155	2%	6%	585	
5-1	17-Jul-20	422	2%	6%	610	
5-1	21-Jul-20	314	2%	6%	590	
5-1	23-Jul-20	331	4%	6%	335	
5-1	24-Jul-20	142	2%	6%	380	
5-1	28-Jul-20	276	4%	6%		
5-1	29-Jul-20	260	4%	6%		
5-1	30-Jul-20	328	2%	6%		
5-1	3-Aug-20	231	2%	6%		
5-1	5-Aug-20	337	2%	6%		

Total CY Mixed: **5640**

Data Pending



Leaching Reduction by Constituent			
Site Constituent		Site Constituent	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benzo(g,h,i)perylene
3	Toluene	14	Benzo(k)fluoranthene
4	Ethylbenzene		
5	Total Xylenes		
6	Naphthalene		
7	Acenaphthene		
8	Acenaphthylene	19	Indeno(1,2,3-cd)pyrene
9	Anthracene	20	Phenanthrene
10	Benzo(a)anthracene	21	Pyrene
11	Benzo(a)pyrene		

Sample Collected July 14, 2020;
sample curing

Constituents Passing



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, NT-51 and Tent 5-2 (Leaching Batch 10)

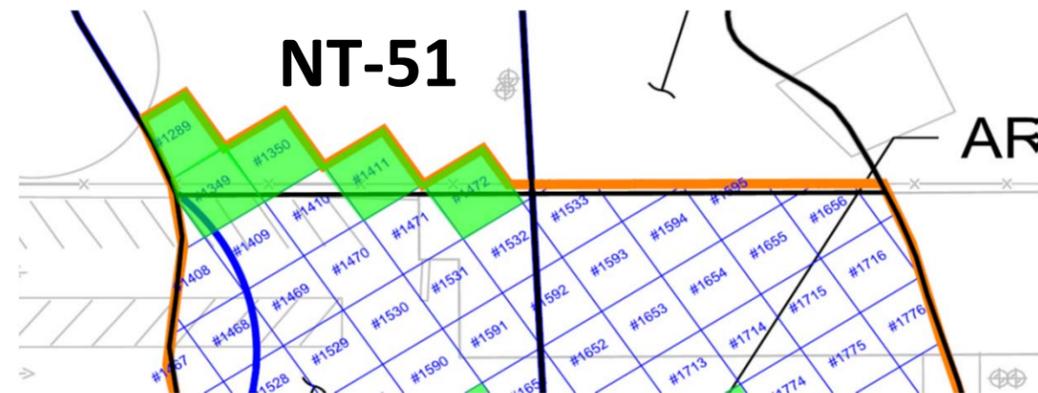
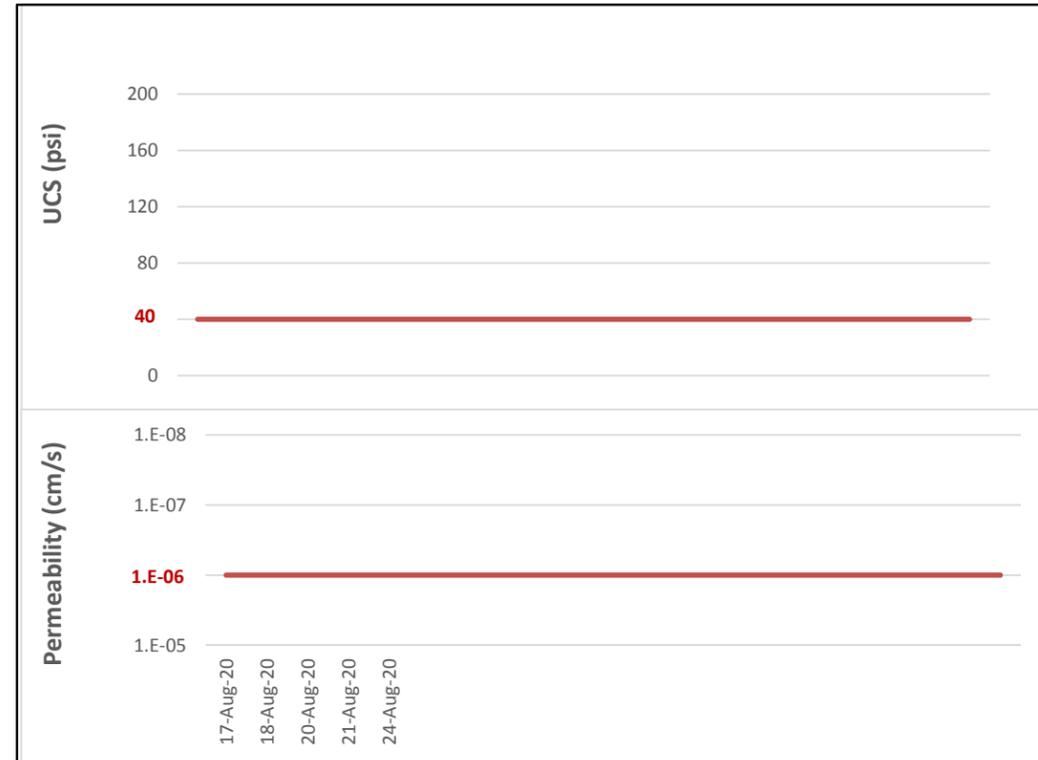
Quanta Resources Corporation Superfund Site, OU1

Data through: 8/31/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-51	17-Aug-20	273	4%	6%		
NT-51	18-Aug-20	169	4%	6%		
NT-51	20-Aug-20	314	4%	6%		
NT-51	21-Aug-20	198	4%	6%		
NT-51	24-Aug-20	267	4%	6%		

Total CY Mixed: **1221**

Data Pending



Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

Leaching Reduction by Constituent			
Site Constituent		Site Constituent	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benzo(g,h,i)perylene
3	Toluene	14	Benzo(k)fluoranthene
4	Ethylbenzene	15	Benzo(a)fluoranthene
5	Total Xylenes	16	Benzo(a)anthracene
6	Naphthalene	17	Benzo(a)pyrene
7	Acenaphthene	18	Indeno(1,2,3-cd)pyrene
8	Acenaphthylene	19	Phenanthrene
9	Anthracene	20	Pyrene
10	Benzo(a)anthracene	21	
11	Benzo(a)pyrene		

Sample Collected July 14, 2020; results pending

Constituents Passing: