

July 10, 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: June 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 June 24, 2020, approximately 261,150 labor hours worked.

During June, 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.

Work Completed

The activities completed during June 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 June.

OU1 General Civil Work

- Supported site contractor operations and continued general site maintenance activities.
- Completed restoration of the northern slope in ISS Area 3A (northwest corner of the Site) leading up to the City Place ramp
- Completed restoration activities in ISS Areas 6B and 6C (just west of and north of Pier Building headhouse, respectively).



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- Loaded out a portion of the soil stockpile in Area 7A for offsite disposal.

OU1 ISS

- Managed and maintained the soil stockpile in Area 7A.
- Relocated Tent 3-4 to the Tent 5-1 location and completed commissioning of Tent 5-1 in ISS Areas 5B, 5C, and 5D (southcentral portion of the Site). Began debris removal and ISS activities. Five (5) cells (587 CY of material) were treated.
- Continued debris removal and ISS activities in Tent 8-1 in ISS Area 8 (northeast corner of the Site). Three (3) cells (797 CY of material) were treated.

OU1 Bulkhead Installation

- Completed installation of Segment C concrete cap in ISS Area 6C (just north of the Pier Building headhouse wall).
- Completed installation of Segment E and F permanent deadman/tie-rod system in ISS Areas 7B and 8 (northeastern corner of the Site).

OU1 Vibration and Air Monitoring

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

OU1 Offsite Waste Disposal

- Non-Hazardous
 - One hundred and seventeen (117) 25-cy dump trucks of soil to Fairless Landfill in Morrisville, PA.
 - One (1) 30-cy roll-off of metal piping with non-flowable NAPL to Fairless Landfill in Morrisville, PA.
 - Two (2) 30-cy roll-offs of treated wood debris to Fairless Landfill in Morrisville, PA.
 - Two (2) 25-cy dump trucks of unimpacted asphalt to Bayshore Recycling Corporation in Keasbey, NJ.
- Hazardous
 - No hazardous waste was shipped from the site in June.

OU1 NAPL Recovery

- Pumped 52-gallons of NAPL from RW4-2.
- Sentinel wells measured on June 30.
- Redeveloped RW4-1 to reestablish its original, total depth.



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High Concentration Arsenic Area

- Mobilized to the site on June 15th to start work associated with the zero valent iron (ZVI) pilot study.
- Completed installation of the injection and monitoring wells within the City Place ramp.

Site Security, Maintenance, and Inspections

- Completed weekly boom inspections on June 4, June 9, June 19, and June 25.
- Completed weekly SWPP inspections on June 4, June 12, June 19, and June 25,
- Replaced the absorbent boom on the south side of the Pier Building on June 5, and on the north and south side of the Pier Building on June 24.

Two-Week Look-Ahead

- Continue pumping RW4-2.
- Gauge sentry wells.
- Continue clearing, ISS and debris management in Tent 5-1 in ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Complete groundwater sampling for the baseline monitoring event associated with the HCAA pilot study.
- Complete restoration of the sidewalk in ISS Area 6A (southeast of the Pier Building)
- Complete clearing, ISS and debris management activities in Tent 8-1 in ISS Area 8 (northeastern corner of the Site). Complete temporary capping and final air clearance testing and relocate tent to Tent 7-3 location in ISS Area 7A (southwest of Tent 8-1 location).

Data and Submittals

- None

Receipt of Approvals/Denials

- None

Issues and Corrective Actions 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



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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.

Air Monitoring

Provided perimeter and offsite air monitoring data when received (typically daily) to EPA. 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 May on June 9th.
- 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.
- Tracked community concerns and complaints. In June, two community concerns were received. One was received by EPA in response to their weekly update and outlined questions and concerns about truck traffic and stockpiling. A written response was provided to EPA. The second concern, about odors, was submitted through the call center. The complaint was investigated by onsite staff and activities at the time of the complaint were documented and provided to EPA.
- Provided weekly and as-needed progress updates for email distribution to pier tenants. Coordinated communication with pier tenants regarding non-tent work that would block access to parking below the pier.
- Submitted weekly updates to EPA summarizing upcoming site activities.
- Uploaded daily air monitoring results to www.quantaremediation.com

Activities Planned for Next 6 Weeks

- Complete the remainder of the HCAA pilot study which includes groundwater sampling and injections. Injection work is anticipated to commence week of July 20th and last for approximately 2-weeks.
- Continue with NAPL recovery operations and submit the next quarterly data transmittal.
- Continue weekly boom inspections and SWPPP inspections and associated maintenance.

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- Complete debris removal and ISS activities in Tent 5-1 and move to location Tent 5-2 in ISS Areas 5B, 5C and 5D (southcentral portion of the Site).
- Complete ISS activities in Tent 7-3 in ISS Area 7A (just west of the bulkhead).

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 72 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

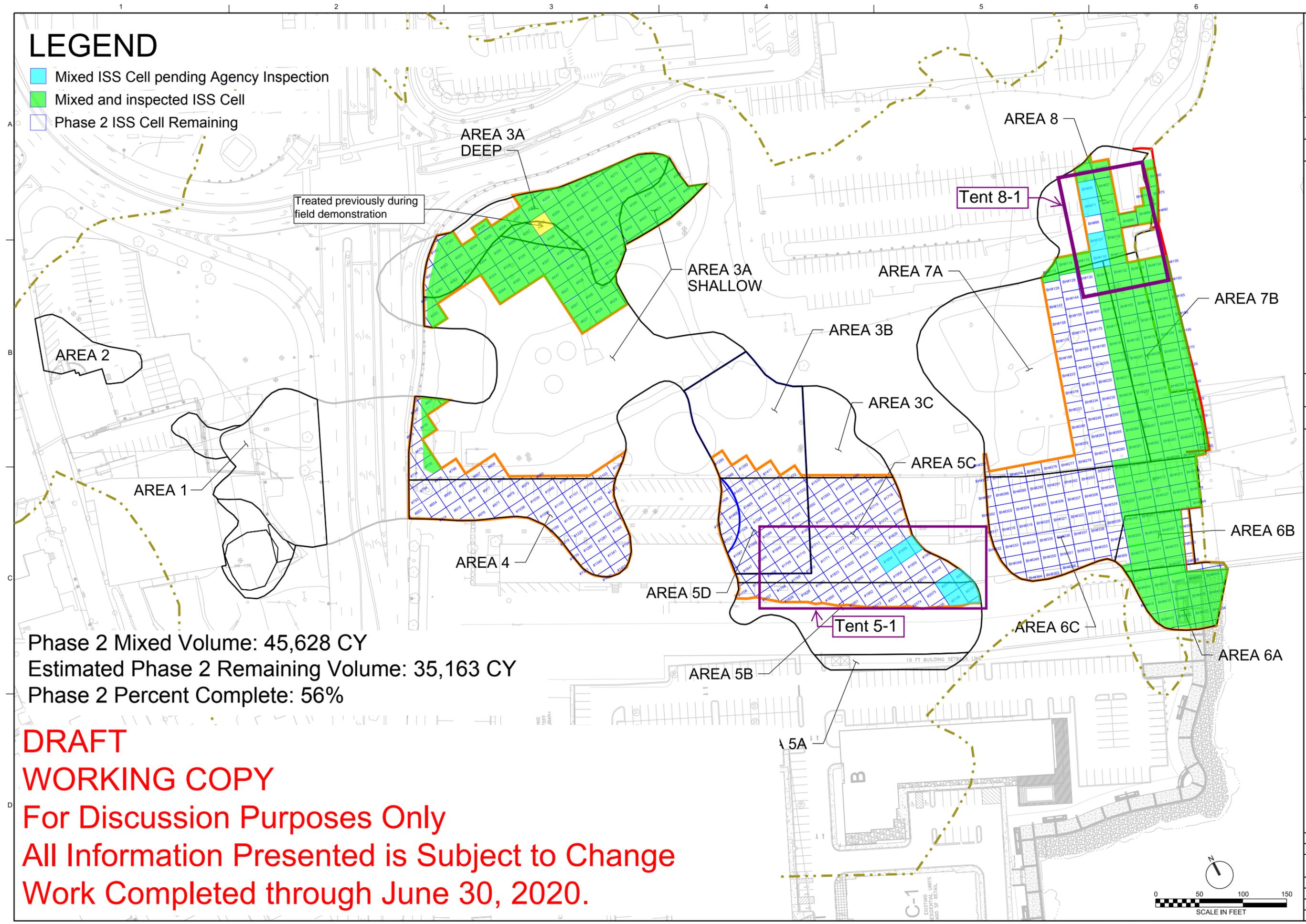
Copies to:

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



Phase 2 Mixed Volume: 45,628 CY
 Estimated Phase 2 Remaining Volume: 35,163 CY
 Phase 2 Percent Complete: 56%

DRAFT
WORKING COPY
 For Discussion Purposes Only
 All Information Presented is Subject to Change
 Work Completed through June 30, 2020.

NO.		DATE		DR		REVISION		BY	
DGN		EA MCKENNA		PA KARABAN		CHK		APVD	
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		428872							
PROJ		FIG-1							
DWG		SHEET of							
FILENAME: 10-C-F201-9-24-19.dgn PLOT DATE: 2019/09/25 PLOT TIME: 10:12:09 AM									

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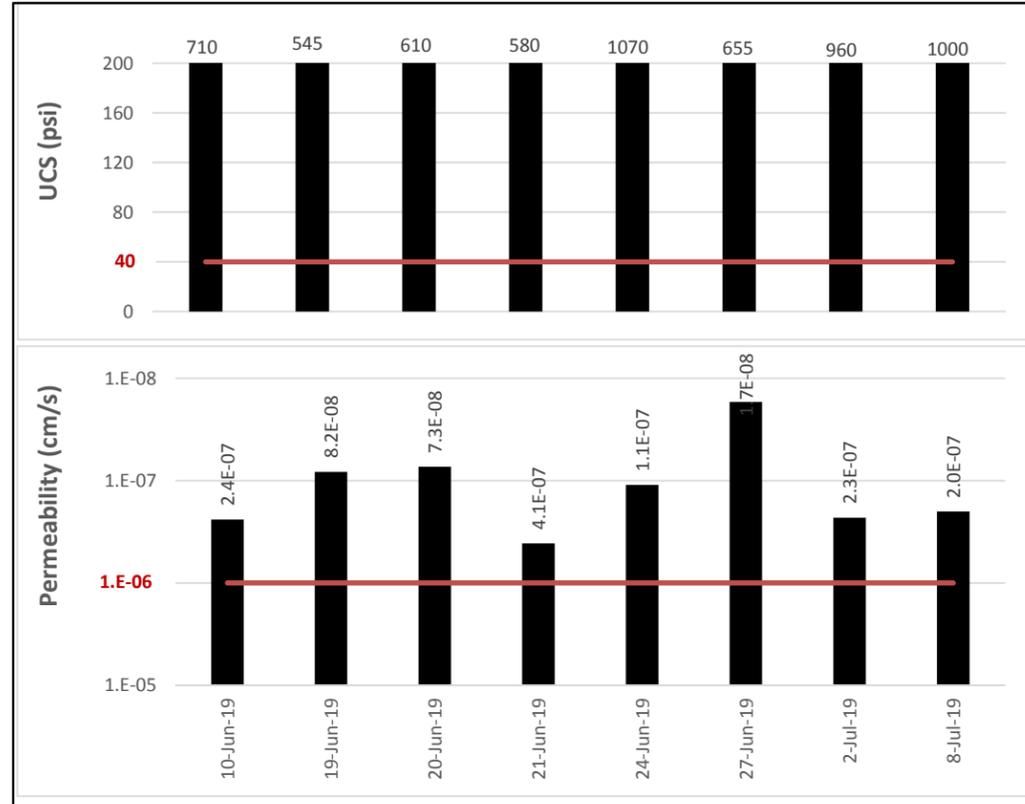
In Situ Solidification/Stabilization Results Dashboard, Tent 3-1 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

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: 7/2/2020

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	320	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

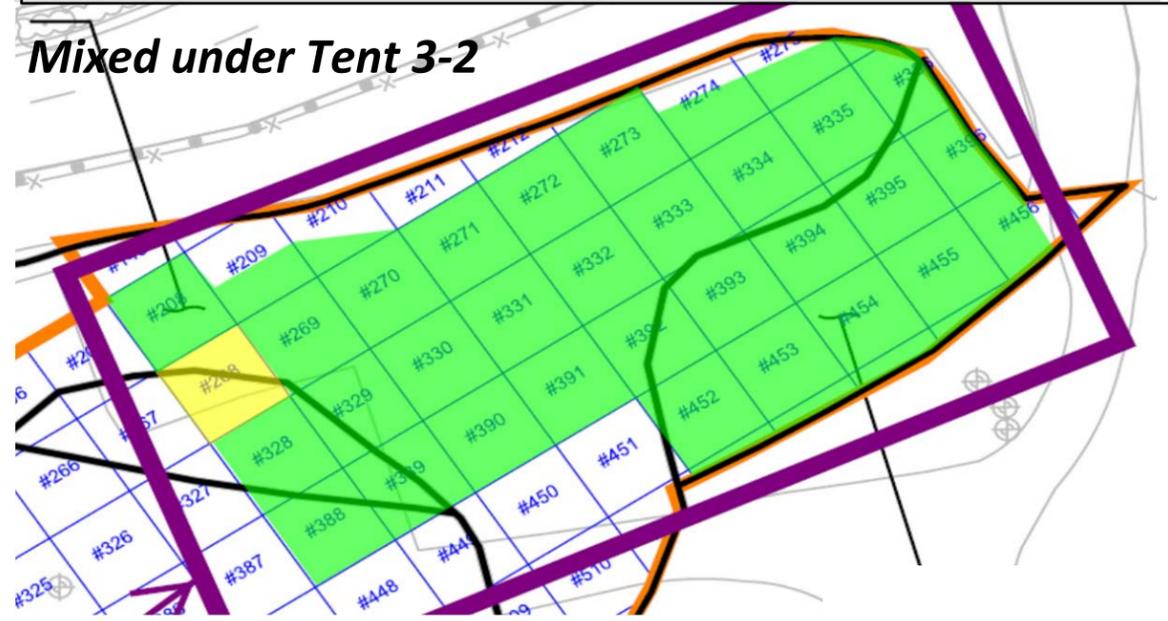
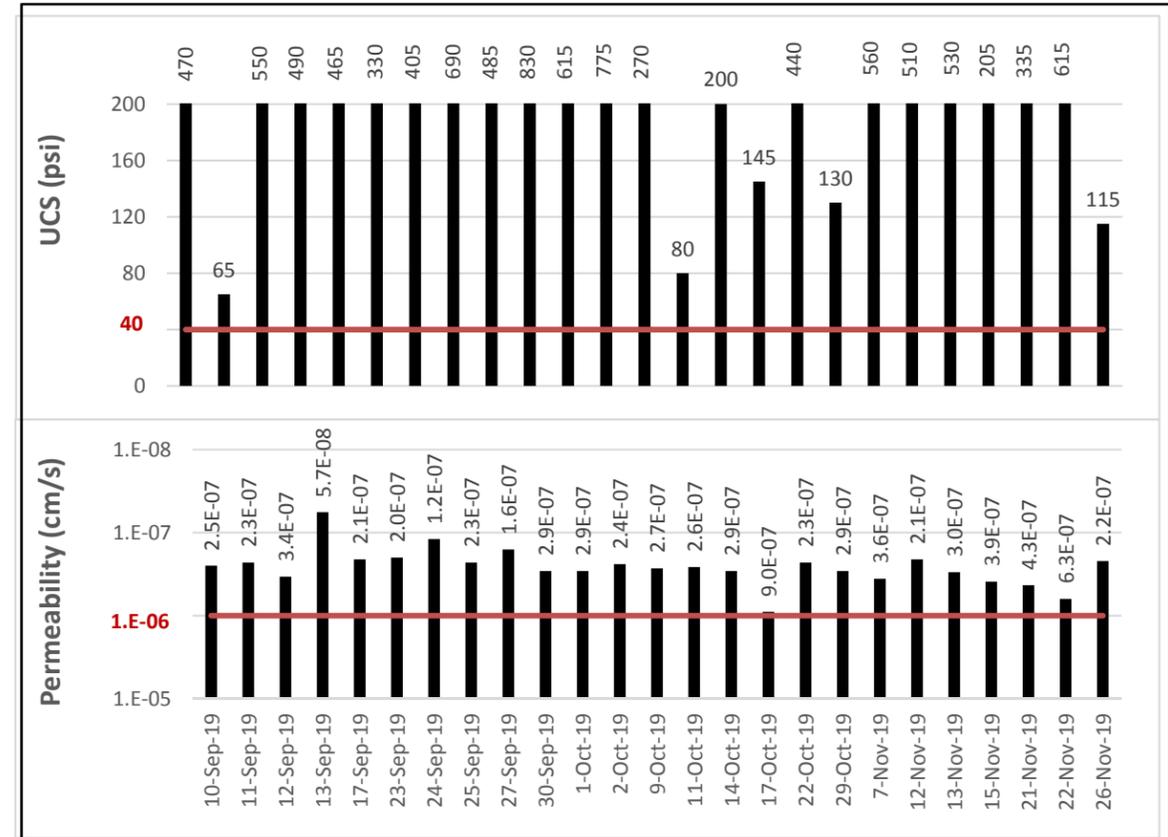
Total CY Mixed: 6969

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)

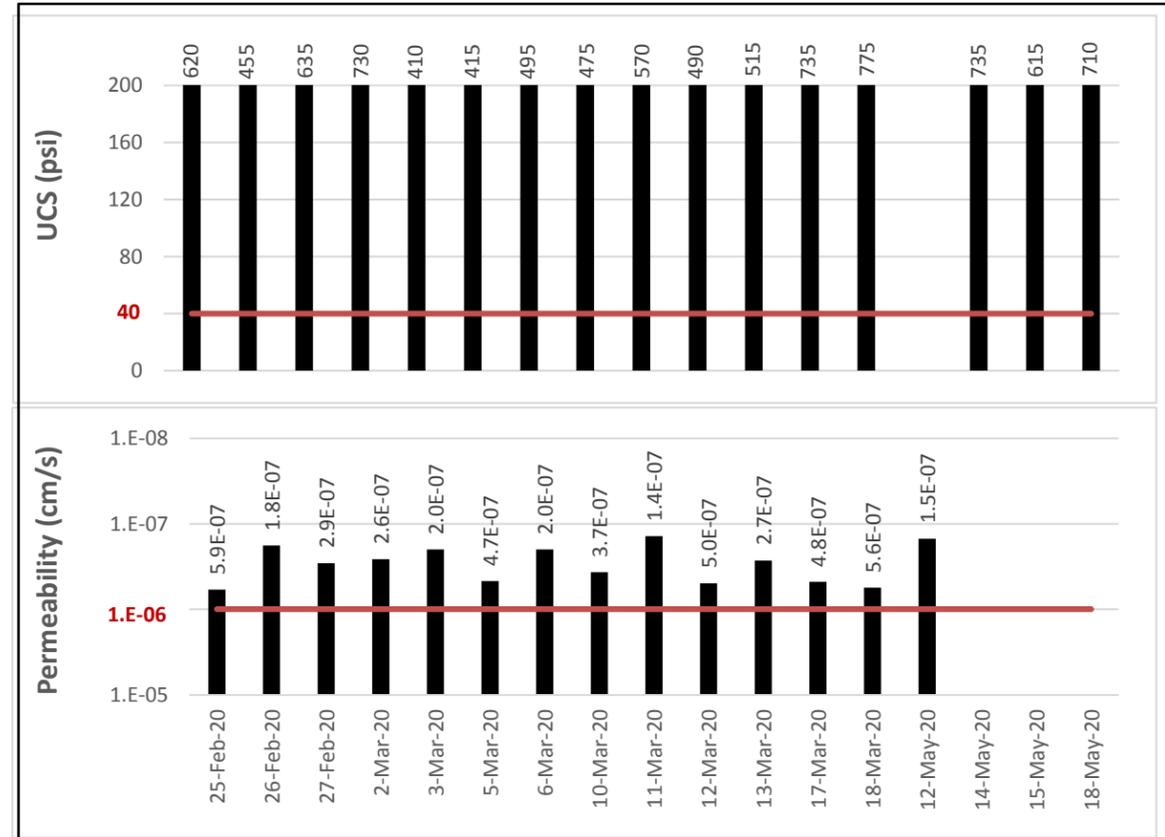
Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

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%		1.50E-07
3-4	14-May-20	610	2%	6%	735	
3-4	15-May-20	531	2%	6%	615	
3-4	18-May-20	347	2%	6%	710	

Total CY Mixed: 4855

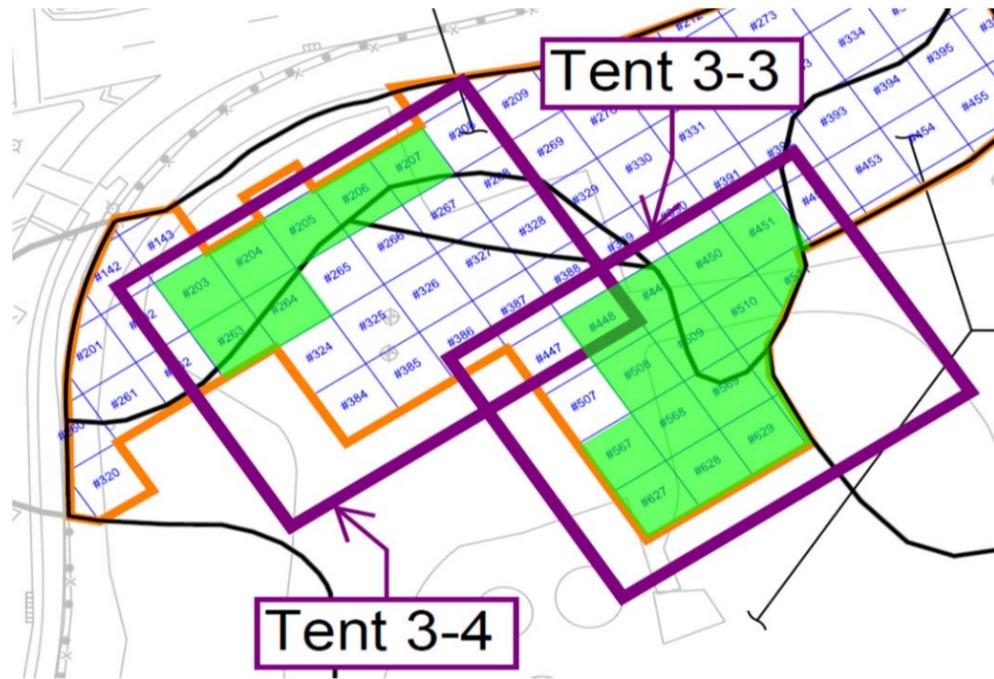
Data Pending



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.

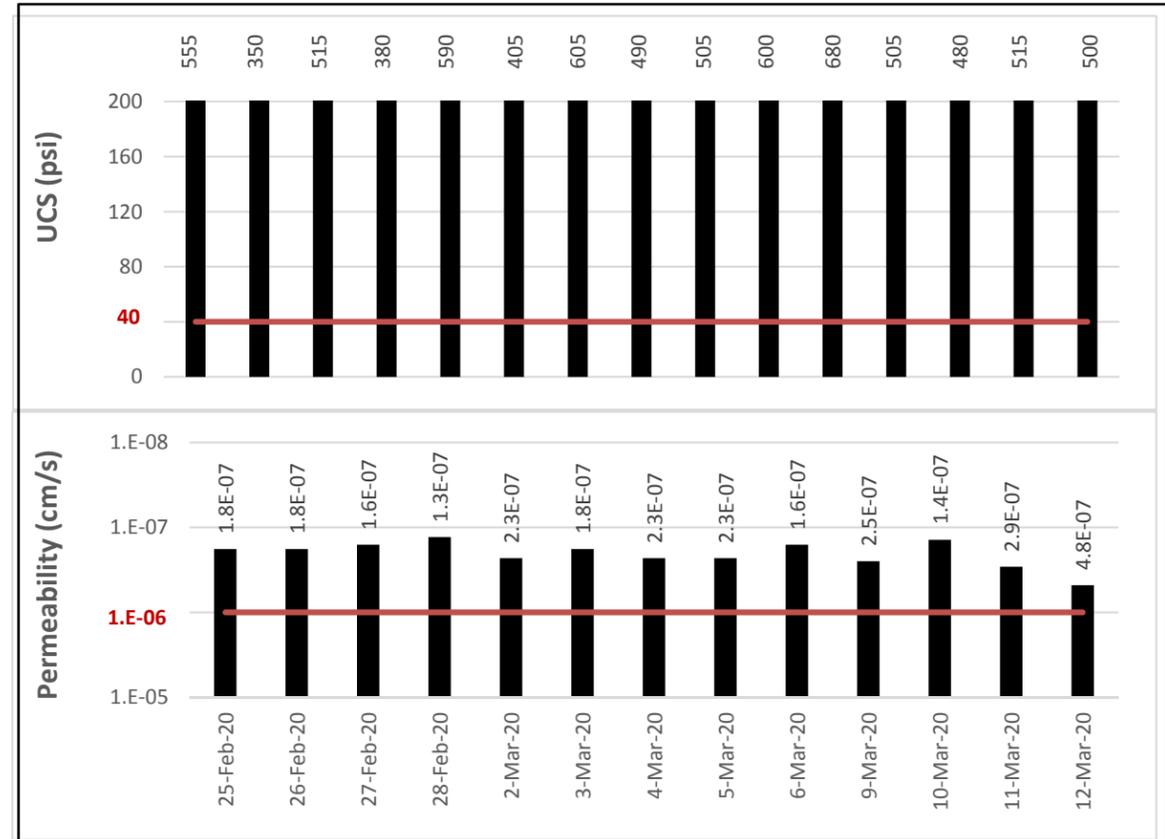
In Situ Solidification/Stabilization Results Dashboard, NT-31, 32, 33 (Leaching Batch 5)

