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April 9, 2021

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: March 2021

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 March 31, 2021, approximately 336,750 labor hours worked.

During March, the efforts detailed in the March and April 2020 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 March 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 March.

In March, ISS activities were substantially completed (pending remix as detailed in corrective measures below) and the site is being restored for full site demobilization in April.

OU1 General Civil Work

- Supported site contractor operations and continued general site maintenance activities.
- Managed Category 1 debris generated from ISS activities.

- Loaded out the Area 7 soil stockpile for offsite disposal.
- Loaded out asphalt stockpile for offsite recycling.
- Began final Site grading activities.
- Began demobilizing construction trailers from the Site.

OU1 ISS

- Completed debris removal and ISS activities in Tent 6-1 located in ISS Area 6C (southeastern portion of the Site). Three (3) partial cells and seven (7) full cells (914 CY of material) were treated. Completed loading out extra overburden for offsite disposal, temporary cap installation and final air clearance testing. Disassembled tent and demobilized tent from the Site.
- Completed loading out extra overburden from ISS Areas 5B and 5D (southcentral portion of the Site) outside of a tent. Completed temporary cap installation and restoration of the area.
- Continued demobilizing materials and equipment from the Site.
- Began remobilizing necessary equipment for required cell remixing activities.

OU1 Bulkhead Installation

- None – Bulkhead installation is complete.

OU1 Vibration and Air Monitoring

- Continued with vibration and movement monitoring. Observed no vibrations outside the project limits during March. Vibration and movement monitoring were discontinued and the associated equipment demobilized from the Site following completion of ISS activities in Tent 6-1 in ISS Area 6C.
- Continued perimeter air monitoring in accordance with the Perimeter Air Monitoring Plan and the applicable adjustments/addendums. Air monitoring activities were suspended on March 12th at completion of ISS activities.

OU1 Offsite Waste Disposal

- Non-Hazardous
  - Two (2) 30 CY roll-offs of PPE debris to Fairless Landfill in Morrisville, PA.
  - Three (3) 30 CY roll-offs of treated wood debris to Fairless Landfill in Morrisville, PA.
  - One hundred and eighty-five (185) 25 CY dump trucks of soil to Fairless Landfill in Morrisville, PA.
  - One (1) truckload of used vapor phase carbon (total of twenty-seven (27) 1,000-lb supersacks) to Evoqua Water Technologies in Darlington, PA.
  - Six (6) 25 CY dump trucks of unimpacted asphalt to Bayshore Recycling Corporation in Keasbey, NJ.
- Hazardous

- One (1) 55-gallon drum of NAPL- to Cycle Chem in Lewisberry, PA.
- Five (5) 55-gallon drums of aqueous arsenic impacted water to Cycle Chem in Lewisberry, PA.

OU1 NAPL Recovery

- Pumped approximately 55 gallons of NAPL from RW4-2
- Sentinel wells were measured on March 30.

High Concentration Arsenic Area (HCAA)

- Completed 2nd quarterly HCAA groundwater sampling event.

Site Security, Maintenance, and Inspections

- Completed weekly boom inspections on March 2, March 11, March 18, March 26 and March 31.
- Swapped out inner and outer absorbent boom on March 31.
- Completed weekly SWPPP inspections on March 5, March 11, March 19, and March 26.

Two-Week Look-Ahead

- Continue pumping RW4-2.
- Gauge sentry wells.
- Complete transportation and off-site disposal of HCAA and NAPL drums.
- Complete final site grading activities.
- Continue demobilization of materials and equipment from the Site.
- Complete remixing necessary cells in ISS Area 6C (southeastern portion of the Site) and install temporary DGA cap on top of remixed cells.

Data and Submittals

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.

The attached ISS Results Dashboards (Attachment A) presents results for 28-day cure time conformance data results where available. As detailed within the report, and via communications with EPA, two samples failed associated with Batch 7. This included one sample failing for UCS and one sample for permeability. Corrective measures as defined below were implemented.

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

- Received approval on the language from EPA on March 24 associated with the deed restriction for Block 93 Central.

Corrective Actions

As detailed in the ISS Compliance Data Summary, two samples failed to meet the required Performance Criteria for UCS and permeability. In addition, a third sample was trending below the applicable requirements. As the project is substantively completed, and to reduce further delays, these cells are planned to be remixed in early April which ultimately will adjust the schedule for demobilization by approximately two weeks. Samples will be recollected in these cells to confirm that the remixing process remediated the failing results.

Stakeholder Communication and Community Involvement

- Submitted the monthly progress report for February on March 8th.
- Reviewed and updated the Honeywell website as needed. Coordinated preparation of written updates and maps, and submitted progress photos and air analysis graphs. Conducted review and update of entire website to prepare for completion of the on-site work.
- Tracked community concerns and complaints. No concerns were submitted through the hotline in March. Continue weekly notification of upcoming Saturday work.
- 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 and updated weekly air data and trend graphs.

Activities Planned for Next 6 Weeks

- Continue with NAPL recovery operations.
- Continue weekly boom inspections and SWPPP inspections and associated maintenance.
- Discontinue perimeter and offsite air monitoring.
- Complete demobilizing all materials and equipment from the Site.

- Install permanent fencing along the southern and northeastern portion of the Site.
- Pave and restore Area 6 (southeastern portion of the Site).

Schedule Update and Delays

Current demobilization (following completion of cell remixing) is planned to be fully completed by end of April 2021.

Percent Complete

Work associated with the entire OU1 Remedial Action is approximately 96 percent complete.

Please feel free to contact me at 267-250-7387 or Helen Fahy, Honeywell Remediation Manager, at 814-571-4912 if you have any questions or comments regarding the Quanta project.

Sincerely,

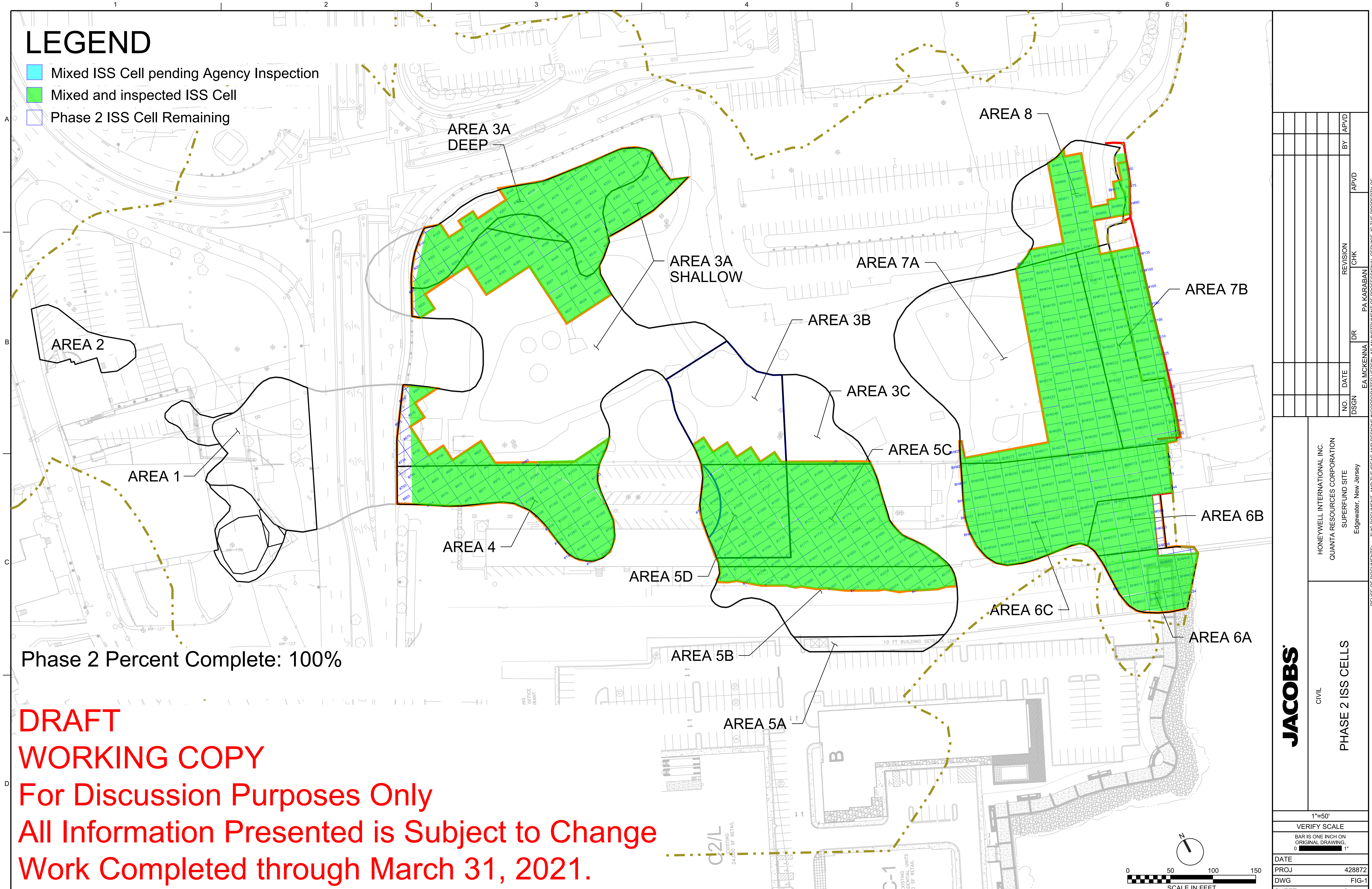
Stephen J. Zarlinski
Project Manager

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

Copies to:

Clay Monroe (EPA)
John Mojka (Honeywell)
Erica Bergman (NJDEP)
Helen Fahy (Fahy Associates)
Neil Ravensbergen (USACE)
Frank Rossi (Boswell)
Michael Johnson (USACE)
Rich Puvogel (EPA)

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
AREA 3A DEEP
AREA 3A SHALLOW
AREA 8
AREA 7A
AREA 7B
AREA 3B
AREA 3C
AREA 2
AREA 1
AREA 4
AREA 5C
AREA 5D
AREA 6B
AREA 6C
AREA 6A
AREA 5B
AREA 5A
Phase 2 Percent Complete: 100%
0 50 100 150
SCALE IN FEET
HONEYWELL INTERNATIONAL INC.
QUANTA RESOURCES CORPORATION
SUPERFUND SITE
Edgewater, New Jersey
JACOBS
CIVIL
PHASE 2 ISS CELLS
1"=50'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE
PROJ 428872
DWG FIG-1
SHEET
FILENAME: 10-C-F201-9-24-19.dgn
PLOT DATE: 2019\09\25
PLOT TIME: 10:12:09 AM

DRAFT

WORKING COPY

For Discussion Purposes Only

All Information Presented is Subject to Change

Work Completed through March 31, 2021.

In Situ Solidification/Stabilization Results Dashboard, Tent 6-2 and 6-1 (Leaching Batch 7)

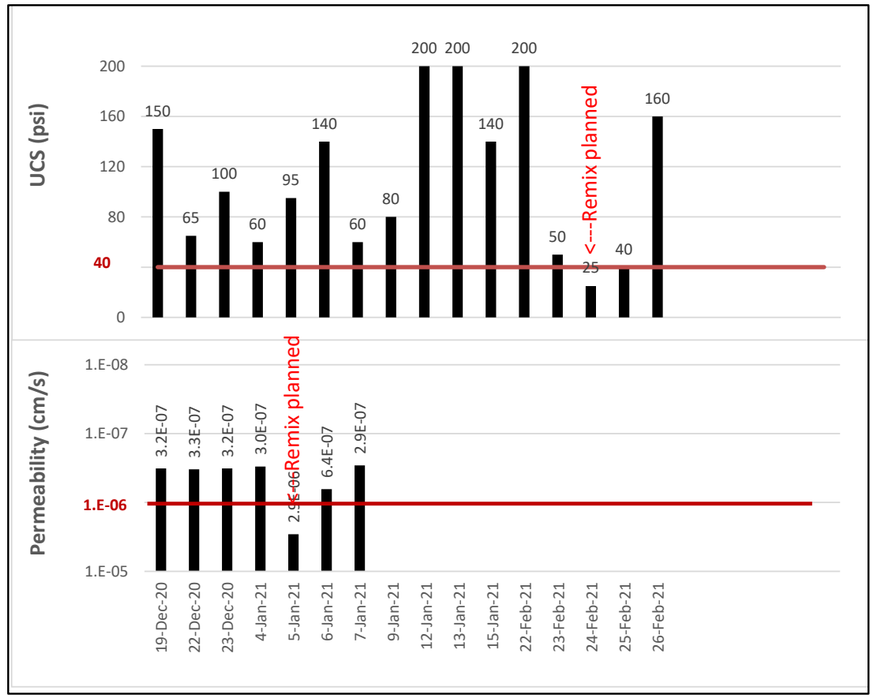
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

Tent	Date	Volume (CY)	Mix Design: Cement	Mix Design: Slag	UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
6-2	19-Dec-20	256	2%	6%	150	3.2E-07
6-2	22-Dec-20	329	2%	6%	65	3.3E-07
6-2	23-Dec-20	236	2%	6%	100	3.2E-07
6-2	4-Jan-21	150	4%	6%	60	3.0E-07
6-2	5-Jan-21	345	2%	6%	95	2.9E-06
6-2	6-Jan-21	345	2%	6%	140	6.4E-07
6-2	7-Jan-21	244	2%	6%	60	2.9E-07
6-2	9-Jan-21	245	2%	6%	80	
6-2	12-Jan-21	331	4%	6%	200	
6-2	13-Jan-21	234	2%	6%	200	
6-2	15-Jan-21	30	2%	6%	140	
6-1	22-Feb-21	515	2%	6%	200	
6-1	23-Feb-21	299	2%	6%	50	
6-1	24-Feb-21	295	2%	6%	25	
6-1	25-Feb-21	253	2%	6%	40	
6-1	26-Feb-21	210	2%	6%	160	
6-1	2-Mar-21	312	4%	6%		
6-1	3-Mar-21	172	2%	6%		
6-1	4-Mar-21	221	2%	6%		
6-1	5-Mar-21	210	2%	6%		

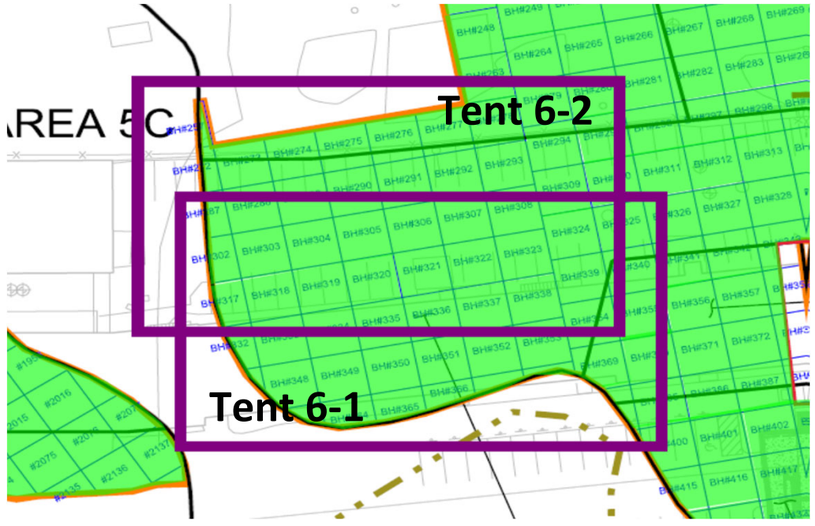
Total CY Mixed: **5229**

Data Pending



Leaching Reduction by Constituent			
Site Constituent		Site Constituent	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	Benz[illegible]e
3	Toluene	14	[illegible]ne
4	Ethylbenzene		
5	Total Xylenes		[illegible]e
6	Naphthalene		
7	Acenaphthene		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		

Sample Collected Jan. 7, 2021; Analysis Pending



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

In Situ Solidification/Stabilization Results Dashboard, Area 4 (Leaching Batch 9, page 2)

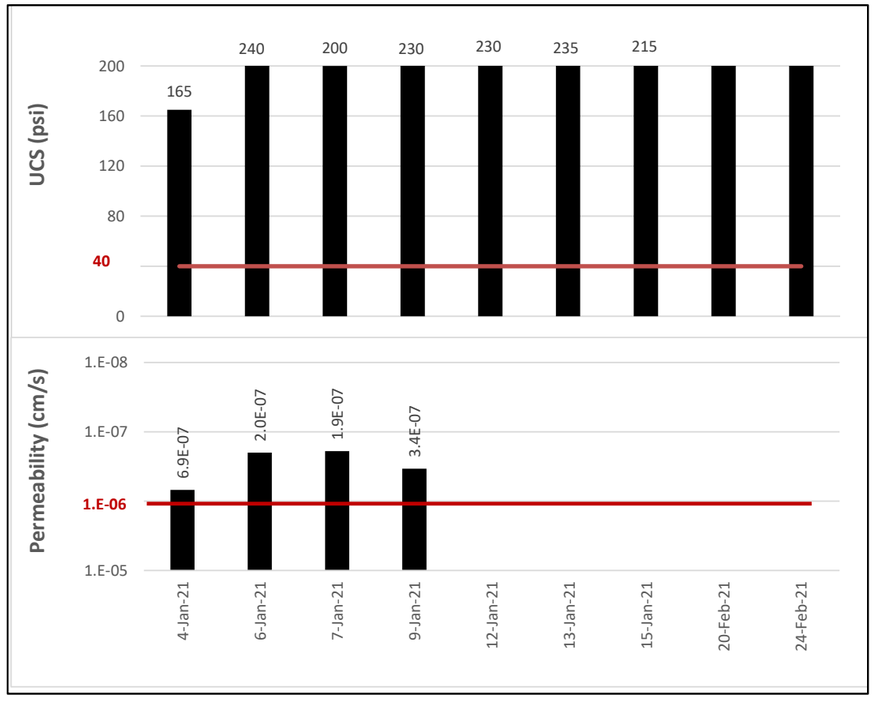
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
4-2	4-Jan-21	188	2%	6%	165	6.9E-07
4-2	6-Jan-21	164	2%	6%	240	2.0E-07
4-2	7-Jan-21	167	2%	6%	200	1.9E-07
4-2	9-Jan-21	199	2%	6%	230	3.4E-07
4-2	12-Jan-21	163	2%	6%	230	
4-2	13-Jan-21	140	2%	6%	235	
4-2	15-Jan-21	163	2%	6%	215	
NT-41	20-Feb-21	439	2%	6%	275	
NT-41	24-Feb-21	260	2%	6%	210	

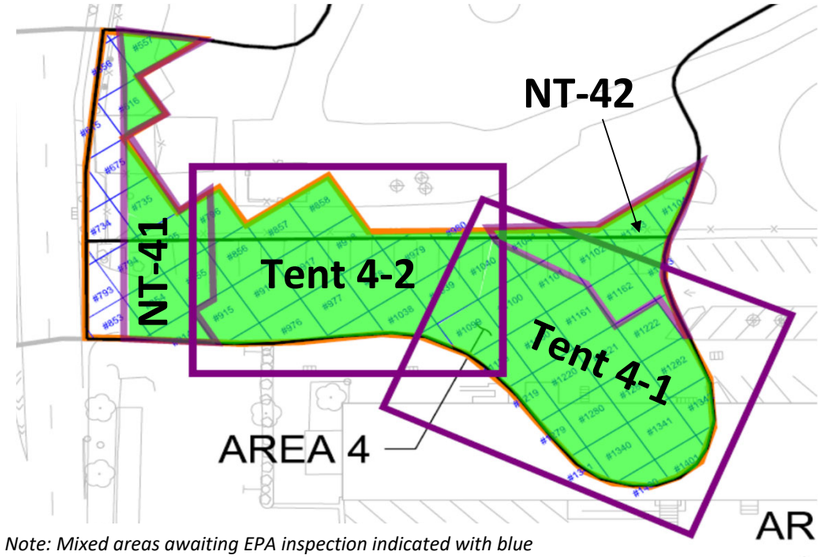
Total CY Mixed: **1884**

Data Pending



Leaching Reduction by Constituent		Aug 14 2020 Sample. *Dec 14 2020 Sample Held.*	
Site Constituent		Site Constituent	
1	Arsenic	12	Benzo(b)fluoranthene
2	Benzene	13	,h,i)perylene
3	Toluene		fluoranthene
4	Ethylbenzene		
5	Total Xylenes		)anthracene
6	Naphthalene		ne
7	Acenaphthene		
8	Acenaphthylene		Indeno(1,2,3-cd)pyrene
9	Anthracene	20	Phenanthrene
10	Benzo(a)anthracene	21	Pyrene
11	Benzo(a)pyrene		
	Constituents Passing		

Held Samples, See Tent Area 4 Batch 9 (page 1) Dashboard for Batch 9



Note: Mixed areas awaiting EPA inspection indicated with blue

In Situ Solidification/Stabilization Results Dashboard, Tent 5-2 and NT-53 (Leaching Batch 10)

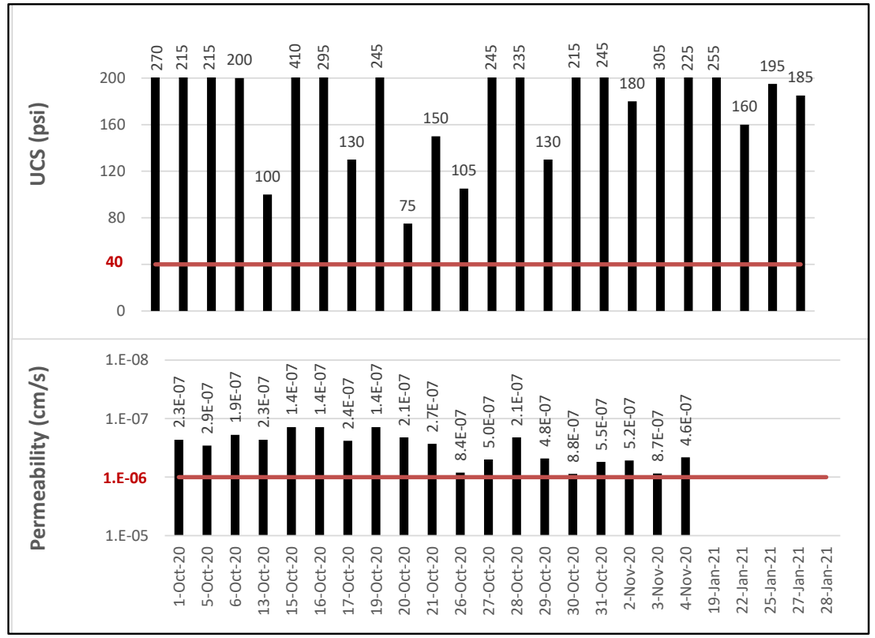
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
5-2	1-Oct-20	318	2%	6%	270	2.3E-07
5-2	5-Oct-20	363	2%	6%	215	2.9E-07
5-2	6-Oct-20	452	2%	6%	215	1.9E-07
5-2	13-Oct-20	314	2%	6%	200	2.3E-07
5-2	15-Oct-20	247	2%	6%	100	1.4E-07
5-2	16-Oct-20	314	2%	6%	410	1.4E-07
5-2	17-Oct-20	324	2%	6%	295	2.4E-07
5-2	19-Oct-20	321	2%	6%	130	1.4E-07
5-2	20-Oct-20	330	2%	6%	245	2.1E-07
5-2	21-Oct-20	319	2%	6%	75	2.7E-07
5-2	26-Oct-20	324	2%	6%	150	8.4E-07
5-2	27-Oct-20	325	2%	6%	105	5.0E-07
5-2	28-Oct-20	318	2%	6%	245	2.1E-07
5-2	29-Oct-20	308	2%	6%	235	4.8E-07
5-2	30-Oct-20	299	2%	6%	130	8.8E-07
5-2	31-Oct-20	201	2%	6%	215	5.5E-07
5-2	2-Nov-20	188	2%	6%	245	5.2E-07
5-2	3-Nov-20	240	2%	6%	180	8.7E-07
5-2	4-Nov-20	323	2%	6%	305	4.6E-07
NT-53	19-Jan-21	330	2%	6%	225	
NT-53	22-Jan-21	384	2%	6%	255	
NT-53	25-Jan-21	75	2%	6%	160	
NT-53	27-Jan-21	343	2%	6%	195	
NT-53	28-Jan-21	182	2%	6%	185	

Total CY Mixed: **7142**

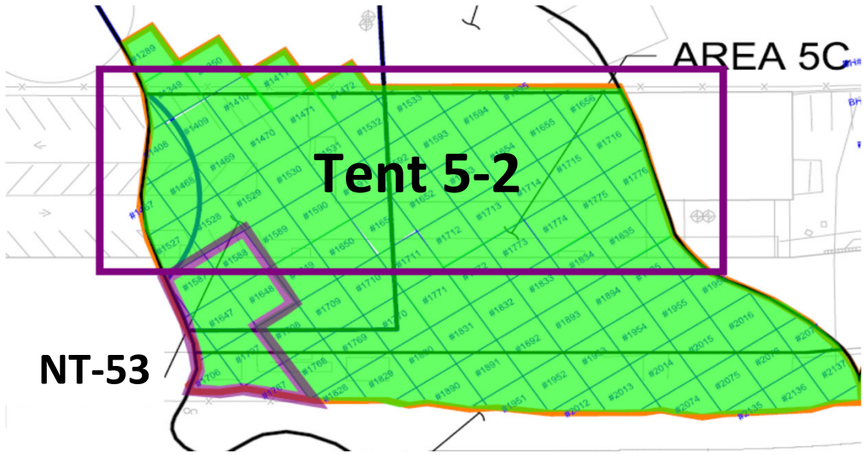
Data Pending



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

Held Samples, See Tent 5-1 Dashboard for Batch 7 Results

Constituents Passing



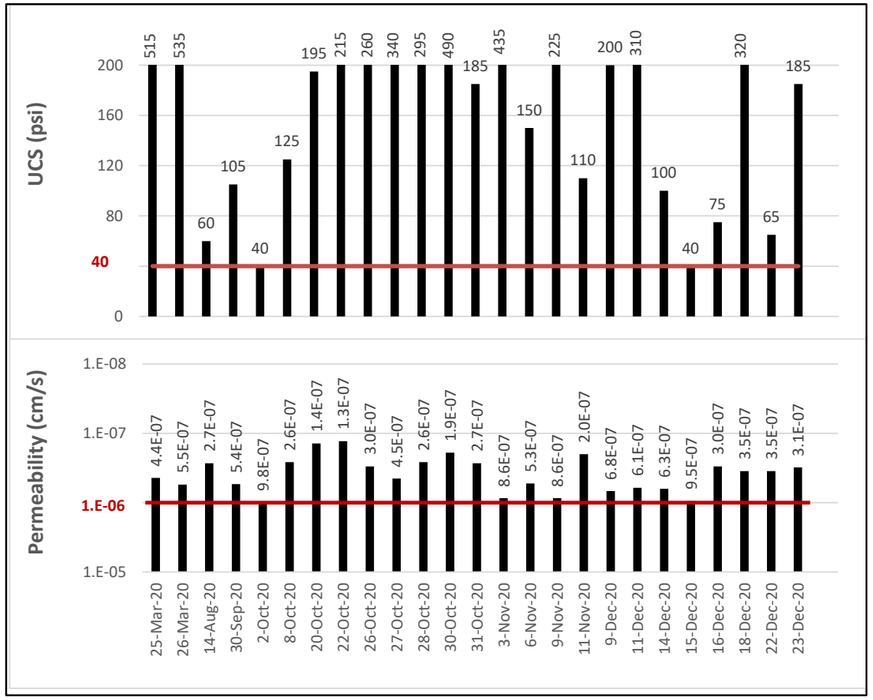
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

In Situ Solidification/Stabilization Results Dashboard, Area 4 (Leaching Batch 9, page 1)

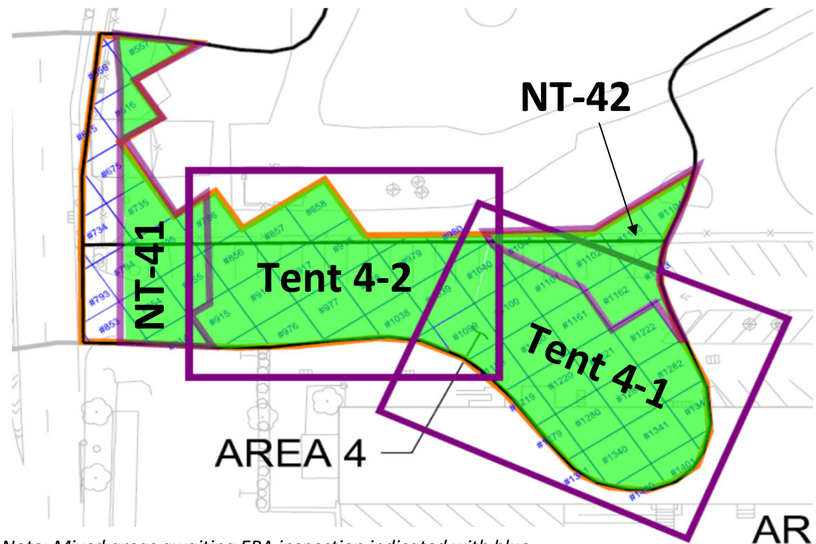
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

Area	Date	Volume (CY)	Mix Design		UCS	Permeability
			Cement	Slag	(≥40 psi)	(≤1E-6 cm/s)
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	4%	6%	60	2.7E-07
NT-42	30-Sep-20	300	4%	6%	105	5.4E-07
4-1	2-Oct-20	341	2%	6%	40	9.8E-07
4-1	8-Oct-20	142	2%	6%	125	2.6E-07
4-1	20-Oct-20	138	2%	6%	195	1.4E-07
4-1	22-Oct-20	164	2%	6%	215	1.3E-07
4-1	26-Oct-20	328	2%	6%	260	3.0E-07
4-1	27-Oct-20	273	2%	6%	340	4.5E-07
4-1	28-Oct-20	420	2%	6%	295	2.6E-07
4-1	30-Oct-20	162	2%	6%	490	1.9E-07
4-1	31-Oct-20	396	2%	6%	185	2.7E-07
4-1	3-Nov-20	363	2%	6%	435	8.6E-07
4-1	6-Nov-20	396	2%	6%	150	5.3E-07
4-1	9-Nov-20	378	2%	6%	225	8.6E-07
4-1	11-Nov-20	208	2%	6%	110	2.0E-07
4-2	9-Dec-20	83	2%	6%	200	6.8E-07
4-2	11-Dec-20	335	2%	6%	310	6.1E-07
4-2	14-Dec-20	283	4%	6%	100	6.3E-07
4-2	15-Dec-20	160	2%	6%	40	9.5E-07
4-2	16-Dec-20	159	2%	6%	75	3.0E-07
4-2	18-Dec-20	187	2%	6%	320	3.5E-07
4-2	22-Dec-20	176	2%	6%	65	3.5E-07
4-2	23-Dec-20	248	2%	6%	185	3.1E-07
	Total CY Mixed:	**6575**				



Leaching Reduction by Constituent			Aug 14 2020 Sample. *Dec 14 2020 Sample Held.*		
Site Constituent			Site Constituent		
1	Arsenic	100%	12	Benzo(b)fluoranthene	NE; <1% tPAH
2	Benzene	97%	13	Benzo(g,h,i)perylene	NE; <1% tPAH
3	Toluene	95%	14	Benzo(k)fluoranthene	NE; <1% tPAH
4	Ethylbenzene	96%	15	Chrysene	NE; <1% tPAH
5	Total Xylenes	95%	16	Dibenz(a,h)anthracene	NE; <1% tPAH
6	Naphthalene	92%	17	Fluoranthene	NE; <1% tPAH
7	Acenaphthene	86%	18	Fluorene	88%
8	Acenaphthylene	NE; <1% tPAH	19	Indeno(1,2,3-cd)pyrene	NE; <1% tPAH
9	Anthracene	NE; <1% tPAH	20	Phenanthrene	91%
10	Benzo(a)anthracene	NE; <1% tPAH	21	Pyrene	NE; <1% tPAH
11	Benzo(a)pyrene	NE; <1% tPAH			
	Constituents Passing	**7 of 9**			



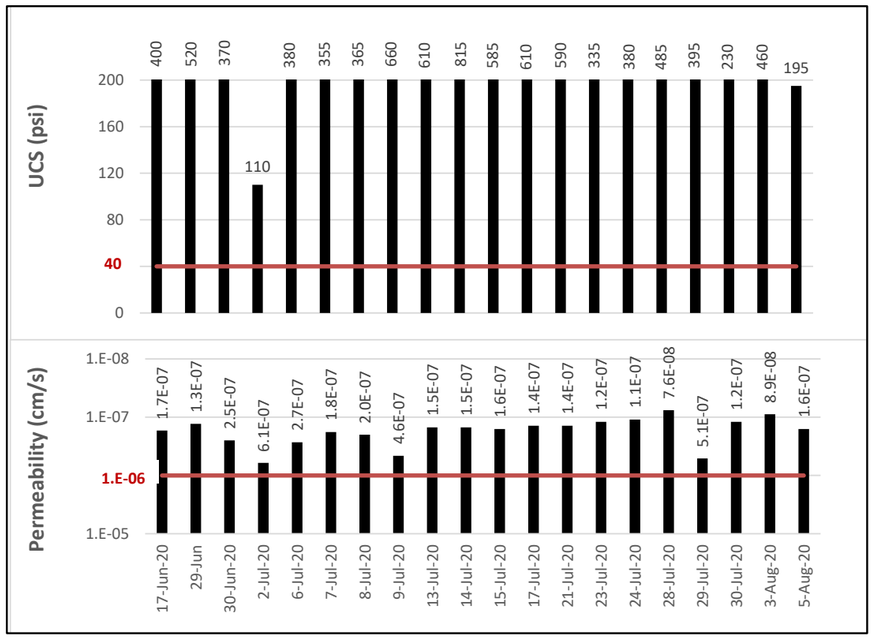
Note: Mixed areas awaiting EPA inspection indicated with blue

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

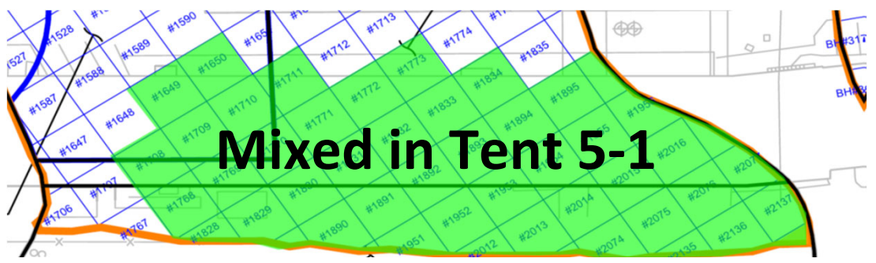
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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	1.5E-07
5-1	14-Jul-20	398	2%	6%	815	1.5E-07
5-1	15-Jul-20	155	2%	6%	585	1.6E-07
5-1	17-Jul-20	422	2%	6%	610	1.4E-07
5-1	21-Jul-20	314	2%	6%	590	1.4E-07
5-1	23-Jul-20	331	4%	6%	335	1.2E-07
5-1	24-Jul-20	142	2%	6%	380	1.1E-07
5-1	28-Jul-20	276	4%	6%	485	7.6E-08
5-1	29-Jul-20	260	4%	6%	395	5.1E-07
5-1	30-Jul-20	328	2%	6%	230	1.2E-07
5-1	3-Aug-20	231	2%	6%	460	8.9E-08
5-1	5-Aug-20	337	2%	6%	195	1.6E-07
	Total CY Mixed:	**5640**				



Leaching Reduction by Constituent					
Site Constituent			Site Constituent		
1	Arsenic	98%	12	Benzo(b)fluoranthene	NE; <1% tPAH
2	Benzene	95%	13	Benzo(g,h,i)perylene	Not detected
3	Toluene	94%	14	Benzo(k)fluoranthene	Not detected
4	Ethylbenzene	99%	15	Chrysene	NE; <1% tPAH
5	Total Xylenes	98%	16	Dibenz(a,h)anthracene	Not detected
6	Naphthalene	99%	17	Fluoranthene	NE; <1% tPAH
7	Acenaphthene	98%	18	Fluorene	NE; <1% tPAH
8	Acenaphthylene	NE; <1% tPAH	19	Indeno(1,2,3-cd)pyrene	Not detected
9	Anthracene	NE; <1% tPAH	20	Phenanthrene	NE; <1% tPAH
10	Benzo(a)anthracene	NE; <1% tPAH	21	Pyrene	NE; <1% tPAH
11	Benzo(a)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 inspected.

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.

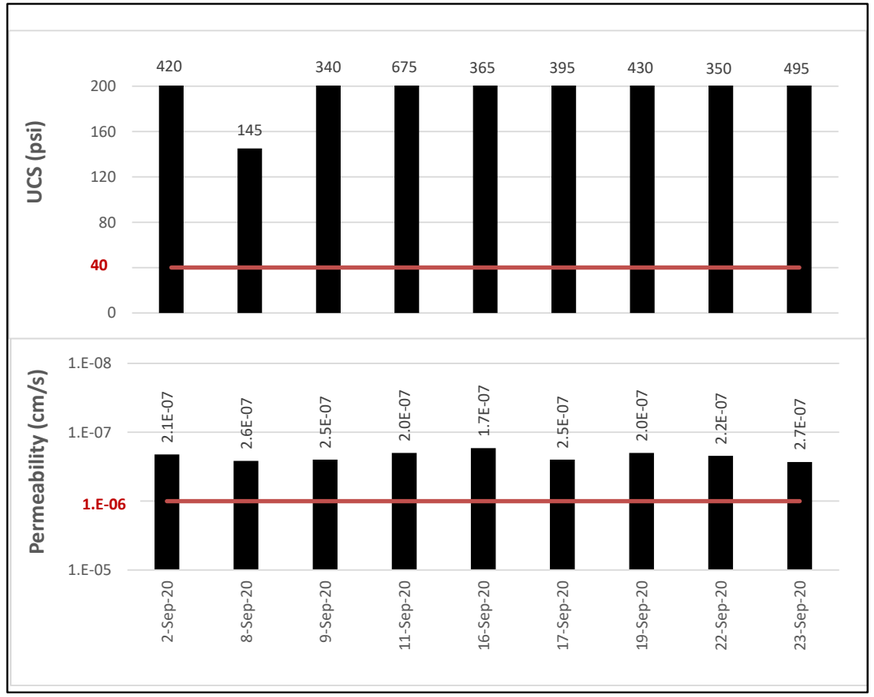
In Situ Solidification/Stabilization Results Dashboard, Tent 7-4 (Leaching Batch 11)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-4	2-Sep-20	182	2%	6%	420	2.1E-07
7-4	8-Sep-20	183	2%	6%	145	2.6E-07
7-4	9-Sep-20	236	2%	6%	340	2.5E-07
7-4	11-Sep-20	180	2%	6%	675	2.0E-07
7-4	16-Sep-20	253	2%	6%	365	1.7E-07
7-4	17-Sep-20	225	2%	6%	395	2.5E-07
7-4	19-Sep-20	221	2%	6%	430	2.0E-07
7-4	22-Sep-20	341	2%	6%	350	2.2E-07
7-4	23-Sep-20	429	2%	6%	495	2.7E-07

Total CY Mixed: **2250**



Leaching Reduction by Constituent			
1	Arsenic	95%	
2	Benzene	100%	
3	Toluene	100%	
4	Ethylbenzene	100%	
5	Total Xylenes	99%	
6	Naphthalene	99%	
7	Acenaphthene	98%	
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	<1% tPAH
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	97%	
19	Indeno(1,2,3-cd)pyrene	NE	<1% tPAH
20	Phenanthrene	94%	
21	Pyrene	NE	<1% tPAH
	Constituents Passing	**9 of 9**	

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)

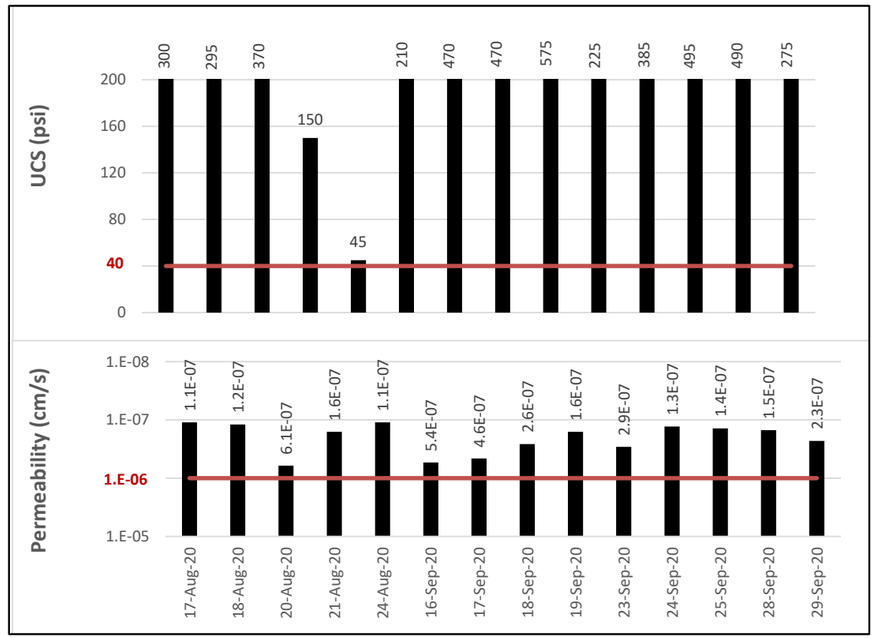
Quanta Resources Corporation Superfund Site, OU1

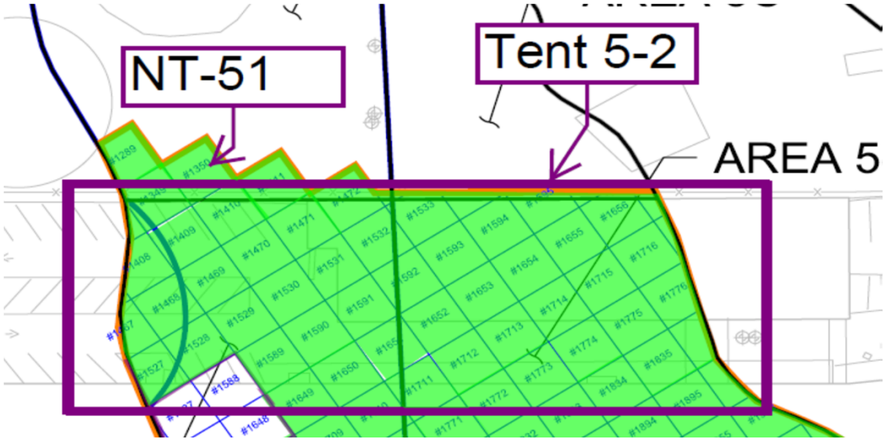
Data through: 4/2/2021

Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-51	17-Aug-20	273	4%	6%	300	1.1E-07
NT-51	18-Aug-20	169	4%	6%	295	1.2E-07
NT-51	20-Aug-20	314	4%	6%	370	6.1E-07
NT-51	21-Aug-20	198	4%	6%	150	1.6E-07
NT-51	24-Aug-20	267	4%	6%	45	1.1E-07
5-2	16-Sep-20	224	2%	6%	210	5.4E-07
5-2	17-Sep-20	170	2%	6%	470	4.6E-07
5-2	18-Sep-20	281	2%	6%	470	2.6E-07
5-2	19-Sep-20	171	2%	6%	575	1.6E-07
5-2	23-Sep-20	407	2%	6%	225	2.9E-07
5-2	24-Sep-20	327	2%	6%	385	1.3E-07
5-2	25-Sep-20	278	2%	6%	495	1.4E-07
5-2	28-Sep-20	300	2%	6%	490	1.5E-07
5-2	29-Sep-20	173	2%	6%	275	2.3E-07
	Total CY Mixed:	**3551**				

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 5-1 Dashboard for Batch 7 Results





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

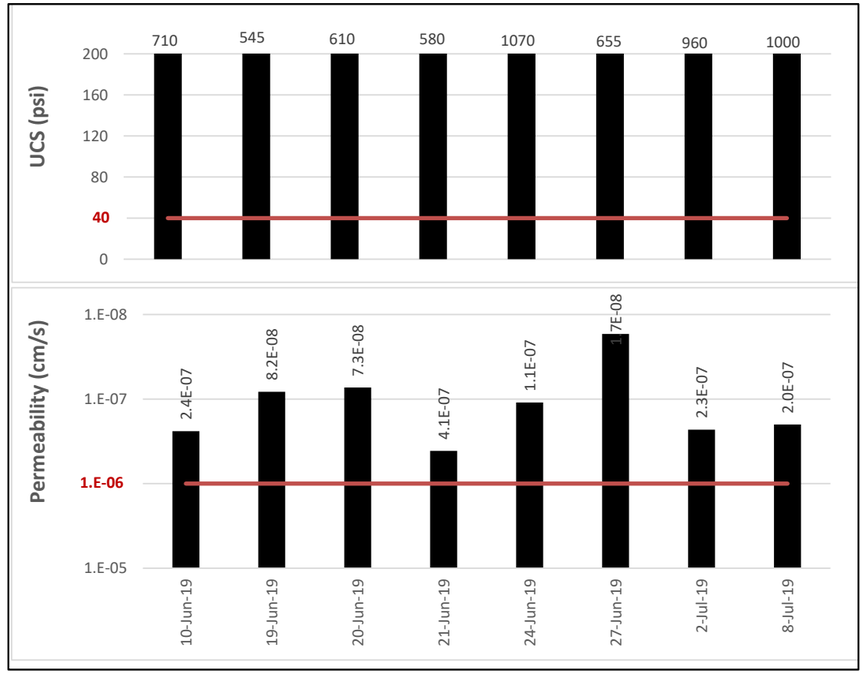
In Situ Solidification/Stabilization Results Dashboard, Tent 3-1 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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	341	2%	6%	1000	2.00E-07

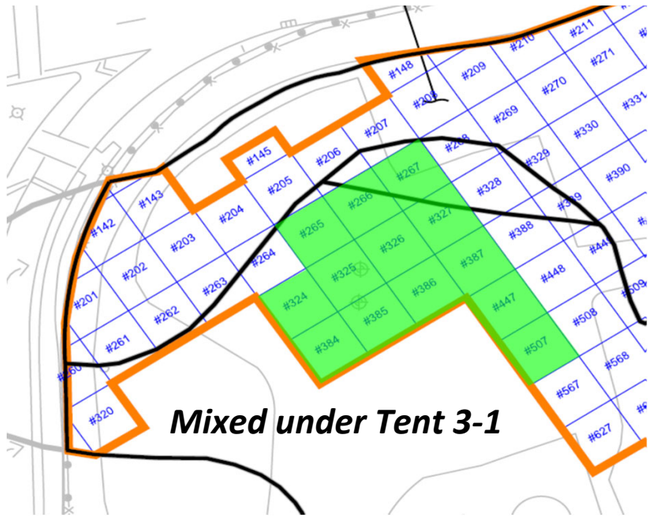
Total CY Mixed: **2076**



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 Reduction by Constituent

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.

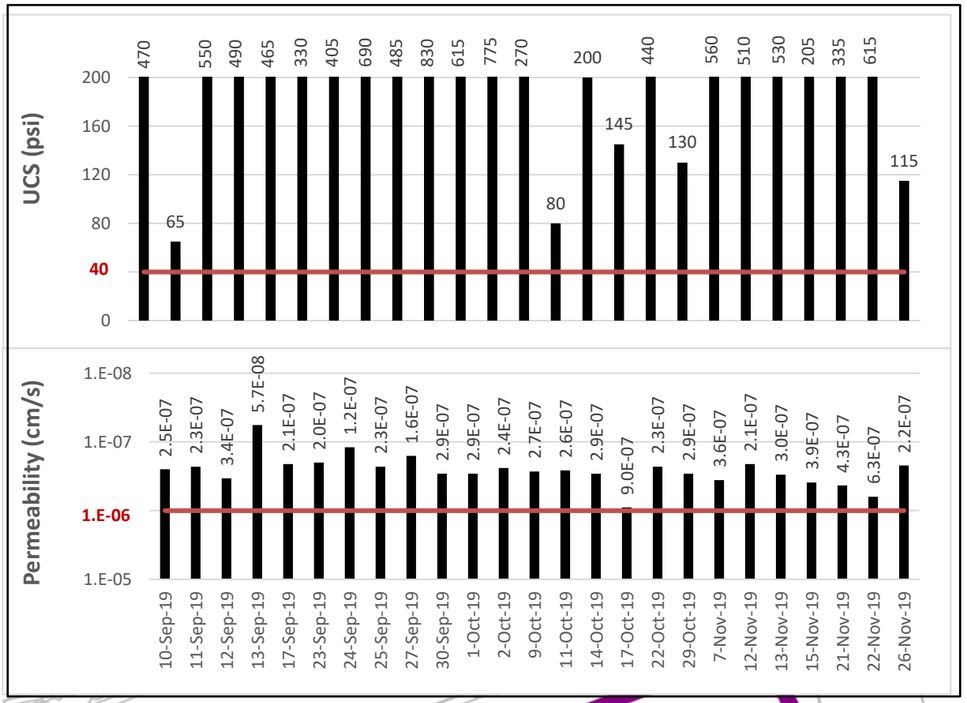
In Situ Solidification/Stabilization Results Dashboard, Tent 3-2 (Leaching Batch 5)

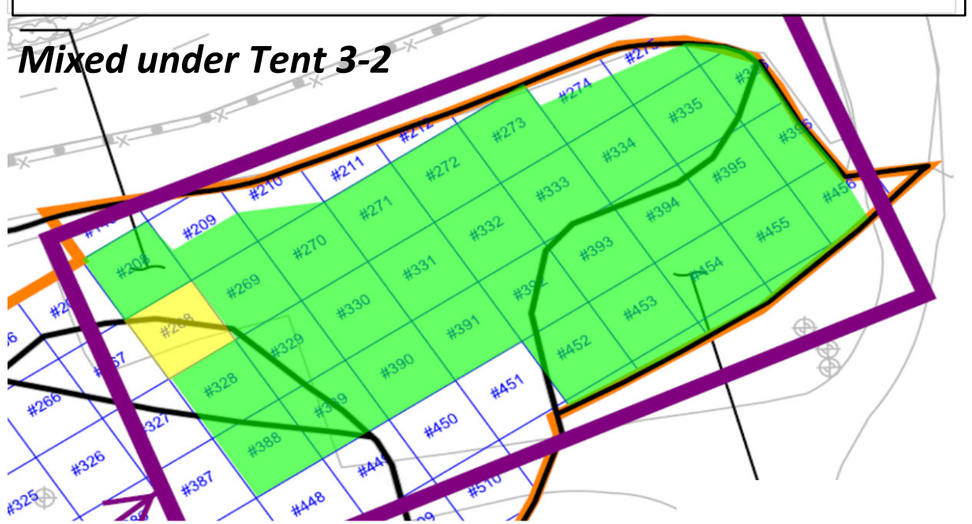
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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**





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.

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	Chrysene	NE
5	Total Xylenes	78%	16	Dibenz(a,h)anthracene	NE
6	Naphthalene		17	Fluoranthene	0%
7	Acenaphthene		18	Fluorene	1%
8	Acenaphthylene		19	Indeno(1,2,3-cd)pyrene	NE
9	Anthracene		20	Phenanthrene	0%
10	Benzo(a)anthracene	NE	21	Pyrene	0%
11	Benzo(a)pyrene	NE			