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

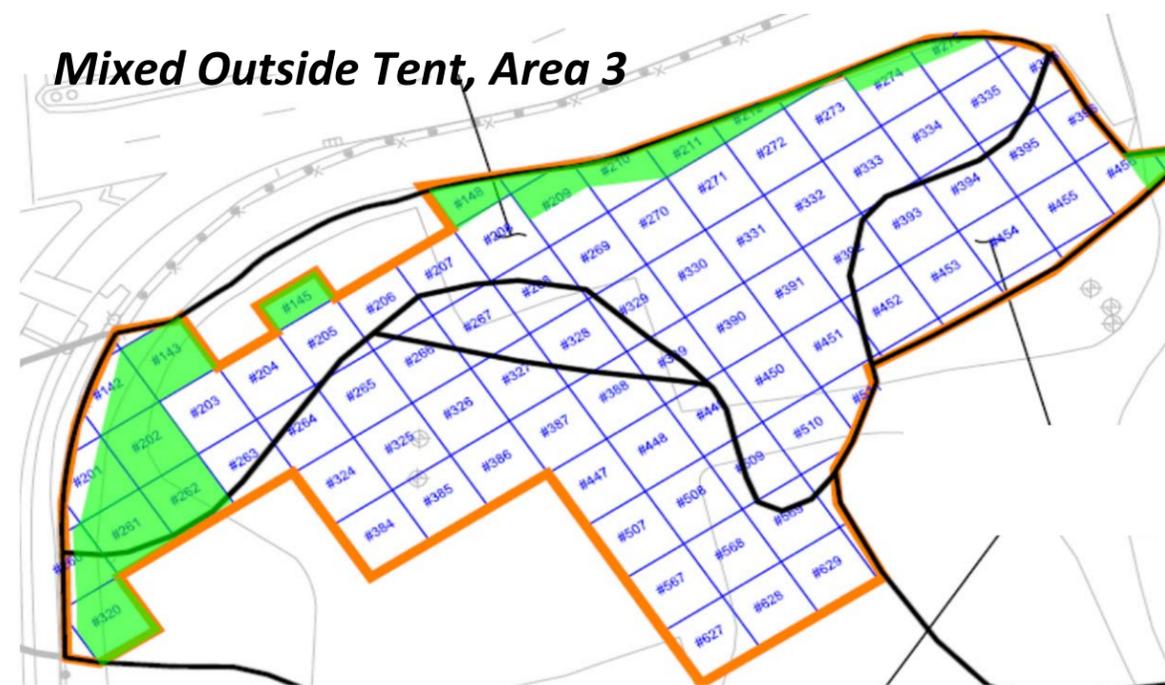
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-33	25-Feb-20	39	2%	6%	555	1.80E-07
NT-32	26-Feb-20	131	2%	6%	350	1.80E-07
NT-32	27-Feb-20	269	2%	6%	515	1.60E-07
NT-32	28-Feb-20	258	2%	6%	380	1.30E-07
NT-32	2-Mar-20	291	2%	6%	590	2.30E-07
NT-32	3-Mar-20	66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



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.

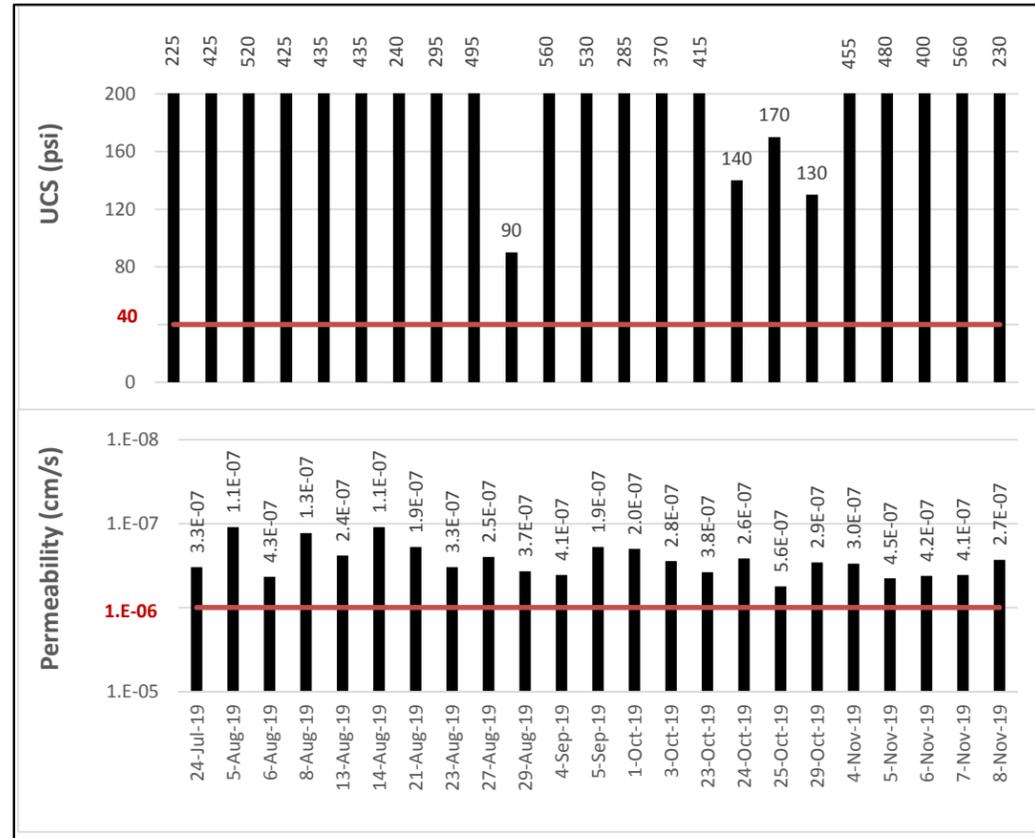
In Situ Solidification/Stabilization Results Dashboard, Tent 7-1 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

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



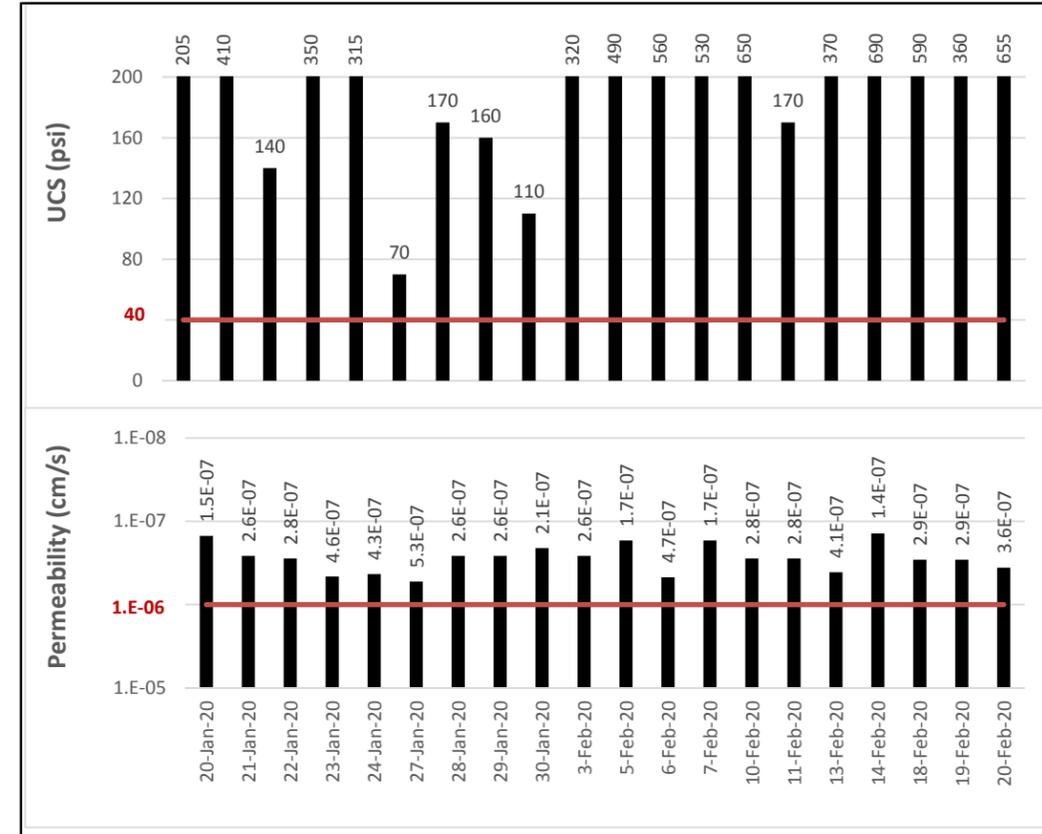
In Situ Solidification/Stabilization Results Dashboard, Tent 7-2 (Leaching Batch 6)

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

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

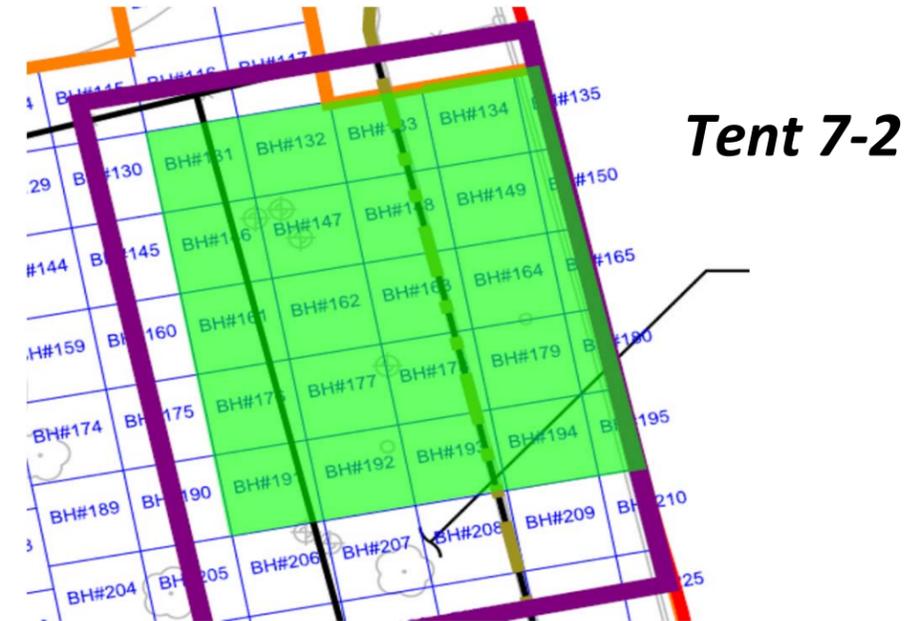
Total CY Mixed: **5882**



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, NT-61 (Leaching Batch 7)

Quanta Resources Corporation Superfund Site, OU1

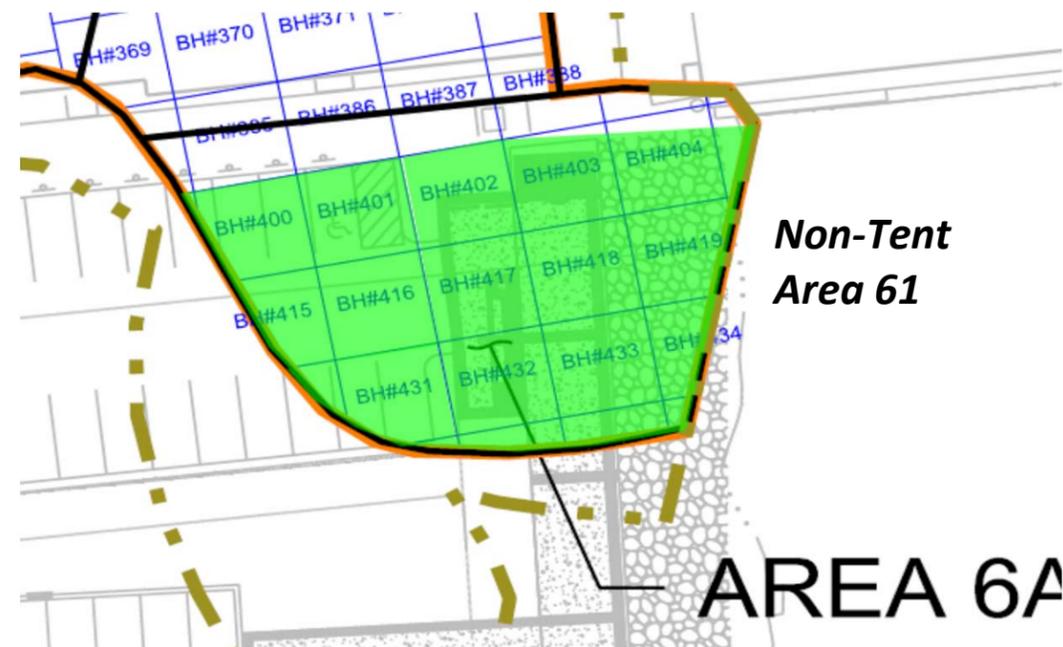
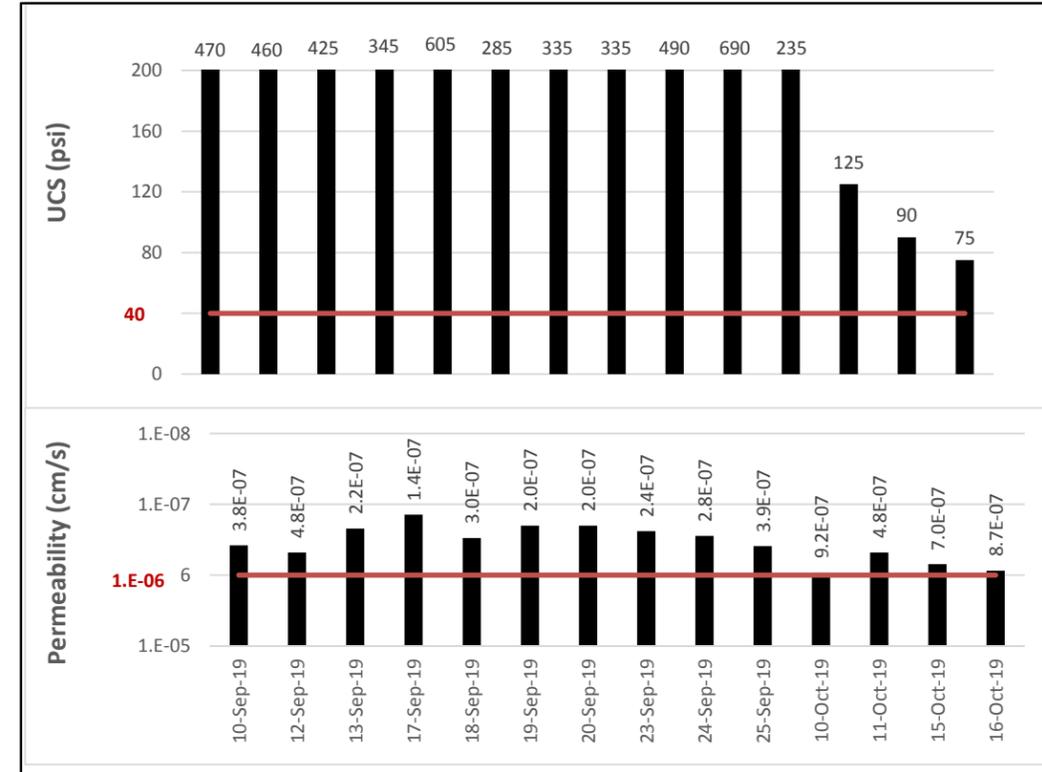
Data through: 7/2/2020

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.



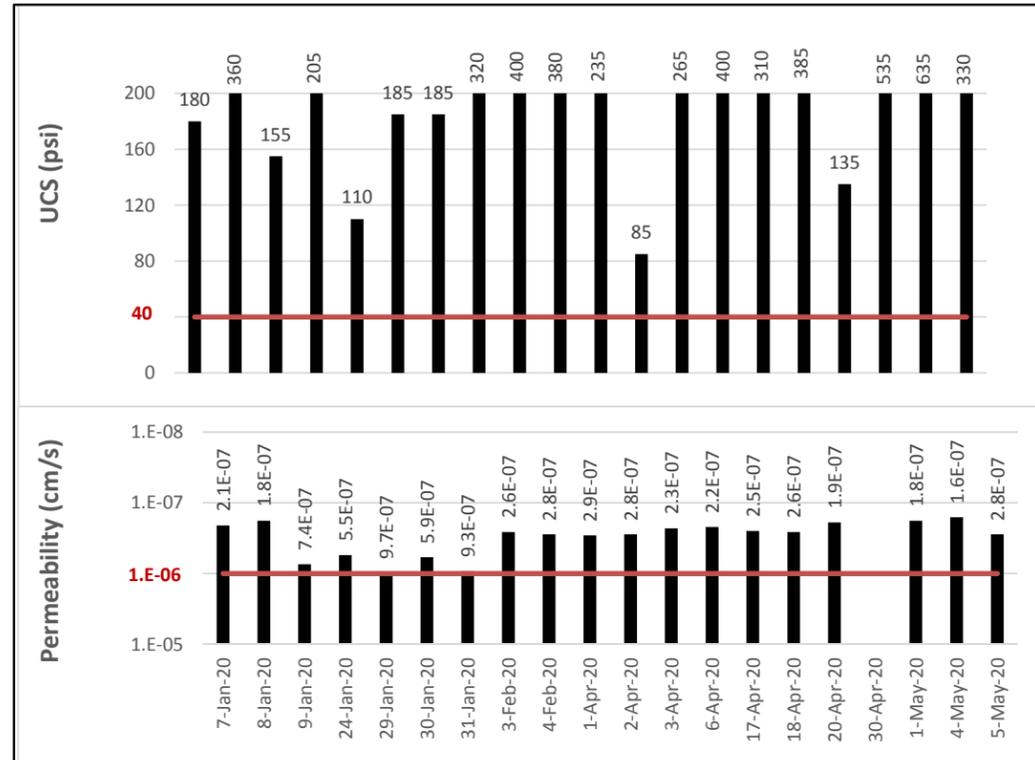
Note: Mixed areas awaiting EPA inspection indicated with blue shading. Green cells are mixed and have been inspected.

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

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

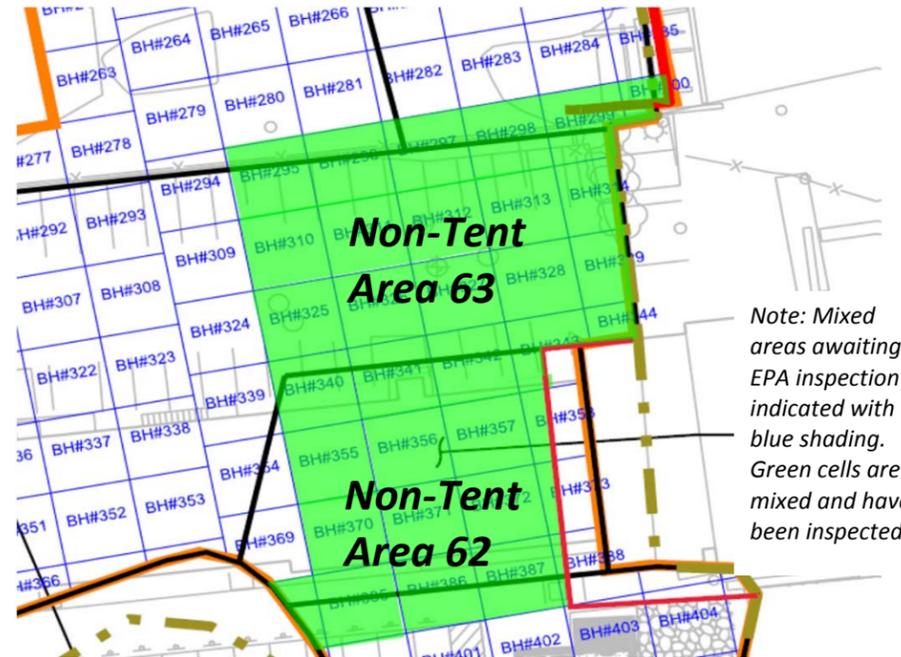
Area	Date	Volume (CY)	Mix Design		UCS (≥40 psi)	Permeability (≤1E-6 cm/s)
			Cement	Slag		
NT-62	7-Jan-20	236	4%	6%	180	2.1E-07
NT-62	8-Jan-20	188	4%	6%	360	1.8E-07
NT-62	9-Jan-20	142	4%	6%	155	7.4E-07
NT-62	24-Jan-20	271	4%	6%	205	5.5E-07
NT-62	29-Jan-20	206	4%	6%	110	9.7E-07
NT-62	30-Jan-20	195	4%	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	
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				



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		
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)

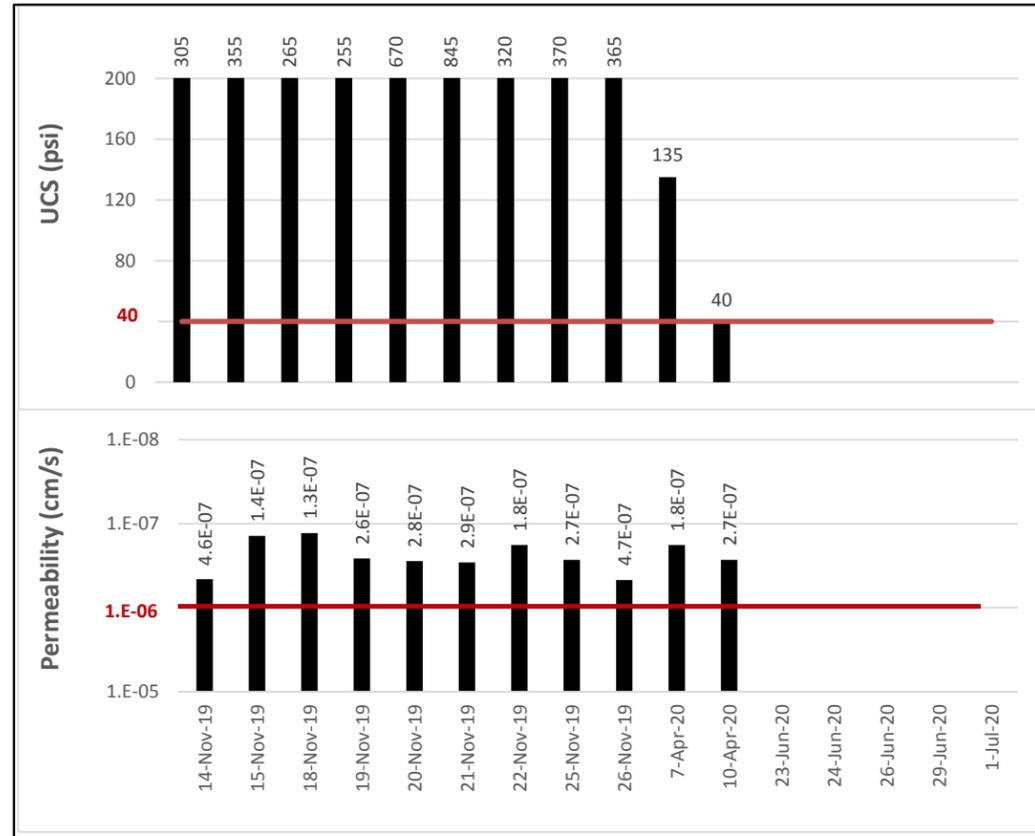
Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥ 40 psi)	Permeability ($\leq 1E-6$ cm/s)
			Cement	Slag		
8	14-Nov-19	234	2%	6%	305	4.6E-07
8	15-Nov-19	125	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	195	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	2%	6%	135	1.8E-07
8	10-Apr-20	568	2%	6%	40	2.7E-07
8	23-Jun-20	231	2%	6%		
8	24-Jun-20	211	2%	6%		
8	26-Jun-20	226	2%	6%		
8	29-Jun-20	129	2%	6%		

Total CY Mixed: **3135**

Data Pending



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

Area 8



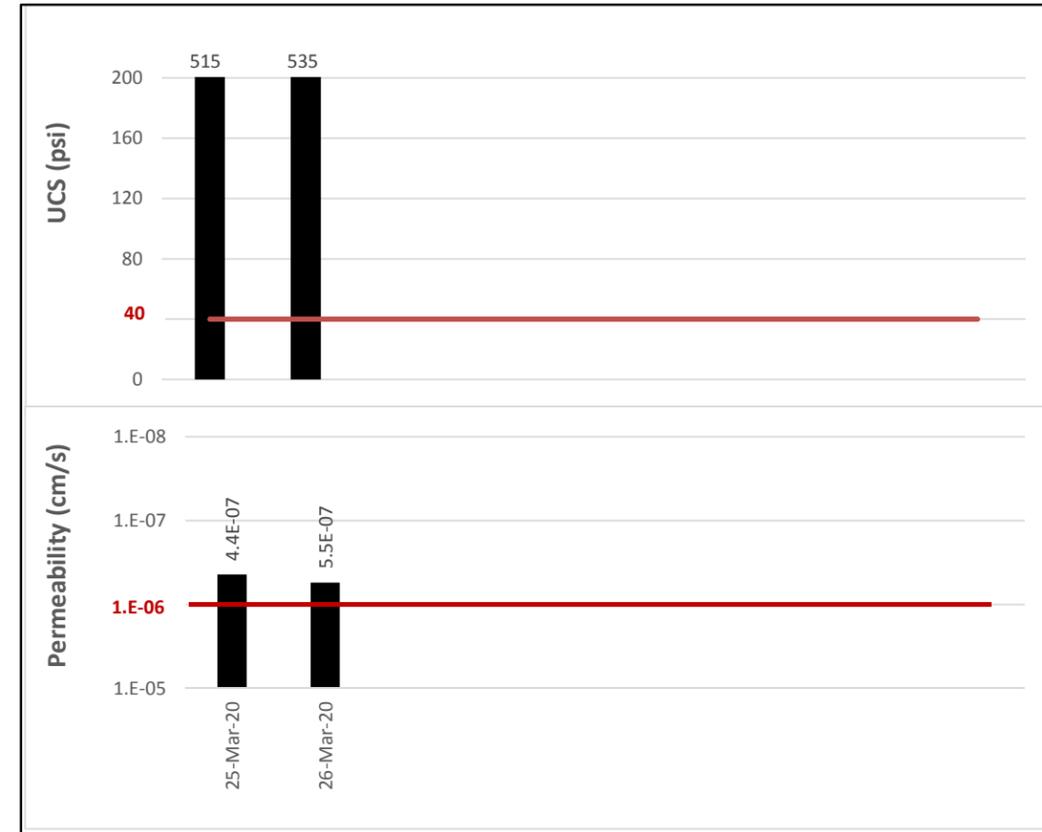
In Situ Solidification/Stabilization Results Dashboard, Area 4 (Leaching Batch 9)

Quanta Resources Corporation Superfund Site, OU1

Data through: 7/2/2020

Area	Date	Volume (CY)	Mix Design		UCS (≥ 40 psi)	Permeability ($\leq 1E-6$ 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

Total CY Mixed: **566**



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