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

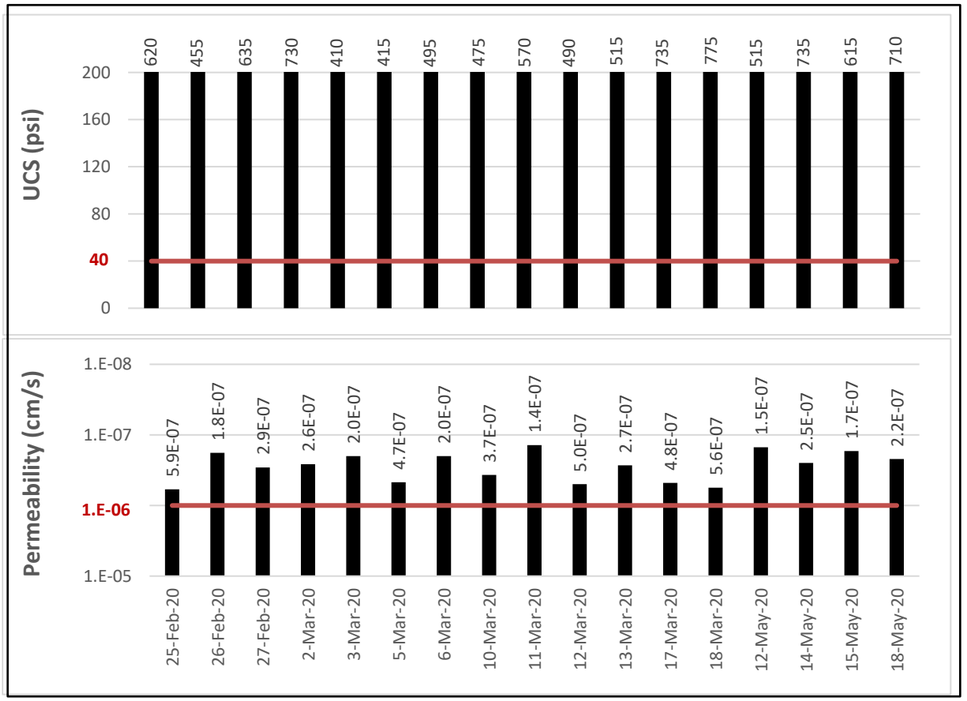
Constituents Passing N/A Extra Sample

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

Quanta Resources Corporation Superfund Site, OU1

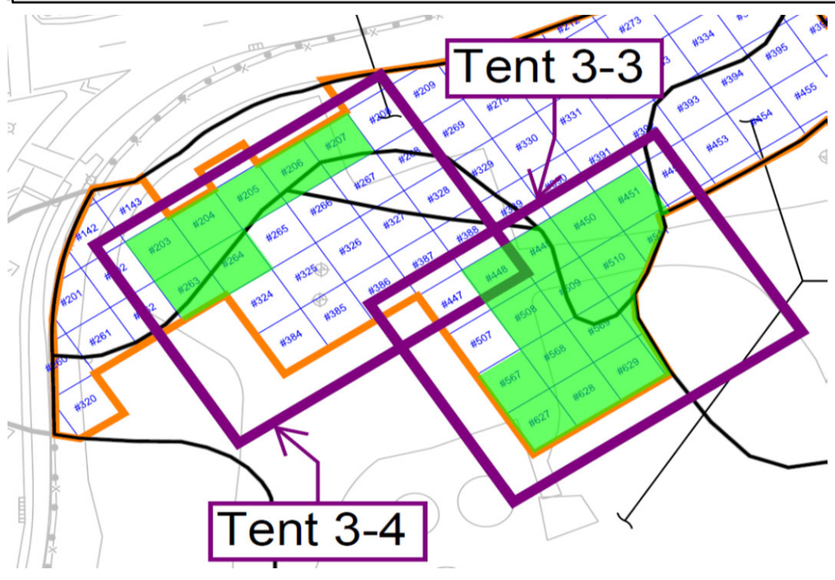
Data through: 4/2/2021

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.

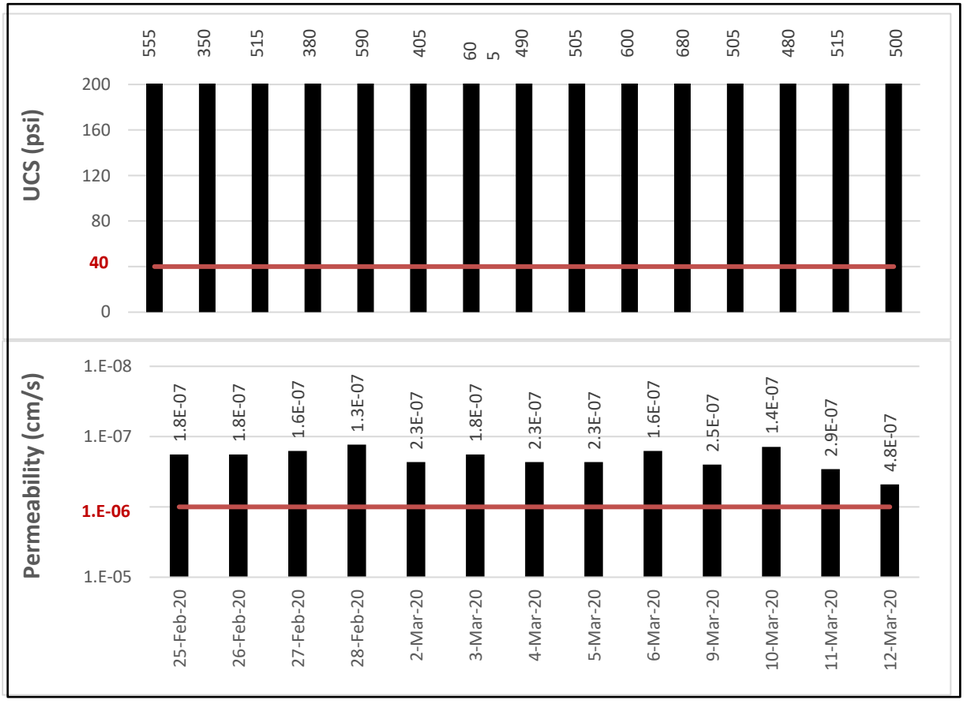
In Situ Solidification/Stabilization Results Dashboard, NT-31, 32, 33 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

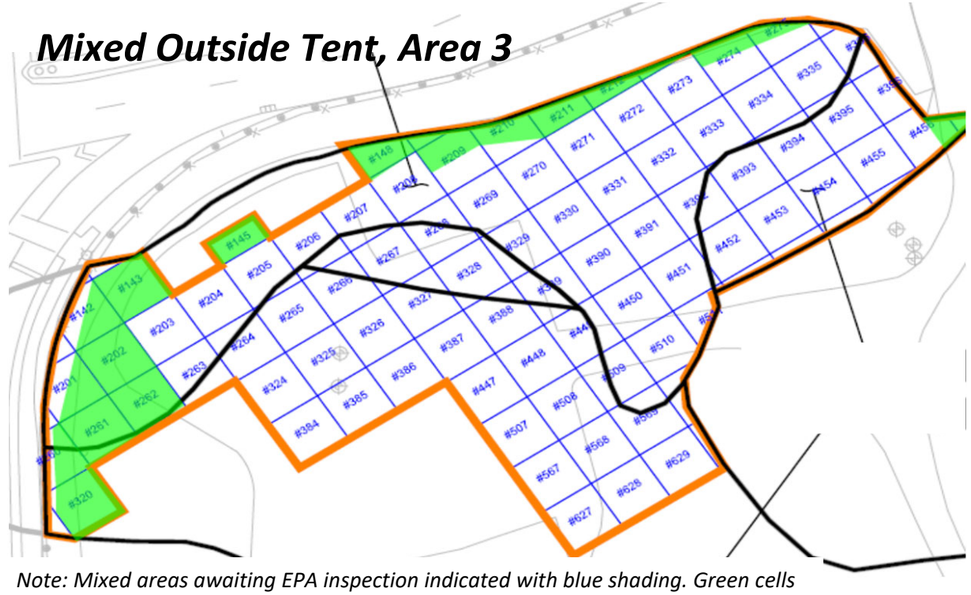
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-33	25-Feb-20	39	2%	6%	555	1.80E-07
NT-32	26-Feb-20	131	2%	6%	350	1.80E-07
NT-32	27-Feb-20	269	2%	6%	515	1.60E-07
NT-32	28-Feb-20	258	2%	6%	380	1.30E-07
NT-32	2-Mar-20	291	2%	6%	590	2.30E-07
NT-32	3-Mar-20	66	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



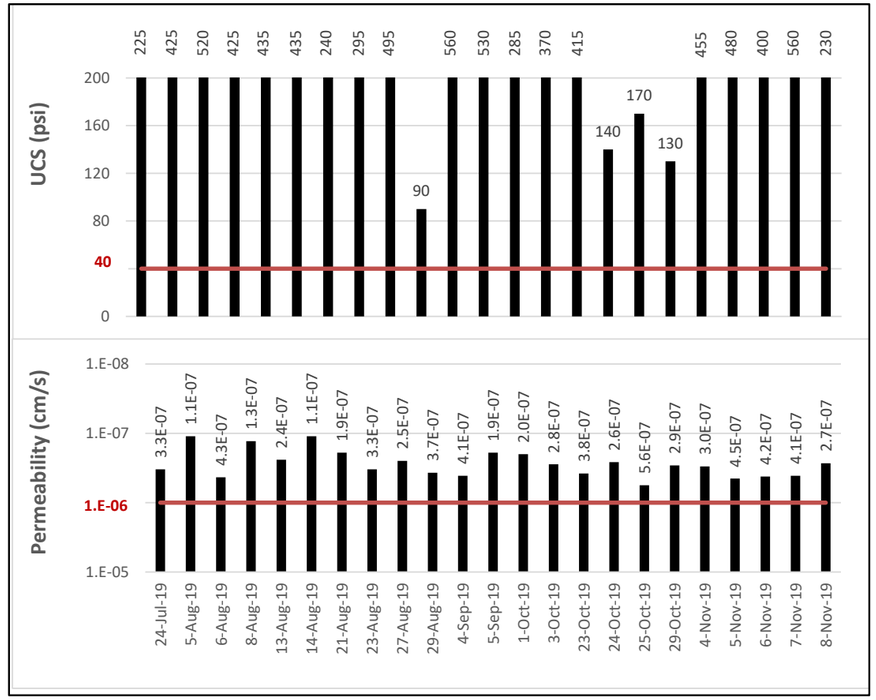
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected. Yellow cells were previously mixed during the ISS Field Demonstration.

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

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

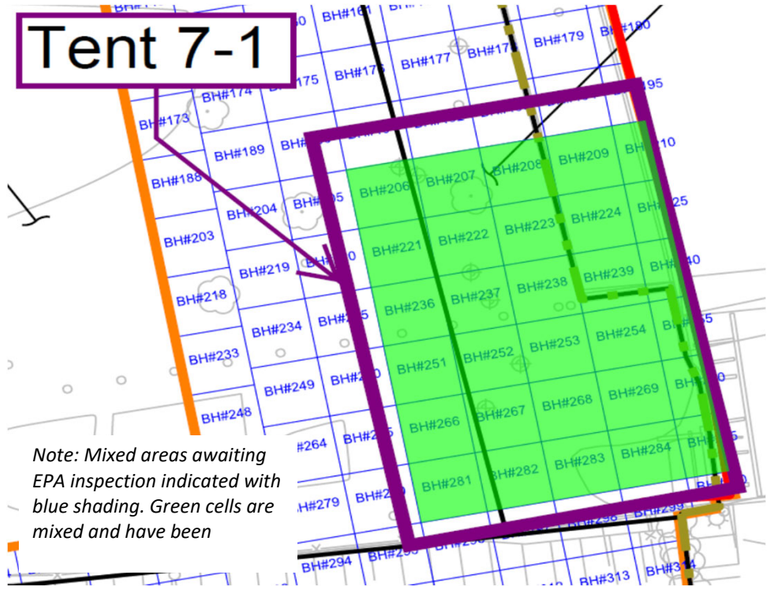
Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-1	24-Jul-19	536	2%	6%	225	3.3E-07
7-1	5-Aug-19	494	2%	6%	425	1.1E-07
7-1	6-Aug-19	488	2%	6%	520	4.3E-07
7-1	8-Aug-19	468	2%	6%	425	1.3E-07
7-1	13-Aug-19	502	2%	6%	435	2.4E-07
7-1	14-Aug-19	524	2%	6%	435	1.1E-07
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	291	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%	
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**	

HELD SAMPLE; See August 8 results for Batch 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 .



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

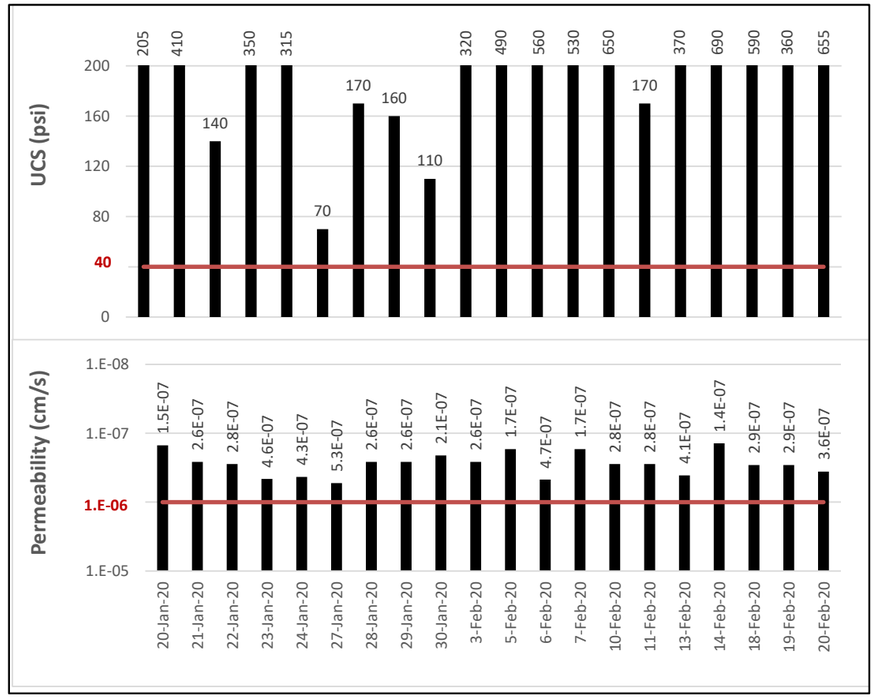
In Situ Solidification/Stabilization Results Dashboard, Tent 7-2 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

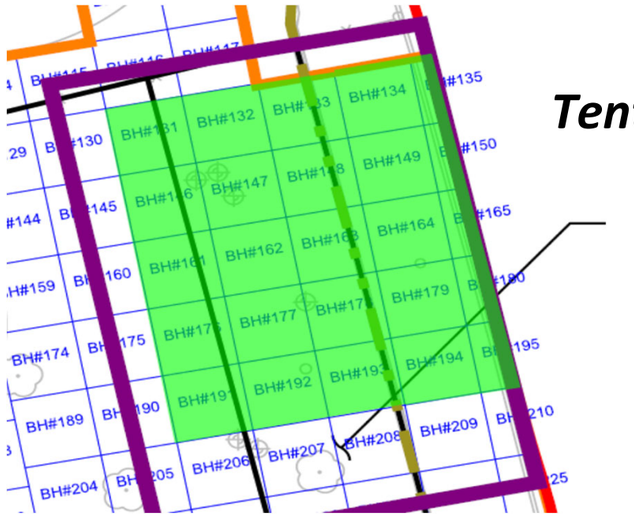
Tent	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
7-2	20-Jan-20	312	4%	6%	205	1.5E-07
7-2	21-Jan-20	472	4%	6%	410	2.6E-07
7-2	22-Jan-20	564	4%	6%	140	2.8E-07
7-2	23-Jan-20	394	4%	6%	350	4.6E-07
7-2	24-Jan-20	538	4%	6%	315	4.3E-07
7-2	27-Jan-20	256	4%	6%	70	5.3E-07
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.

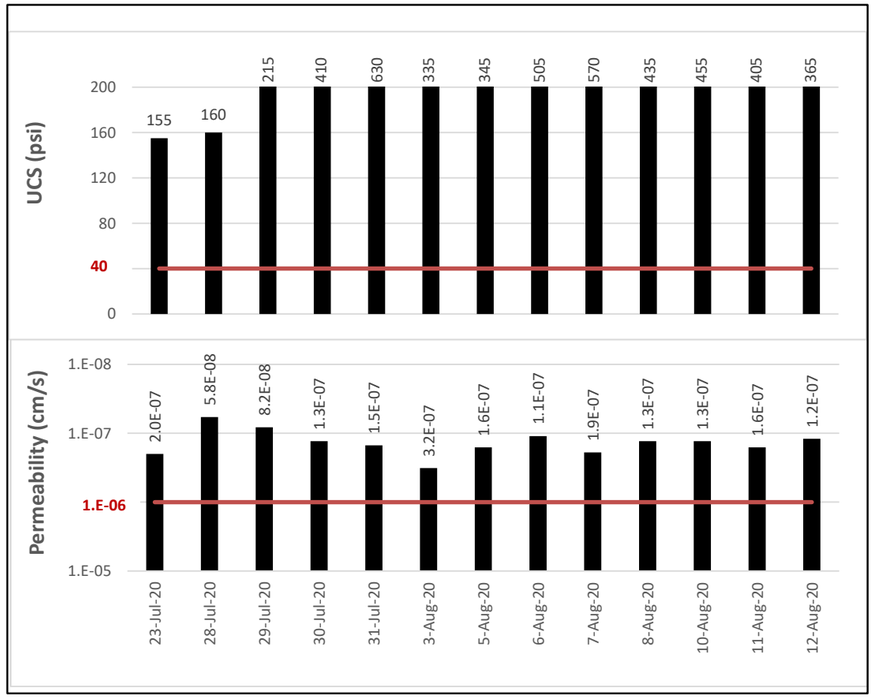
In Situ Solidification/Stabilization Results Dashboard, Tent 7-3 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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	2.0E-07
7-3	28-Jul-20	183	2%	6%	160	5.8E-08
7-3	29-Jul-20	236	2%	6%	215	8.2E-08
7-3	30-Jul-20	180	2%	6%	410	1.3E-07
7-3	31-Jul-20	253	2%	6%	630	1.5E-07
7-3	3-Aug-20	225	2%	6%	335	3.2E-07
7-3	5-Aug-20	221	2%	6%	345	1.6E-07
7-3	6-Aug-20	341	2%	6%	505	1.1E-07
7-3	7-Aug-20	429	2%	6%	570	1.9E-07
7-3	8-Aug-20	204	2%	6%	435	1.3E-07
7-3	10-Aug-20	417	2%	6%	455	1.3E-07
7-3	11-Aug-20	534	2%	6%	405	1.6E-07
7-3	12-Aug-20	171	2%	6%	365	1.2E-07

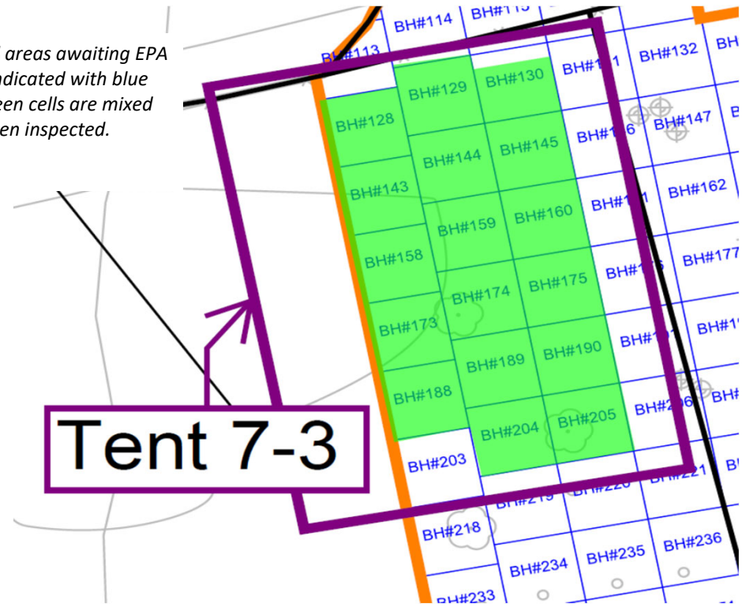
Total CY Mixed: **3575**



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.



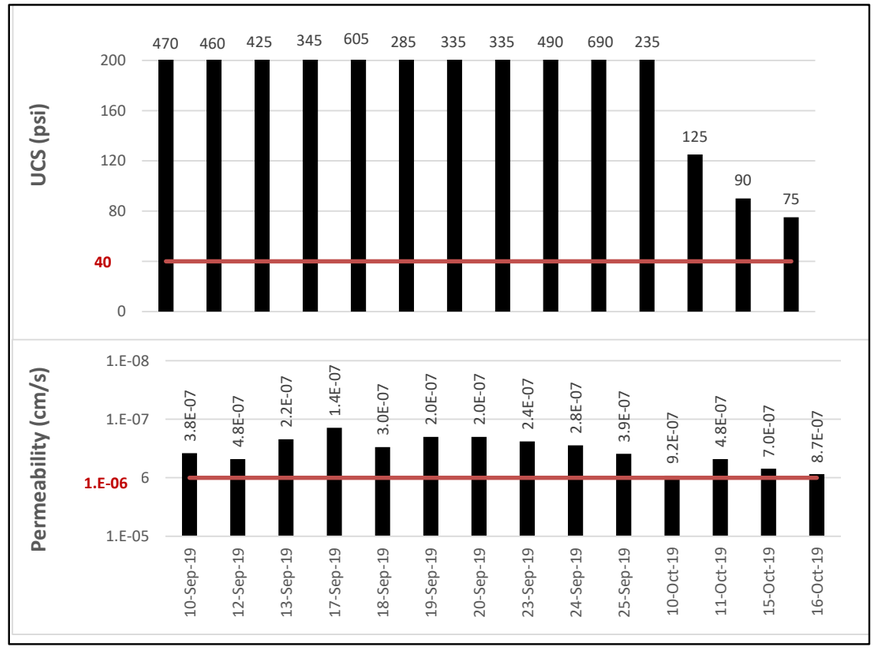
In Situ Solidification/Stabilization Results Dashboard, NT-61 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

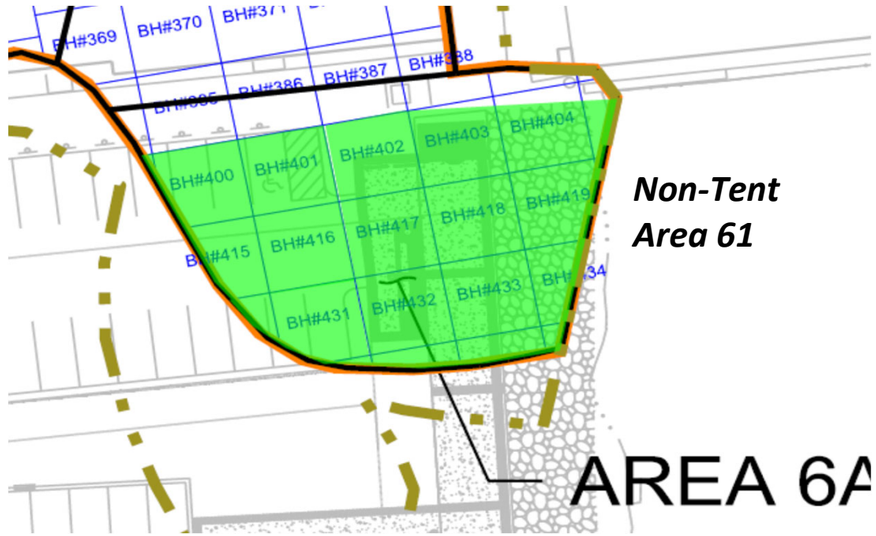
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-61	10-Sep-19	237	4%	6%	470	3.8E-07
NT-61	12-Sep-19	247	4%	6%	460	4.8E-07
NT-61	13-Sep-19	220	4%	6%	425	2.2E-07
NT-61	17-Sep-19	292	4%	6%	345	1.4E-07
NT-61	18-Sep-19	266	4%	6%	605	3.0E-07
NT-61	19-Sep-19	354	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.



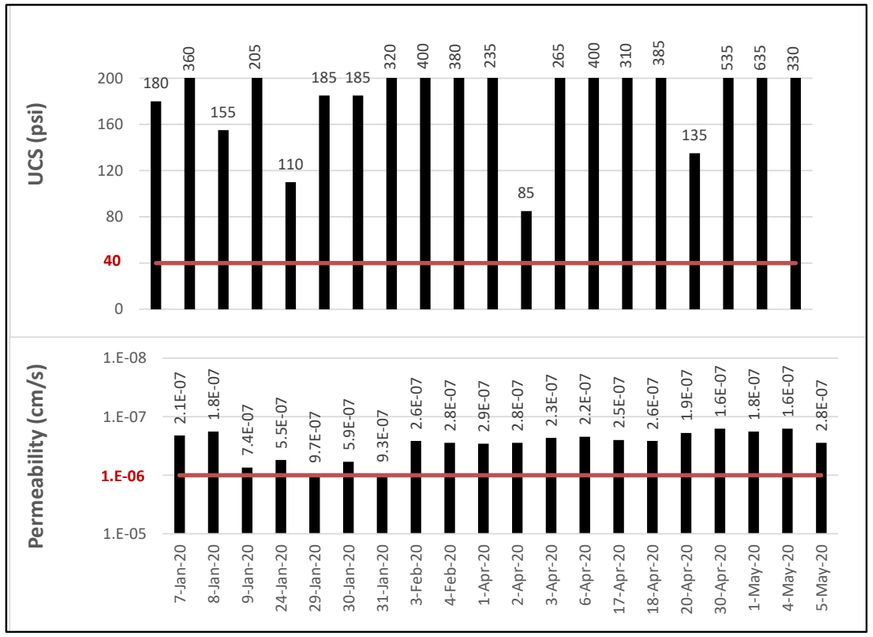
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

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

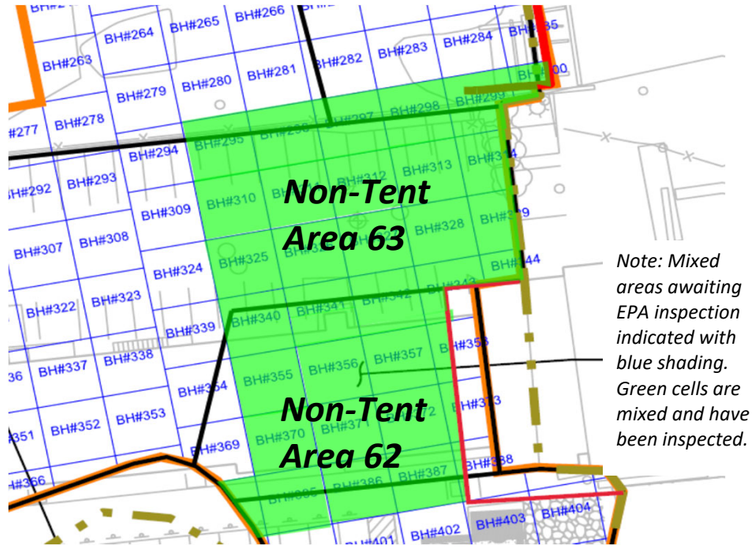
Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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	141	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-63	18-Apr-20	230	4%	6%	310	2.6E-07
NT-63	20-Apr-20	222	4%	6%	385	1.9E-07
NT-63	30-Apr-20	90	4%	6%	135	1.6E-07
NT-63	1-May-20	296	4%	6%	535	1.8E-07
NT-63	4-May-20	189	4%	6%	635	1.6E-07
NT-63	5-May-20	374	4%	6%	330	2.8E-07
	Total CY Mixed:	**4541**				



Leaching Reduction by Constituent					
Site Constituent			Site Constituent		
1	Arsenic	99%	12	Benzo(b)fluoranthene	NE; <1% tPAH
2	Benzene	99%	13	Benzo(g,h,i)perylene	NE; <1% tPAH
3	Toluene	97%	14	Benzo(k)fluoranthene	NE; <1% tPAH
4	Ethylbenzene	99%	15	Chrysene	NE; <1% tPAH
5	Total Xylenes	99%	16	Dibenz(a,h)anthracene	NE; not detected
6	Naphthalene	97%	17	Fluoranthene	87%
7	Acenaphthene	94%	18	Fluorene	93%
8	Acenaphthylene	NE; <1% tPAH	19	Indeno(1,2,3-cd)pyrene	NE; <1% tPAH
9	Anthracene	NE; <1% tPAH	20	Phenanthrene	88%
10	Benzo(a)anthracene	NE; <1% tPAH	21	Pyrene	NE; <1% tPAH
11	Benzo(a)pyrene	NE; <1% tPAH			
	Constituents Passing	**8 of 10**			



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

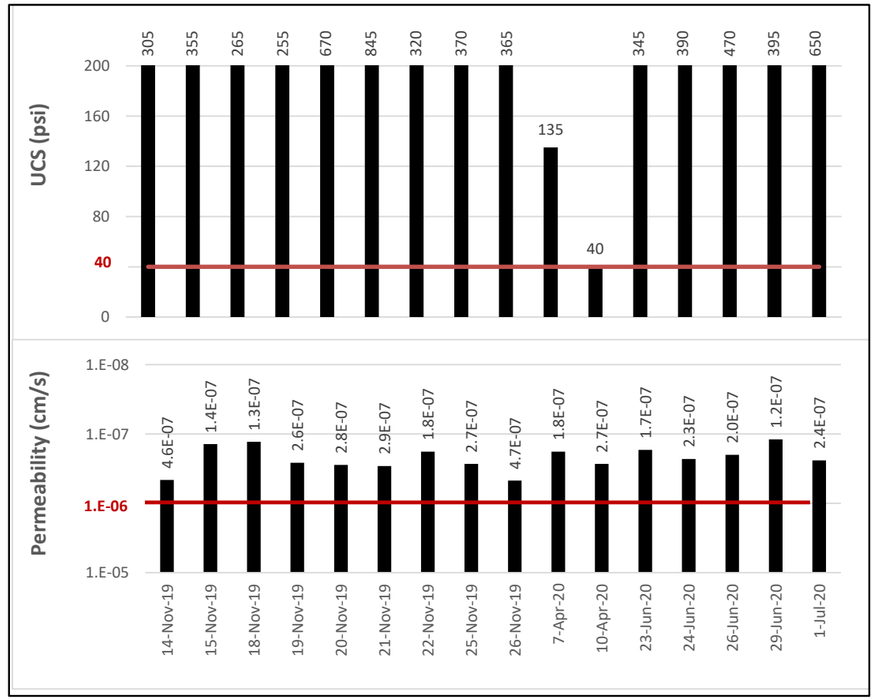
In Situ Solidification/Stabilization Results Dashboard, Area 8 (Leaching Batch 8)

Quanta Resources Corporation Superfund Site, OU1

Data through: 4/2/2021

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	171	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

6021 D74940

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD981139371	1	908-354-0210	022176273 JJK

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL INTERNATIONAL
6100 PHILADELPHIA PIKE
CLAYMONT, DE 19703
Generator's Phone: 302-791-6738

Generator's Site Address (if different than mailing address)
QUANTA RESOURCES RECOVERY SUPERFUND SITE
163 RIVER ROAD
EDGEWATER, NJ 07020

6. Transporter 1 Company Name: ACV ENVIRONMENTAL SERVICES, INC
U.S. EPA ID Number: NJD003812047

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CYCLE CHEM, INC
550 INDUSTRIAL DRIVE
LEWISBERRY, PA 17339
Facility's Phone: 717-938-4700
U.S. EPA ID Number: PAD067098822

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (arsenic), 9 , III	XX5	DM	1900	P	D004		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: D74940 SO 77367 LDR on FileSFSO#
1)Profile#119566 D004 ARSENIC IDW WATER ERG
5 X 55

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X David Holmes/Jacobs on behalf of and as agent for Honeywell
Signature: X
Month Day Year: 03 05 21

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Trace Romi
Signature:
Month Day Year: 03 05 21
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Annie E. Hied
Signature: Annie E. Hied
Month Day Year: 3 9 21

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

D158210

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NJD981139371	1	908-354-0210	022176274 JJK

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL INTERNATIONAL
6100 PHILADELPHIA PIKE
CLAYMONT, DE 19703
Generator's Phone: 302-791-6738

Generator's Site Address (if different than mailing address)
QUANTA RESOURCES RECOVERY SUPERFUND SITE
163 RIVER ROAD
EDGEWATER, NJ 07020

6. Transporter 1 Company Name: ACV ENVIRONMENTAL SERVICES, INC — U.S. EPA ID Number: NJD003812047

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CYCLE CHEM, INC
550 INDUSTRIAL DRIVE
LEWISBERRY, PA 17339
Facility's Phone: 717-938-4700

U.S. EPA ID Number: PAD067098822

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (benzene), 9 , III	X1	DM	300	P	D018		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information D75826 SO 78289 LDR on FileSFSO#
1)Profile#112591 NAPL ER6171 1X55

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X Daniel Holmes/Jacobs on behalf of and as agent for Honeywell — Signature: X — Month/Day/Year: 03/05/21

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Travis Dominic — Signature: — Month/Day/Year: 03/05/21

Transporter 2 Printed/Typed Name — Signature — Month/Day/Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month/Day/Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Annie E. Hicd — Signature: Annie E. Hicd — Month/Day/Year: 3/9/21

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM