

**BEFORE THE ENVIRONMENTAL PROTECTION AUTHORITY  
AT WELLINGTON**

**IN THE MATTER** of the Exclusive Economic Zone and  
Continental Shelf (Environmental Effects)  
Act 2012

**AND**

**IN THE MATTER** of a decision-making committee  
appointed to hear a marine consent  
application by Trans Tasman Resources  
to undertake iron ore extraction and  
processing operations offshore in the  
South Taranaki Bight

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**SUPPLEMENTARY STATEMENT OF EVIDENCE OF DR MICHAEL  
DEARNALEY ON BEHALF OF TRANS TASMAN RESOURCES LIMITED**

**28 MARCH 2017**

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**ATKINS | HOLM | MAJUREY**

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## **INTRODUCTION**

1. My name is Michael Dearnaley.
2. I prepared Expert Evidence dated 15 December 2016 (First Statement) and Rebuttal Evidence dated 9 February 2017 (Rebuttal Statement) with respect to these proceedings on behalf of Trans Tasman Resources Limited.
3. My qualifications and experience as a dredging and sediment transport specialist are set out in paragraphs 2 to 4 of my First Statement.
4. I repeat the confirmation given at paragraph 5 of my First Statement that I have read the Code of Conduct for Expert Witnesses and agree to comply with it.

## **BACKGROUND**

5. On 22<sup>nd</sup> February 2017 the Decision-making Committee (DMC) issued Minute 29, directing an additional expert conferencing session for the sediment plume modelling experts to focus on establishing appropriate worst case scenario parameters to apply to a re-run of the sediment plume model. The meeting was held on 23<sup>rd</sup> February 2017, with a joint witness statement being provided on 2<sup>nd</sup> March<sup>1</sup>.

### **Particle size distribution (PSD)**

6. On 9<sup>th</sup> March 2017 TTR provided all experts with the raw PSD data underpinning the information used in the model. A copy of the memorandum to the experts along with the data is attached as **Appendix 1**.
7. The data was received from two separate independent sources i.e. NIWA and AUT, both of whom undertook separate analysis by laser sizing. It is also important to note that the collection and preparation methodology was also independently verified by Golders Associates.

### **Modelling**

8. The modelling was re-run and the following reports were provided to the DMC and put on the EPA website on 16<sup>th</sup> March 2017:
  - (a) HR Wallingford (2017) Worst case scenario sediment plume modelling; and

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<sup>1</sup> Joint Statement of Experts in the Field of Sediment Plume Modelling – Setting Worst Case Parameters before the Environmental Protection Authority, 23<sup>rd</sup> February, 2017

- (b) MacDonald, H.S. and Hadfield M.G (2017) South Taranaki Bight Sediment Plume Modelling: Worst case scenario.
9. On 22<sup>nd</sup> March 2017 the DMC directed the sediment plume modelling experts to attend an additional conferencing session to address the materiality of the further modelling information in comparison to the modelling information that had previously been provided. This was to provide a basis for other experts to consider the impacts of the further modelling in their respective areas of expertise.
10. In the time available it was not possible to schedule the expert conference required by the DMC because of availability issues for some of the experts. As a result, the DMC has directed the sediment modelling experts to prepare individual and brief statements addressing the materiality of any changes between the original modelling outputs and the worst case scenario modelling by 29 March 2017.

#### **COMPARISON OF SOURCE TERMS**

11. The worst case scenario differs from the original modelling scenario because it has a time varying source term. In the original modelling scenario the time average source term was equivalent to mining operations being continuously undertaken in material with an ultra fines content of 1.6% (<8 microns in size). The worst case scenario increased this to a scenario of mining taking place in material with an average of about 1.8% ultra fines, the maximum allowable by the originally proposed condition 47(e). This average arises from mining operations in a combination of material with 1.6% ultra fines (as for the original case) and material with 2.25% ultra fines, which is the highest ultra fines content that TTR has confirmed that they can operate their equipment at for a period of weeks to one month. The newly proposed Condition 5(d) requires that mining takes place in material with less than 1.8% ultra fines, averaged over a week. The worst case scenario modelled is therefore worse than the worst case allowable under this new proposed condition.
12. The worst case scenario includes that for 20 days every 60 days the mining would be in material with 2.25% ultra fines content rather than the 1.6% ultra fines content previously simulated. This means that for these periods of time the source term was increased by about 60% compared to the original scenario. This is a worse case than that allowable under newly proposed Condition 5(d).
13. A further element of the worst case scenario was that for 20 days out of 180 days the operation simulated the creation of a mound at the start of a mining lane, in combination with mining a material with 2.25% ultra fines content. In my

opinion this combination of factors represents an appropriate worst case. During construction of the mound the maximum release of fines into the plume is simulated, with minimal retention of the two slowest settling classes of fines occurring<sup>2</sup>. This source term, associated with periods of mound construction in the highest ultra fines content material that TTR can mine, was about 120% of the original source term. This too is conservative given newly proposed Condition 5(d).

14. In addition when mining operations occurred in the mining lane (160 days out of 180 days) with waves of height between 2.5m and 4m the source terms were also increased to between about 100% or 30% of the original source term depending respectively upon whether the material being mined had 2.25% or 1.6% ultra fines content. Again an extended period of mining material with ultra fines content of 2.25% would not be allowable under newly proposed Condition 5(d), and so the worst case analysis is, once again, conservative. Some experts were concerned whether the retention properties of the mining pit were over-estimated during periods of wave activity in particular depending upon the wave period. In my opinion the periods of full release of fines represented by the simulated periods of mound creation included in the worst case model scenario give an upper bound to the source term that could be released by the mining operation.
15. When wave heights were less than 2.5m (about 87% of the time) and operations were taking place in material with 1.6% ultra fines content (67% of the time) the source terms in the worst case modelling scenario are similar (23.2 kg/s compared to 22.9 kg/s) to those used in the original modelling. Accordingly, there will be long periods of the worst case scenario where the results will be similar to those of the original modelling.
16. Overall the source term in the worst case modelling scenario is about 30% greater than that used in the original modelling. Note that this includes extended periods of mining operations in ultra fines content of 2.25% which would not be allowable by newly proposed Condition 5(d).

#### **COMPARISON OF MODEL RESULTS**

17. As noted above the worst case modelling scenario includes periods (about 60% of the time on average) where predictions of plume suspended sediment concentrations

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<sup>2</sup> See paragraph 22 of the Joint Statement of Experts and Table 2.2 of MacDonald and Hadfield (2017).

(SSC) and associated deposition will be very similar to those in the original modelling scenario.

18. The differences between the results for the original model scenario and the worst case model scenario are not large and in some cases are indiscernible. The differences are more apparent when considering the extreme statistics rather than the median statistics. This is as expected given the source term distribution described above.
19. To aid in understanding the differences between the worst case model scenario and the original model scenario I requested that time series be presented for locations where concentrations were highest to demonstrate the differences between the worst case and the originally modelled scenario (see Figures 3.2 to 3.5 of MacDonald and Hadfield (2017)). This is a slightly different approach to that envisaged by paragraph 31 of the Joint Statement of Experts however, I do not think the use of colour contour plots would have revealed the full detail of the small differences between the worst case and original modelling scenario. The time series plots allow the detail of the time varying worst case source to be identified. Changes to the actual values of the extreme statistics (maximum) are clear. The effects of operations in the different material types (% ultra fines content) are evident. Overall changes to the median statistics will generally be insignificant because the time series are coincident for much of the simulation period.
20. The time series are shown for more locations in Figures 3.6 to 3.15 of MacDonald and Hadfield (2017). The whole simulation period is shown on one figure and the differences between the original and the worst case model scenario are not generally discernible. For the last two years of the simulated mining activity the maximum, 99<sup>th</sup>, 95<sup>th</sup> and median percentile values are shown.
21. Spatial plots of SSC and deposition for the worst case modelling have been presented in MacDonald and Hadfield (2017) so that they can be directly compared with the same form of plots for the original modelling presented in Hadfield and MacDonald (2015)<sup>3</sup>. The differences are most apparent for the 95<sup>th</sup> percentile plots for SSC and the sedimentation plots. The main difference is that the area of higher sediment plume SSC increases and extends further alongshore. In my opinion the predicted increases in SSC for the original and the worst case modelling scenarios are only likely to be discernible within about 3km of the mining activity.

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<sup>3</sup> Hadfield, M.G and MacDonald, H.S (2015) Sediment Plume Modelling, October 2015

The sedimentation plots show small differences in deposition rate the actual rates are still insignificant (less than about 0.5mm) and can only be distinguished from the background levels plotted within a few kilometres (less than 3km) of the mining site (see Figures 3.23 and 3.31 of MacDonald and Hadfield (2017)).

## **CONCLUSIONS**

22. It is my opinion that the worst case scenario that has been considered is an appropriate worst case to consider. Importantly, it is worse than that allowable under newly proposed Condition 5(d) and as such cannot occur in practice.
23. I further note that proposed condition 5 imposes more restrictions on proposed mining operations than does the modelling presented in my primary evidence. As such, the original modelling results represent a conservative upper bound limit of what could actually occur.
24. The results of the worst case modelling scenario, using the parameters as defined in the Joint Statement of Experts, are not materially different to those of the original model outputs.



**Dr Michael Dearnaley**

**28 March 2017**

## APPENDIX 1

# memo

**Company name**

To: Mike Dearnaley, HR Wallingford  
From: Matt Brown and Shawn Thompson, Trans-Tasman Resources Ltd  
CC:  
Date: 7<sup>th</sup> March 2017  
Re: **Trans-Tasman Resource Ltd Marine Consent Application**  
**Run of Mine Particle Size Distribution Data – Raw data analysis**

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The Decision Making Committee has verbally requested that Trans-Tasman Resources provide the raw data and analysis of the run of mine (ROM) particle size distribution (PSD) used to determine the inputs used in the plume modelling.

Initially TTR characterized the sediment particle size distribution, from samples collected during an early drilling campaign. To provide further confidence, TTR verified the PSD to ensure that the distribution used was accurate, representative and reflective of the insitu sediment (ROM) using data from two separate independent sources.

Enclosed to this memorandum are two spreadsheets showing the raw data provided to TTR from these two separate independent sources i.e. NIWA and AUT, who undertook separate particle size analysis by laser sizing. The NIWA analysed samples were collected using the TTR reserve circulation drill rig, in which the whole sample was collected in buckets to ensure all particles were retained. The methodology underpinning the sample collection and preparation including the integrity of the entire chain of custody has been independently verified by Golders Associates. These samples were homogenized and sent to NIWA for testing using their laser diffraction analysis equipment. The detailed analysis of these samples have been provided.

In addition to this exercise further samples were collected by AUT using a vibracore method for their ecotoxicology assessment and were analysed for their PSD. AUT undertook laser diffraction analysis of these samples and provided the PSD results to TTR. These have been provided as well.



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TTR have used the data from both of these sources to undertake a review of the run of mine sediment and the PSD.

In summary, TTR have previously provided this information to HR Wallingford to ensure that the samples used to determine the ROM was representative and tested in an appropriate way for use in the plume modelling.

Undersize	STH015RC_0-1	STH015RC_1-1	STH015RC_2	STH015RC_3	STH015RC_4	STH015RC_5	STH015RC_6	STH015RC_7	STH015RC_8-9_grab_111
2000									
1821.88	0.712068	0	0.0003319	0.0091322	0	0	0	0	0.261836
1659.63	0.914773	0	0.0117847	0.0900372	0	0.00083628	0.00181014	0	0.186341
1511.83	1.15502	0	0.0650636	0.20704	0	0.0111043	0.0163842	0	0.141766
1377.19	1.46529	0.0189509	0.156258	0.334238	0.0171495	0.0537389	0.0524825	0.00152226	0.133188
1254.54	1.92069	0.243212	0.311064	0.563535	0.22413	0.2245925	0.166991	0.0477301	0.175237
1142.81	2.48411	0.638759	0.559573	0.895329	0.526607	0.590621	0.410702	0.265840	0.246915
1041.03	3.06066	0.837701	0.83193	1.27914	0.719799	0.983494	0.681572	0.532625	0.299245
948.322	3.50892	0.941766	1.05094	1.63637	0.737463	1.251225	0.866471	0.57675	0.298869
863.866	3.79406	1.00431	1.2089	1.95507	0.699106	1.382855	0.930206	0.430934	0.263241
786.932	3.99074	1.06324	1.38989	2.30491	0.652902	1.499015	0.942546	0.306255	0.233318
716.849	4.1778	1.27326	1.71116	2.78094	0.407263	1.73183	1.01048	0.337745	0.230072
653.008	4.36736	1.72698	2.27234	3.45052	1.02407	2.12898	1.20732	0.524895	0.259612
594.852	4.51208	2.48989	3.13549	4.32664	1.58867	2.67057	1.58028	0.746704	0.272765
541.876	4.58173	3.5993	4.30414	5.36977	2.40383	3.335625	2.18158	0.916667	0.466204
493.617	4.60463	5.00205	5.7046	6.48459	3.5684	4.433575	3.07136	1.12821	0.748221
449.657	4.65092	6.5704	7.17533	7.52384	5.01665	5.078995	4.27303	1.60549	1.2792
409.611	4.78486	8.07964	8.48514	8.31349	6.13767	6.137265	5.75939	2.58699	2.15318
373.132	5.012	9.25577	9.38621	8.69512	8.10486	7.187635	7.26661	4.1688	3.83731
339.902	5.26009	9.85706	9.68628	8.57318	8.03511	8.29662	6.17475	4.8569	

Undersize	STH015RC_0-1	STH015RC_1-1	STH015RC_2	STH015RC_3	STH015RC_4	STH015RC_5	STH015RC_6	STH015RC_7	STH015RC_8-9_grab_111
2000									
1821.88	0.712068	0	0.000332	0.009132	0	0	0	0	0.261836
1659.63	0.914773	0	0.011785	0.090037	0	0.000836	0.00181	0	0.186341
1511.83	1.15502	0	0.065064	0.20704	0	0.011104	0.016384	0	0.141766
1377.19	1.46529	0.018951	0.156258	0.334238	0.017149	0.053739	0.052482	0.001522	0.133188
1254.54	1.92069	0.243212	0.311064	0.563535	0.22413	0.224592	0.166991	0.04773	0.175237
1142.81	2.48411	0.638759	0.559573	0.895329	0.526607	0.590621	0.410702	0.26584	0.246915
1041.03	3.06066	0.837701	0.83193	1.27914	0.719799	0.983494	0.681572	0.532625	0.299245
948.322	3.50892	0.941766	1.05094	1.63637	0.737463	1.251225	0.866471	0.57675	0.298869
863.866	3.79406	1.00431	1.2089	1.95507	0.699106	1.382855	0.930206	0.430934	0.263241
786.932	3.99074	1.06324	1.38989	2.30491	0.652902	1.499015	0.942546	0.306255	0.233318
716.849	4.1778	1.27326	1.71116	2.78094	0.407263	1.73183	1.01048	0.337745	0.230072
653.008	4.36736	1.72698	2.27234	3.45052	1.02407	2.12898	1.20732	0.524895	0.259612
594.852	4.51208	2.48989	3.13549	4.32664	1.58867	2.67057	1.58028	0.746704	0.272765
541.876	4.58173	3.59929	4.30414	5.36977	2.40383	3.335625	2.18158	0.916667	0.466204
493.617	4.60463	5.00209	5.7046	6.48459	3.5684	4.433575	3.07139	1.12821	0.748221
449.657	4.65092	6.57039	7.17533	7.52384	5.01665	5.078995	4.27209	1.60549	1.2792
409.611	4.78486	8.07963	8.48514	8.31349	6.60737	6.137265	5.75939	2.58699	2.15318
373.132	5.012	9.25576	9.38621	8.69512	8.10486	7.187634	7.26660	4.1688	3.83731
339.902	5.26009	9.85705	9.68628	8.57318	8.29339	8.03510	8.59681	6.17475	4.8569

Undersize	STH015RC_0-1	STH015RC_1-1	STH015RC_2	STH015RC_3	STH015RC_4	STH015RC_5	STH015RC_6	STH015RC_7	STH015RC_8-9_grab_111
2000									
1821.88	99.28793	100	99.99967	99.99087	100	100	100	100	99.73816397
1659.63	98.37316	100	99.98788	99.90083	100	99.99916	99.99819	100	99.55182294
1511.83	97.21814	100	99.92282	99.69379	100	99.98806	99.98181	100	99.41005692
1377.19	95.75285	99.98105	99.76656	99.35955	99.98285	99.93432	99.92932	99.99848	99.27688891
1254.54	93.83216	99.73784	99.4555	98.79602	99.75872	99.70973	99.76233	99.95075	99.10163188
1142.81	91.34805	99.09908	98.89592	97.90069	99.17611	99.11911	99.35163	99.68526	98.85471681
1041.03	88.28739	98.26138	98.06399	96.62155	98.45631	98.13561	98.67006	99.15261	98.5547181
948.322	84.77847	97.31961	97.01305	94.98518	96.12525	96.88439	97.80359	98.57586	98.25660278
863.866	80.98441	96.3153	95.80415	93.03011	97.01975	95.50153	96.87338	98.14493	97.99336174
786.932	76.99367	95.25206	94.41426	90.25192	96.36684	94.00252	95.93084	97.8403	97.76004371
716.849	72.81587	93.9788	92.7031	87.94426	95.62658	92.27069	94.92036	97.50256	97.52997168
653.008	68.44851	92.25182	90.43076	84.49374	94.60251	90.14171	93.71304	96.97766	97.27035965
594.852	63.93643	89.76193	87.29527	80.1671	93.04384	87.47114	92.13276	96.23096	96.94309461
541.876	59.3547	86.16263	82.99113	74.79732	90.64001	84.13551	89.95118	95.31429	96.47689055
493.617	54.75007	81.16058	77.28653	68.31327	87.07161	80.01994	86.87982	94.68626	96.079595
449.657	50.09915	74.59018	70.1112	60.78889	82.05496	74.92295	82.60279	92.58059	94.44946901
409.611	45.31429	66.51055	61.62606	52.4754	75.44759	68.78568	76.86685	89.9936	92.29628929
373.132	40.30229	57.25478	52.23985	43.78028	67.34273	61.59805	69.60024	85.8248	88.95157857
339.902	35.0422	47.39772	42.55357	35.2071	58.10439	53.56294	61.00342	79.65005	84.05567795

Undersize	Sample	Coarsest	Averaged	Finest
2000	100.00	100.00	100.00	100.00
1821.88	99.29	99.89	100.00	100.00
1659.63	98.37	99.76	100.00	100.00
1511.83	97.22	99.58	100.00	100.00
1377.19	95.75	99.33	100.00	100.00
1254.54	93.83	98.90	99.95	100.00
1142.81	91.35	98.16	99.69	100.00
1041.03	88.29	97.13	99.15	100.00
948.322	84.78	95.93	98.58	100.00
863.866	80.98	94.63	98.14	100.00
786.932	76.99	93.25	97.84	100.00
716.849	72.82	91.70	97.53	100.00
653.008	68.45	89.81	97.27	100.00
594.852	63.94	87.44	96.94	100.00
541.876	59.35	84.42	96.48	100.00
493.617	54.75	80.60	95.73	100.00
449.657	50.10	75.80	94.45	100.00
409.611	45.31	69.92	92.30	100.00
373.132	40.30	62.98	88.91	100.00
339.902	35.04	55.18	84.06	100.00

Coarsest	Averaged	Finest
2000	100.00	100.00
1000	86.82	96.63
710	72.37	91.52
500	55.39	81.18
350	37.76	58.90
250	13.28	28.71
212	7.05	17.99
150	2.12	6.75
125	1.32	4.70
106	0.95	3.80
90	0.74	3.29
63	0.51	2.62
45	0.41	2.22
38	0.38	2.06
31	0.35	1.88
26	0.28	1.34
8	0.19	0.85
4	0.11	0.46
2	0.05	0.20

Coarsest	Averaged	Finest
2000	100.00	100.00
1000	86.82	96.63
710	72.37	91.52
500	55.39	81.18
350	37.76	58.90
250	13.28	28.71
212	7.05	17.99
150	2.12	6.75
125	1.32	4.70
106	0.95	3.80
90	0.74	3.29
63	0.51	2.62
45	0.41	2.22
38	0.38	2.06
31	0.35	1.88
26	0.28	1.34
8	0.19	0.85
4	0.11	0.46
2	0.05	0.20

Size	% passing	% passing
1000	100.00	100.00
710	91.52	97.50
500	81.18	86.51
350	58.90	68.51
250	28.71	37.50
212	17.99	24.13
150	6.75	12.24
125	4.70	11.24
106	3.80	10.23
90	3.29	9.23
63	2.62	8.23
45	2.22	7.23
38	2.06	6.23
31	1.88	5.23
26	1.34	4.23
8	0.85	3.23
4	0.46	2.23
2	0.20	1.23

Coarsest	Averaged	Finest
2000	100%	100%
1000	99.56	99.56
710	96.20	96.20
500	80.82	80.82
350	58.64	58.64
250	28.58	28.58
212	17.91	17.91
150	6.72	6.72
125	4.67	4.67
106	3.79	3.79
90	3.27	3.27
63	2.60	2.60
45	2.21	2.21
38	2.03	2.03
31	1.87	1.87
16	1.33	1.33
8	0.85	0.85
4	0.46	0.46
2	0.19	0.19

Sum 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00

Sum 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00

Sum 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00

Undersize_%	STH016RC	STH016RC	STH016RC	STH016RC	STH016RC	4-5_grab_Undersize_%	2000	STH016RC	STH016RC	STH016RC	STH016RC	STH016RC	4-5_grab_Undersize_%
2000							2000						2000
1821.88	0.066583	0.866511	0.017372	0.002351	0.119147		1821.88	99.93342	99.13349	99.98263	99.99765	99.88085	1821.88
1659.63	0.099665	0.881913	0.046075	0.02365	0.167588		1659.63	99.83375	98.25158	99.93655	99.974	99.71327	1659.63
1511.83	0.125173	0.853506	0.064256	0.049712	0.169498		1511.83	99.70858	97.39807	99.8723	99.92429	99.54377	1511.83
1377.19	0.158553	0.826547	0.07815	0.069305	0.172509		1377.19	99.55003	96.57152	99.79415	99.85498	99.37126	1377.19
1254.54	0.249846	0.852907	0.129369	0.123182	0.252229		1254.54	99.30018	95.71862	99.66478	99.7318	99.11903	1254.54
1142.81	0.400204	0.939317	0.225471	0.223612	0.423681		1142.81	98.89998	94.7793	99.43931	99.50819	98.69535	1142.81
1041.03	0.531908	1.03147	0.322768	0.328338	0.6354		1041.03	98.36807	93.74783	99.11654	99.17985	98.05995	1041.03
948.322	0.56309	1.06029	0.368533	0.390301	0.789488		948.322	97.80498	92.68754	98.74801	98.78955	97.27046	948.322
863.866	0.512175	1.02245	0.360403	0.415753	0.872373		863.866	97.2928	91.66509	98.3876	98.3738	96.39809	863.866
786.932	0.463802	0.96545	0.356417	0.451622	0.959357		786.932	96.829	90.69964	98.03119	97.92217	95.43873	786.932
716.849	0.472245	0.942965	0.390934	0.524702	1.13569		716.849	96.35676	89.75667	97.64025	97.39747	94.30304	716.849
653.008	0.513944	0.96823	0.426757	0.591094	1.41544		653.008	95.84281	88.78844	97.2135	96.80638	92.8876	653.008
594.852	0.529285	1.04017	0.401266	0.557868	1.74625		594.852	95.31353	87.74827	96.81223	96.24851	91.14135	594.852
541.876	0.525365	1.205	0.189564	0.374214	2.09714		541.876	94.78816	86.54327	96.62267	95.8743	89.04421	541.876
493.617	0.626419	1.57444	0.017713	0.122492	2.51412		493.617	94.16174	84.96883	96.60495	95.7518	86.53009	493.617
449.657	1.04263	2.29749	0.0	0.056879	3.1098		449.657	93.11911	82.67134	96.60495	95.69492	83.42029	449.657
409.611	2.02198	3.48414	0.051677	0.356524	4.00137		409.611	91.09713	79.1872	96.55328	95.3384	79.41892	409.611
373.132	3.68823	5.10389	0.789057	1.52996	5.22693		373.132	87.4089	74.08331	95.76422	93.80844	74.19199	373.132
339.902	5.89505	6.93758	2.89195	3.56741	6.68109		339.902	81.51385	67.14573	92.87227	90.24103	67.5109	339.902
309.631	8.25098	8.62243	5.75937	6.20388	8.11379		309.631	73.26287	58.5233	87.1129	84.03715	59.39711	309.631
282.056	10.249	9.7735	8.85091	8.93902	9.20595		282.056	63.01387	48.7498	78.26199	75.09813	50.19116	282.056
256.936	11.4357	10.1153	11.4872	11.1751	9.68083		256.936	51.57817	38.6345	66.77479	63.92303	40.51033	256.936
234.054	11.556	9.57171	12.9978	12.4039	9.39866		234.054	40.02217	29.06279	53.77699	51.51913	31.11167	234.054
213.21	10.6228	8.28322	13.0693	12.3653	8.40146		213.21	29.39937	20.77957	40.70769	39.15383	22.71021	213.21
194.222	8.89704	6.55135	11.7604	11.1235	6.89684		194.222	20.50233	14.22822	28.94729	28.03033	15.81337	194.222
176.925	6.78867	4.73541	9.49774	9.03935	5.18833		176.925	13.71366	9.492814	19.44955	18.99098	10.62504	176.925
161.168	4.7147	3.13709	6.89096	6.63075	3.57423		161.168	8.998963	6.355724	12.55859	12.36023	7.05801	161.168
146.815	2.97762	1.92333	4.4907	4.38744	2.26041		146.815	6.021343	4.432394	8.067889	7.972791	4.7904	146.815
133.74	1.71594	1.11854	2.64481	2.62918	1.32794		133.74	4.305403	3.313854	5.423079	5.343611	3.46246	133.74
121.829	0.9238	0.648908	1.44306	1.46068	0.751967		121.829	3.381603	2.664946	3.980019	3.882931	2.710493	121.829
110.979	0.503887	0.406158	0.788092	0.808998	0.446756		110.979	2.877716	2.258788	3.191927	3.073933	2.263737	110.979
101.096	0.323465	0.293069	0.495267	0.50924	0.310436		101.096	2.554251	1.965719	2.69666	2.564693	1.953301	101.096
92.0923	0.260825	0.237759	0.382472	0.390108	0.254004		92.0923	2.293426	1.72796	2.314188	2.174585	1.699297	92.0923
83.8907	0.231899	0.196754	0.323311	0.326607	0.216841		83.8907	2.061527	1.531206	1.990877	1.847978	1.482456	83.8907
76.4196	0.197579	0.154412	0.260555	0.261137	0.174218		76.4196	1.863948	1.376794	1.730322	1.586841	1.308238	76.4196
69.6138	0.156314	0.114159	0.193089	0.191455	0.129732		69.6138	1.707634	1.262635	1.537233	1.395386	1.178506	69.6138
63.4141	0.120641	0.084227	0.138149	0.133888	0.094668		63.4141	1.586993	1.178408	1.399084	1.261498	1.083838	63.4141
57.7666	0.095737	0.065514	0.10133	0.094707	0.071559		57.7666	1.491257	1.112894	1.297754	1.166791	1.01228	57.7666
52.622	0.079232	0.054352	0.077862	0.069727	0.056764		52.622	1.412024	1.058541	1.219892	1.097064	0.955515	52.622
47.9356	0.069436	0.048174	0.064778	0.056035	0.047977		47.9356	1.342588	1.010367	1.155114	1.04103	0.907539	47.9356
43.6665	0.064637	0.044907	0.059576	0.050851	0.043512		43.6665	1.277951	0.96546	1.095538	0.990179	0.864027	43.6665
39.7777	0.062911	0.043212	0.059037	0.050492	0.041816		39.7777	1.21504	0.922249	1.036501	0.939687	0.822211	39.7777
36.2352	0.061507	0.041559	0.058517	0.050093	0.040532		36.2352	1.153533	0.88069	0.977985	0.889594	0.781679	36.2352
33.0081	0.057421	0.038293	0.053174	0.044868	0.037029		33.0081	1.096112	0.842397	0.924811	0.844726	0.74465	33.0081
30.0685	0.051138	0.033853	0.043891	0.035742	0.031666		30.0685	1.044974	0.808544	0.88092	0.808984	0.712984	30.0685
27.3906	0.045098	0.029832	0.034666	0.026766	0.026578		27.3906	0.999876	0.778712	0.846254	0.782218	0.686406	27.3906
24.9513	0.041417	0.027594	0.028841	0.021235	0.023575		24.9513	0.958459	0.751118	0.817414	0.760983	0.662831	24.9513
22.7292	0.040733	0.027541	0.027441	0.020053	0.023174		22.7292	0.917726	0.723578	0.789973	0.740929	0.639657	22.7292
20.705	0.042017	0.028992	0.029113	0.021907	0.024519		20.705	0.875709	0.694586	0.76086	0.719022	0.615138	20.705
18.861	0.044052	0.031069	0.032231	0.025262	0.026559		18.861	0.831656	0.663516	0.728629	0.69376	0.588579	18.861
17.1813	0.045801	0.033009	0.035324	0.028718	0.028428		17.1813	0.785855	0.630507	0.693305	0.665043	0.560151	17.1813
15.6512	0.046734	0.034377	0.03756	0.031457	0.029673		15.6512	0.739121	0.59613	0.655745	0.633585	0.530478	15.6512
14.2573	0.046824	0.035108	0.038799	0.033322	0.030267		14.2573	0.692297	0.561022	0.616947	0.600264	0.500211	14.2573
12.9876	0.046194	0.035265	0.039095	0.034327	0.030308		12.9876	0.646103	0.525757	0.577851	0.565936	0.469903	12.9876
11.8309	0.04514	0.035032	0.038757	0.034738	0.030025		11.8309	0.600963	0.490725	0.539094	0.531199	0.439878	11.8309
10.7773	0.043863	0.034543	0.037993	0.034722	0.029565		10.7773	0.5571	0.456182	0.501101	0.496477	0.410313	10.7773
9.81748	0.042498	0.033883	0.036972	0.034417	0.029015		9.81748	0.514602	0.422298	0.464129	0.46206	0.381298	9.81748
8.94315	0.041067	0.03307	0.035751	0.033857	0.028375		8.94315	0.473534	0.389229	0.428378	0.428203	0.352923	8.94315
8.14669	0.0395	0.032051	0.034303	0.032998	0.027573		8.14669	0.434035	0.357178	0.394075	0.395206	0.32535	8.14669
7.42117	0.037771	0.030821	0.032646	0.031848	0.026585		7.42117	0.396263	0.326357	0.361429	0.363357	0.298765	7.42117
6.76025	0.035855	0.029372	0.030781	0.030412	0.025388		6.76025	0.360409	0.296985	0.330649	0.332946	0.273377	6.76025
6.1582	0.03376	0.027723	0.028743	0.028728	0.023997		6.1582	0.326648	0.269262	0.301906	0.304218	0.24938	6.1582
5.60976	0.031518	0.025908	0.026577	0.026847	0.022439		5.60976	0.295131	0.243354	0.275329	0.277372	0.226941	5.60976
5.11017	0.02917	0.023966	0.024342	0.024829	0.020756		5.11017	0.265961	0.219389	0.250987	0.252543	0.206185	5.11017
4.65506	0.026796	0.021971	0.02213	0.022769	0.019023		4.65506	0.239165	0.197417	0.228858	0.229775	0.187162	4.65506
4.24049	0.024472	0.019994	0.020025	0.020756	0.01731		4.24049	0.214692	0.177423	0.208833	0.209019	0.169853	4.24049
3.86284	0.022268	0.018102	0.018104	0.01887	0.015686		3.86284	0.192424	0.159322	0.190728	0.190149	0.154167	3.86284
3.51883	0.020261	0.016371	0.016465	0.017201	0.014231		3.51883	0.172163	0.14295	0.174278	0.172948	0.139936	3.51883
3.20545	0.018515	0.014866	0.015127	0.015819	0.013008		3.20545	0.153649	0.128085	0.159151	0.157128	0.126929	3.20545
2.91998	0.017054	0.013614	0.014155	0.014751									

RAW PSD Data STH019RC

UnderSize	STH019RC_0	STH019RC_1	STH019RC_2	STH019RC_3	STH019RC_4	STH019RC_5	STH019RC_6	STH019RC_7	STH019RC_8	STH019RC_9	STH019RC_10	STH019RC_11	STH019RC_12	STH019RC_13	STH019RC_14	STH019RC_15
2000																
1821.88	1.0356	0.222905	0	0.142453	0.0044792	0	0	0	0	0	0	0	0	0	0	0
1659.63	1.09559	0.253524	0.0039857	0.19236	0.0510328	0	0.006811	0	0	0.0034346	0.0005759	0.0074102	0	0	0	0
1511.83	1.13458	0.248695	0.0338574	0.219793	0.174632	0	0.0667412	0	0.0400824	0.0115845	0.087487	0	0	0	0	0
1377.19	1.19676	0.237358	0.0742585	0.30335	0.327722	0	0.177382	0	0.139493	0.0762383	0.283409	0.010262	0	0	0	0
1254.54	1.33929	0.29478	0.157192	0.624654	0.608627	0.0284857	0.388327	0.0179662	0.359574	0.289248	0.623747	0.178929	0	0.0163526		
1142.81	1.57811	0.446039	0.334655	1.24278	1.07014	0.374101	0.780759	0.223639	0.780759	0.428854	1.17448	0.710253	0	0.303297		
1041.03	1.84688	0.581761	0.530398	1.92665	1.64582	1.107079	1.20588	0.638112	1.181	1.2253	1.79807	1.36744	1.66904	0.7759	1.16957	
943.122	2.02632	0.555143	0.551255	2.93027	2.22766	1.50187	1.57015	1.02422	1.57968	1.74172	2.33569	1.87987	2.16816	1.87532		
863.866	2.09581	0.406572	0.51416	8.24216	2.76888	1.58279	1.6797	1.40859	1.9281	2.21956	2.75278	2.23725	2.71401	2.00675	1.99721	
786.932	1.27474	0.317293	0.529414	3.78238	3.46222	1.58204	1.87318	1.86688	2.30836	2.73264	3.15371	2.58825	1.60718	1.41863	2.11751	
716.849	2.21255	0.412016	0.692918	3.3734	3.97966	1.78784	2.24394	2.5136	2.8221	3.39156	3.6721	3.12285	2.6999	2.15825	2.67664	
653.008	2.42292	0.654318	0.972342	4.15812	4.72478	2.82217	3.39977	3.50749	4.24854	4.3544	3.90946	4.73294	3.79096	3.64143		
594.852	2.78045	0.848118	1.20073	5.0937	5.99938	2.87998	3.55559	4.48411	4.33572	5.26893	5.15258	4.8675	5.97565	4.88493	4.71894	
538.617	0.05298	0.371461	0.917365	6.73185	7.17343	3.84621	4.89183	6.86932	6.18033	7.55881	6.72993	6.78939	6.94912	6.6113	6.40739	
499.657	0.94881	0.051955	0.702111	7.24686	7.72493	4.27935	5.90682	7.92225	7.06311	8.14996	7.33782	7.5506	7.95055	7.60129	7.17448	
469.611	0.0324439	0.0234399	0.060084	7.51154	8.00984	4.86133	6.73494	8.70319	8.78075	8.85965	7.73808	8.08127	8.00386	8.26116	7.6675	
373.132	7.05386	0.413707	1.19647	7.51497	7.96656	5.65764	7.50162	9.08915	8.30348	8.48886	7.84803	8.31062	8.1095	8.71741	7.89067	
339.902	7.81635	1.82833	2.47597	7.24108	7.57074	6.56711	8.0634	8.9966	8.44144	8.25489	7.6383	8.17168	8.04574	8.90012	7.7377	
309.631	8.12224	1.49526	4.49824	6.68128	6.83948	7.3549	8.40794	8.14452	8.25528	8.14652	7.46604	7.60238	7.89011	8.51003	7.13873	
282.056	8.75944	6.97187	6.91837	5.86333	5.84303	7.77435	7.96656	7.38974	7.40882	6.36285	6.20738	6.71899	6.48245	7.52401	6.13384	
256.936	7.6055	9.58147	9.22545	4.86628	4.69648	6.78562	7.19468	6.08425	6.31717	5.10161	5.11343	5.54535	5.21859	6.88683	4.88539	
234.054	5.84497	11.4821	10.8939	3.80811	3.26952	3.82673	6.05302	4.6755	5.02279	3.83102	3.93547	4.26743	3.98421	4.794	3.6087	
213.21	4.46701	12.0803	11.5353	2.81006	2.46932	6.15217	4.73169	3.34306	3.70735	2.86852	2.84764	3.04971	2.88995	3.509	2.49453	
191.479	0.595217	1.84943	1.85237	1.63639	5.00883	3.4368	2.22144	2.53296	1.7555	1.87081	2.02197	1.91995	2.36654	1.63588		
176.925	2.04759	9.84251	9.53074	1.32183	0.979605	3.84252	2.33382	1.37899	1.60634	1.07707	1.16028	1.25445	1.22608	1.49448	1.0373	
161.168	1.25101	7.69773	7.64356	0.871506	0.579583	2.75555	1.50243	0.817013	0.959358	0.633539	0.882199	0.726002	0.746016	0.951236	0.642844	
146.815	0.743832	5.48672	5.29372	0.570678	0.343404	1.87656	0.934392	0.478952	0.55711	0.371714	0.400438	0.44191	0.464873	0.588863	0.407432	
133.74	0.051201	3.62198	3.40932	0.372517	0.224068	1.18714	0.573177	0.293426	0.331223	0.22922	0.241352	0.271455	0.282865	0.338808	0.293279	
121.829	0.290886	2.26988	2.02647	0.242411	0.164441	0.724818	0.354467	0.196579	0.211837	0.153923	0.15538	0.167686	0.199622	0.216254	0.259667	
110.679	0.204987	1.40539	1.17	0.157878	0.102188	0.508933	0.249976	0.130823	0.153085	0.102383	0.109833	0.116235	0.125169	0.1595285	0.140258	
101.096	0.156491	0.918334	0.72615	0.122092	0.115377	0.37838	0.172102	0.108249	0.082943	0.074744	0.074424	0.073883	0.073883	0.073883	0.073883	
92.023	0.125647	0.654091	0.523924	0.103546	0.0965848	0.364034	0.146913	0.109515	0.0912783	0.0723187	0.0662205	0.0852479	0.1	0.119227	0.181334	
83.8907	0.102937	0.482403	0.41524	0.0925161	0.0896745	0.356188	0.132433	0.0979403	0.0721404	0.0581726	0.0552793	0.0723463	0	0.065685	0.183447	
76.4196	0.0846714	0.346368	0.32182	0.082746	0.0678977	0.324289	0.11664	0.086639	0.055083	0.0458188	0.0420843	0.0586412	0	0.0362491	0.208902	
69.6138	0.0699199	0.246123	0.246505	0.077729	0.0554923	0.282128	0.0987844	0.0740819	0.0499184	0.0352307	0.0336304	0.04957138	0	0.0074523	0.215115	
63.1495	0.059827	0.18493	0.185237	0.062598	0.041823	0.256828	0.0914675	0.0568897	0.0347815	0.0256889	0.0256889	0.0347815	0	0.0059785	0.215115	
57.666	0.0540212	0.150916	0.143044	0.0575768	0.0326392	0.231107	0.0722305	0.0553561	0.0253909	0.0210187	0.0229485	0.0319746	0	0.0146784		
52.622	0.0509072	0.126198	0.112127	0.0558008	0.0355993	0.215896	0.063637	0.0480446	0.0313039	0.0156324	0.0209248	0.0309788	0	0.0174822		
47.9356	0.0498518	0.105501	0.0905342	0.0635668	0.020511	0.196501	0.0579388	0.0420096	0.0187794	0.0138742	0.018606	0.0322273	0.0271742	0	0.221927	
43.6665	0.0505667	0.0918922	0.0790577	0.0556113	0.0170853	0.174453	0.0530735	0.0369564	0.0173424	0.0124837	0.0184103	0.0336632	0.037762	0	0.239436	
39.7777	0.0537354	0.0844832	0.0754909	0.0514338	0.0149684	0.157809	0.0560819	0.0372979	0.0166695	0.0117419	0.0189811	0.0345061	0.0129218	0	0.21238	
35.7766	0.0596437	0.0841192	0.0774474	0.0508642	0.0150962	0.150591	0.0494288	0.0300652	0.01615	0.0103482	0.0149312	0.0257851	0.0196306	0	0.196306	
33.0081	0.0671747	0.0769537	0.0683549	0.051964	0.012808	0.147428	0.0479453	0.0276458	0.0149572	0.0098446	0.019648	0.035995	0.0235706	0	0.21733	
30.0685	0.0750372	0.0645221	0.0571554	0.0525234	0.0119172	0.142809	0.0454412	0.0254325	0.0131855	0.0088512	0.0197474	0.0362315	0.0500371	0	0.251936	
27.3906	0.0824507	0.0520987	0.0454749	0.0526004	0.0112583	0.134672	0.0428454	0.0236282	0.0115945	0.0071432	0.0139653	0.0369599	0.0607986	0	0.26866	
24.9513	0.0889535	0.0441424	0.0374055	0.0532061	0.0111223	0.126906	0.0414829	0.0226292	0.0108726	0.0067139	0.0209703	0.0374635	0.0524012	0	0.265039	
22.7292	0.0938136	0.0438157	0.042832	0.050077	0.0115664	0.122445	0.0417041	0.0224516	0.0111461	0.0071067	0.022773	0.0398897	0.0402202	0	0.25604	
20.705	0.0961131	0.0430962	0.0424884	0.0508055	0.0123692	0.120198	0.0428378	0.0227275	0.0120446	0.0079797	0.0227997	0.0352891	0.0574706	0	0.258767	
18.861	0.0953507	0.0456395	0.0358502	0.0614761	0.0132974	0.120857	0.0439717	0.0230623	0.0130114	0.0090472	0.027013	0.0453248	0.0708909	0	0.275432	
17.1813	0.0914136	0.0477179	0.0373467	0.0642761	0.0147373	0.119173	0.0443332	0.0231919	0.0137883	0.0103681	0.0285936	0.0477074	0.0811487	0	0.294834	
15.6512	0.0848037	0.0486587	0.0380834	0.066084	0.0149855	0.114642	0.0437723	0.0231545	0.0142236	0.0103625	0.0297055	0.0476	0.0818011	0	0.307817	
14.2573	0.0765565	0.0486392	0.0380849	0.0670849	0.0157734	0.110716	0.0426057	0.0231323	0.0140432	0.01018624	0.0305463	0.0471217	0.0747743	0	0.309008	
12.9676	0.078126	0.0480368	0.037547	0.0678073	0.0155999	0.0999824	0.0413285	0.023224	0.0145544	0.0102862	0.0314603	0.0472454	0.0724548	0	0.320493	
11.8309	0.0519982	0.0474535	0.0369128	0.0694348	0.0175648	0.0935754	0.0405339	0.0239541	0.0147829	0.0104558	0.0326625	0.0453567	0.0696386	0	0.299344	
10.7773	0.0515493	0.0471786	0.0363896	0.0722694	0.0186866	0.0897837	0.0406271	0.025091	0.015213	0.0105139	0.0348819	0.0452132	0.0610423	0	0.295981	
9.81748	0.045056	0.0473092	0.0369566	0.0763754	0.0199117	0.0889799	0.0415448	0.0266569	0.0158443	0.0106895	0.0368148	0.0458269	0.0402824	0	0.307531	
8.94315	0.0396892	0.0476724	0.0359465	0.0813699	0.0211123	0.0903726	0.0430325	0.0284374	0.0165929	0.0118523	0.039373	0.0469523	0.0399898	0	0.32006	
8.14669	0.0352527	0.0479425	0.035757	0.0805843	0.0221087	0.0925011	0.0460777	0.030132	0.0173146	0.0109877	0.0347095					



Table with columns: Size, STH01200001, STH012001002, STH012002003, AVE, STH012003004, STH012004005, STH012005006, STH012006007\_AV. Rows contain numerical data for various size ranges.

Summary table with columns: Total, Sand, Mud (<63µm), <30µm, <90µm. Values: Total 100.00, Sand 98.96, Mud 1.04, <30µm 1.39, <90µm 2.10.

Table with columns: Size, STH01200001, STH012001002, STH012002003, STH012003004, STH012004005, STH012005006, STH012006007\_AV. Rows contain numerical data for various size ranges.

Summary table with columns: Total, Sand, Mud (<63µm), <30µm, <90µm. Values: Total 100.00, Sand 98.96, Mud 1.04, <30µm 1.39, <90µm 2.11.

Table with columns: Size, Coarsest Sample, Averaged Sample, Finest Sample. Rows contain numerical data for various size ranges.

Table with columns: Size, Coarsest Sample, Averaged Sample, Finest Sample. Rows contain numerical data for various size ranges.

Table with columns: CoarsestSample, AveragedSample, FinestSample. Rows contain numerical data for various size ranges.

Table with columns: CoarsestSample, AveragedSample, FinestSample. Rows contain numerical data for various size ranges.

Table with columns: Size, STH012RC 0-6m, STH012RC 0-7m. Rows contain numerical data for various size ranges.

Table with columns: STH010R C, >2mm, >9.43%. Values: STH010R C, >2mm 98.96, >9.43% 99.43.

Raw Data

Samples with particles > 2mm (sieving)

	%>2mm	%<2mm	
C1-0-B	5.1	94.9	
C1-1-B	1.2	98.8	
C1-2-B	3.4	96.6	
C1-3-B	0.0	100.0	
C1-4-B	0.0	100.0	98.1
C2-0-B	14.4	85.6	
C2-1-B	0.9	99.1	
C2-2-B	0.0	100.0	
C2-3-B	0.0	100.0	
C2-4-B	2.8	97.2	
C2-5-B	0.6	99.4	96.9
C3-0-B	0.7	99.3	
C3-1-B	0.0	100.0	
C3-2-B	1.1	98.9	99.4
D3-0-B	3.9	96.1	
D3-1-B	4.2	95.8	
D3-2-B	0.0	100.0	
D3-3-B	0.0	100.0	
D3-4-B	0.0	100.0	
D3-5-B	0.0	100.0	98.7

Results from Malvern Lasersizer

Sample Name	Sizes (microns)																				2000	Sample Name	d (0.5)	Mean	Mode	Standard	Kurtosis	Skewness													
	0.05	0.06	0.12	0.24	0.49	0.7	0.98	2	3.9	7.8	15.6	31	37	44	53	63	74	88	105	125									149	177	210	250	300	350	420	500	590	710	840	1000	
Ref-1-B	0	0	0	1.415185	2.438284	2.951827	8.648577	14.44084	20.43639	18.35964	13.44745	2.792628	2.460809	2.329123	1.86554	1.483412	1.340746	1.116275	0.881737	0.696212	0.528569	0.41318	0.352374	0.339933	0.287628	0.344255	0.30481	0.22503	0.099542	0	0	0	Ref-1-B	7.713	24.908	6.248	58.516	41.243	5.805		
Ref-2-B	0	0	0	1.413955	2.487098	3.04909	8.941599	14.36982	19.25184	16.96567	12.84979	2.782699	2.50607	2.431997	2.003699	1.642342	1.539457	1.345686	1.132298	0.966487	0.7974	0.663367	0.567637	0.505576	0.381145	0.41801	0.372053	0.306601	0.235619	0.072987	0	0	0	Ref-2-B	7.94	30.491	5.856	72.268	33.864	5.271	
Ref-3-B	0	0	0	0.901751	1.642377	1.953521	5.795371	11.27149	18.92846	19.68196	15.82775	3.418184	3.059712	2.945477	2.402233	1.945393	1.795645	1.537705	1.261696	1.046693	0.840156	0.687364	0.593602	0.555457	0.449661	0.522982	0.458636	0.337807	0.13893	0	0	0	Ref-3-B	10.772	33.402	8.037	70.134	26.45	4.705		
Ref-4-B	0	0	0	1.466633	2.536858	3.09437	9.064691	14.44298	19.21046	16.95264	13.19649	2.922066	2.641345	2.562541	2.101798	1.709697	1.586897	1.371511	1.140999	0.962224	0.780558	0.629618	0.50696	0.401991	0.253746	0.219351	0.144859	0.09566	0.003063	0	0	0	Ref-4-B	7.853	24.979	5.816	50.095	31.109	4.824		
Ref-5-B	0	0	0	1.236052	2.194606	2.662413	7.89682	13.72284	19.99194	18.11914	13.36169	2.856182	2.572847	2.503908	2.073517	1.709546	1.610127	1.408359	1.175857	0.983971	0.784306	0.619717	0.492888	0.398108	0.273095	0.285713	0.26554	0.255389	0.271352	0.190678	0.083403	0	0	0	Ref-5-B	8.443	30.802	6.382	77.135	47.317	6.19
C1-0-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C1-0-B	365.377	400.369	359.794	170.677	1.305	1.092	
C1-1-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C1-1-B	242.802	297.027	285.451	110.939	0.716	0.552
C1-2-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C1-2-B	240.614	248.67	247.111	100.145	0.54	0.191
C1-3-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C1-3-B	212.727	220.95	217.327	85.807	0.568	0.285
C1-4-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C1-4-B	304.898	334.284	299.347	141.841	1.649	1.164
C2-0-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-0-B	244.309	256.525	246.927	94.905	0.582	0.536
C2-1-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-1-B	227.635	244.226	226.935	100.722	29.382	2.475
C2-2-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-2-B	224.177	240.241	223.295	90.017	0.54	0.866
C2-3-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-3-B	303.698	384.261	267.911	267.105	4.57	1.886
C2-4-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-4-B	412.035	470.931	427.366	262.629	2.155	1.292
C2-5-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C2-5-B	242.682	254.971	242.967	81.493	0.476	0.772
C3-0-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C3-0-B	234.547	244.135	238.992	96.093	0.608	0.31
C3-1-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C3-1-B	238.389	251.995	242.357	100.674	0.507	0.574
C3-2-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C3-2-B	264.037	279.587	264.299	96.495	0.468	0.799
D2-0-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D2-0-B	238.476	255.416	239.341	97.024	0.849	0.84
D2-1-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D2-1-B	232.247	251.983	230.668	102.464	0.847	0.968
D2-2-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D2-2-B	249.156	265.384	248.578	94.847	0.767	0.893
D3-0-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-0-B	242.701	260.676	242.768	100.139	0.715	0.905
D3-1-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-1-B	208.271	224.119	206.868	85.969	0.752	0.926
D3-2-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-2-B	225.768	244.772	222.85	97.71	1.033	1.011
D3-3-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-3-B	210.675	223.061	210.382	76.085	0.501	0.811
D3-4-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-4-B	255.904	291.269	247.807	150.812	5.656	1.702
D3-5-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D3-5-B						

Cumulative %

Sample Name	Cumulative %																				2000														
	0.05	0.06	0.12	0.24	0.49	0.7	0.98	2	3.9	7.8	15.6	31	37	44	53	63	74	88	105	125		149	177	210	250	300	350	420	500	590	710	840	1000		
Ref-1-B	0	0	0	0	1.415185	3.853469	6.805297	15.45387	29.89471	50.3311	68.69074	82.1382	84.93082	87.39163	89.72076	91.5863	93.06971	94.41045	95.52673	96.40847	97.10468	97.63325	98.04643	98.3988	98.73874	99.02636	99.37062	99.67543	99.90046	100	100	100	100	100	
Ref-2-B	0	0	0	0	1.413955	3.901053	6.950143	15.89174	30.26157	49.51341	66.47908	79.32887	82.11157	84.61764	87.04964	89.05334	90.69568	92.23514	93.58082	94.71312	95.67961	96.47701	97.14037	97.70801	98.21359	98.59473	99.01274	99.38479	99.69139	99.92701	100	100	100	100	100
Ref-3-B	0	0	0	0	0.901751	2.544128	4.497649	10.29302	21.56451	40.49296	60.17492	76.00267	79.42085	82.48056	85.42604	87.82827	89.77367	91.56931	93.10702	94.36871	95.41541	96.25556	96.94293	97.53653	98.09198	98.54165	99.06463	99.52326	99.86107	100	100	100	100	100	100
Ref-4-B	0	0	0	0	1.466633	4.003491	7.09786	16.16255	30.60553	49.81598	66.76862	79.96512	82.88718	85.52853	88.09107	90.19287	91.90256	93.48946	94.86097	96.00197	96.96419	97.74475	98.37437	98.88133	99.28332	99.57307	99.75642	99.9							

PSD Analysis

	Ref-1-B	Ref-2-B	Ref-3-B	Ref-4-B	Ref-5-B	C1-0-B	C1-1-B	C1-2-B	C1-3-B	C1-4-B	C1_Ave	C2-0-B	C2-1-B	C2-2-B	C2-3-B	C2-4-B	C2-5-B	C2_Av2	C3-0-B	C3-1-B	C3-2-B	C3_Ave	D2-0-B	D2-1-B	D2-2-B	D2_Ave	
2000																											
1000	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.09	0.07	0.00	0.05	0.00	3.90	4.64	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
840	0.00	0.00	0.00	0.00	0.08	1.72	0.00	0.00	0.00	0.00	0.34	0.45	0.00	0.00	0.00	2.94	4.74	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
710	0.00	0.07	0.00	0.00	0.19	3.72	0.26	0.10	0.00	0.00	0.82	1.49	0.00	0.00	0.00	3.97	6.79	2.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
590	0.10	0.24	0.14	0.00	0.27	7.51	2.03	1.17	0.03	0.00	2.15	3.88	0.10	0.12	0.01	5.81	9.93	3.31	0.01	0.02	0.17	0.07	0.40	0.18	0.53	0.37	
500	0.23	0.31	0.34	0.10	0.26	10.18	5.08	3.66	1.11	0.12	4.03	6.43	1.31	1.25	1.00	6.53	10.56	4.51	0.66	0.92	1.59	1.06	2.28	1.71	1.97	1.99	
420	0.30	0.37	0.46	0.14	0.27	13.90	10.31	8.36	4.15	1.75	7.69	10.44	4.43	3.83	3.46	8.26	12.01	7.07	3.26	3.64	4.70	3.87	6.35	4.84	4.80	5.33	
350	0.34	0.42	0.52	0.22	0.29	16.47	16.33	14.50	9.53	5.69	12.50	14.61	9.86	8.21	7.79	10.03	12.44	10.49	8.90	8.68	9.59	9.05	12.39	9.63	8.99	10.34	
300	0.29	0.38	0.45	0.25	0.27	13.72	16.54	15.79	12.58	9.26	13.58	14.14	12.88	10.77	10.49	9.34	9.65	11.21	13.06	11.86	11.95	12.29	14.72	11.86	10.92	12.50	
250	0.34	0.51	0.56	0.40	0.40	13.89	19.19	19.58	18.53	16.14	17.47	16.62	18.91	16.47	16.34	11.50	9.72	14.93	20.53	18.09	17.27	18.63	19.87	17.11	15.90	17.62	
210	0.35	0.57	0.59	0.51	0.49	9.57	14.55	15.95	18.06	18.43	15.31	13.55	18.44	17.36	17.52	10.64	7.26	14.13	20.56	18.31	17.10	18.66	17.83	17.09	16.30	17.07	
177	0.41	0.66	0.69	0.63	0.62	5.63	9.00	10.69	14.64	17.40	11.47	9.60	14.97	15.81	16.22	9.23	5.17	11.83	16.44	15.47	14.59	15.50	13.35	14.89	14.79	14.35	
149	0.53	0.80	0.84	0.78	0.78	2.60	4.27	5.66	9.80	13.74	7.22	5.70	10.03	12.44	12.99	7.40	3.45	8.67	10.40	10.87	10.71	10.66	8.17	11.31	11.87	10.45	
125	0.70	0.97	1.05	0.96	0.98	0.64	1.23	2.03	5.07	8.70	3.53	2.54	5.16	8.05	8.61	5.24	2.07	5.28	4.79	5.98	6.41	5.73	3.72	7.12	8.07	6.31	
105	0.88	1.13	1.26	1.14	1.18	0.01	0.07	0.26	1.70	3.98	1.21	0.48	1.69	3.83	4.24	3.01	1.01	2.37	1.30	2.23	2.76	2.10	0.85	3.32	4.21	2.79	
88	1.12	1.35	1.54	1.37	1.41	0.00	0.00	0.00	0.21	1.15	0.27	0.00	0.18	1.05	1.29	1.33	0.40	0.71	0.09	0.39	0.64	0.37	0.07	0.91	1.54	0.84	
74	1.34	1.54	1.80	1.59	1.61	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00	0.04	0.06	0.15	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.03	0.10	0.04	
63	1.48	1.64	1.95	1.71	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
53	1.87	2.00	2.40	2.10	2.07	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
44	2.33	2.43	2.95	2.56	2.50	0.00	0.00	0.40	0.19	0.01	0.12	0.00	0.09	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.20	0.08	0.00	0.00	0.00	0.00	
37	2.46	2.51	3.06	2.64	2.57	0.00	0.00	0.54	0.46	0.21	0.24	0.00	0.40	0.00	0.00	0.04	0.02	0.08	0.00	0.29	0.48	0.26	0.00	0.00	0.00	0.00	
31	2.79	2.78	3.42	2.92	2.86	0.00	0.00	0.53	0.56	0.48	0.31	0.00	0.54	0.00	0.00	0.21	0.10	0.14	0.00	0.43	0.61	0.35	0.00	0.00	0.00	0.00	
15.6	13.45	12.85	15.83	13.20	13.36	0.00	0.00	0.72	1.14	1.43	0.66	0.00	1.01	0.00	0.00	0.50	0.03	0.26	0.00	0.96	1.23	0.73	0.00	0.00	0.00	0.00	
7.8	18.36	16.97	19.68	16.95	18.12	0.00	0.37	0.00	0.49	0.13	0.20	0.00	0.00	0.12	0.00	0.00	0.00	0.02	0.00	0.50	0.00	0.17	0.00	0.00	0.00	0.00	
3.9	20.44	19.25	18.93	19.21	19.99	0.00	0.55	0.00	0.86	0.66	0.41	0.00	0.00	0.50	0.00	0.00	0.00	0.08	0.00	0.87	0.00	0.29	0.00	0.00	0.00	0.00	
2	14.44	14.37	11.27	14.44	13.72	0.00	0.22	0.00	0.66	0.55	0.29	0.00	0.00	0.13	0.00	0.00	0.00	0.02	0.00	0.47	0.00	0.16	0.00	0.00	0.00	0.00	
0.98	8.65	8.94	5.80	9.06	7.90	0.00	0.00	0.00	0.23	0.11	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.7	2.95	3.05	1.95	3.09	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.49	2.44	2.49	1.64	2.54	2.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.24	1.42	1.41	0.90	1.47	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sand %						100.00	98.86	97.76	95.41	96.42	97.69	100.00	97.96	99.25	100.00	99.25	99.86	99.39	100.00	96.46	97.48	97.98	100.00	100.00	100.00	100.00	
Mud %						0.00	1.14	2.24	4.59	3.58	2.31	0.00	2.04	0.75	0.00	0.75	0.14	0.61	0.00	3.55	2.52	2.02	0.00	0.00	0.00	0.00	

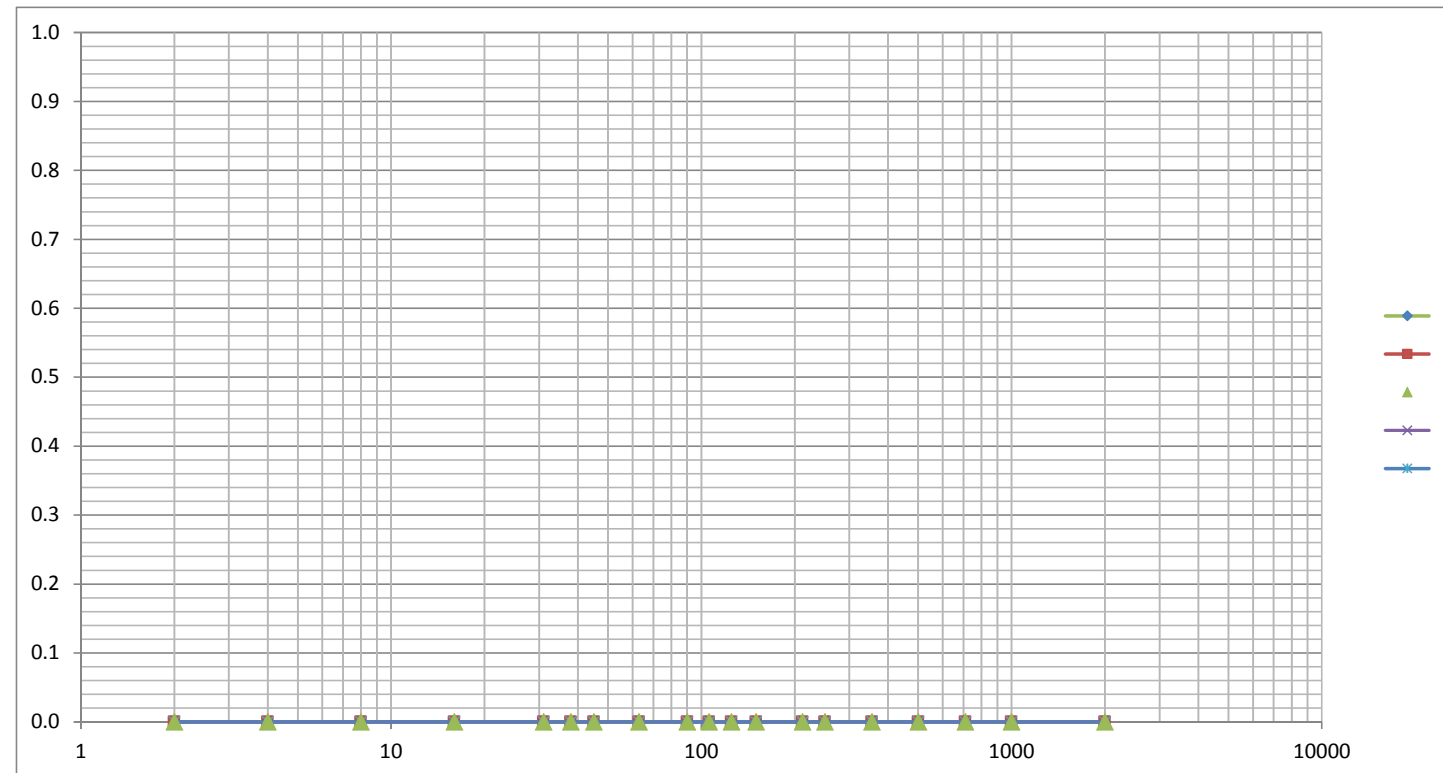





PSD Analysis

	Ref-1-B	Ref-2-B	Ref-3-B	Ref-4-B	Ref-5-B	C1-0-B	C1-1-B	C1-2-B	C1-3-B	C1-4-B	C1_Ave	C2-0-B	C2-1-B	C2-2-B	C2-3-B	C2-4-B	C2-5-B	C2_Ave	C3-0-B	C3-1-B	C3-2-B	C3_Ave	D2-0-B	D2-1-B	D2-2-B	D2_Ave	
2000.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1000.00	100.00	100.00	100.00	100.00	100.00	99.55	100.00	100.00	100.00	100.00	99.91	99.93	100.00	99.95	100.00	96.10	95.36	98.56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
840.00	100.00	100.00	100.00	100.00	99.92	97.83	100.00	100.00	100.00	100.00	99.57	99.49	100.00	99.95	100.00	93.17	90.62	97.20	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
710.00	100.00	99.93	100.00	100.00	99.73	94.12	99.74	99.90	100.00	100.00	98.75	97.99	100.00	99.95	100.00	89.20	83.83	95.16	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
590.00	99.90	99.69	99.86	100.00	99.45	86.61	97.71	98.73	99.97	100.00	96.60	94.11	99.90	99.83	99.99	83.39	73.90	91.85	99.99	99.98	99.83	99.93	99.60	99.82	99.47	99.63	
500.00	99.68	99.38	99.52	99.90	99.20	76.43	92.63	95.07	98.86	99.88	92.57	87.68	98.59	98.58	98.99	76.87	63.34	87.34	99.33	99.05	98.24	98.87	97.32	98.11	97.49	97.64	
420.00	99.37	99.01	99.06	99.76	98.93	62.53	82.32	86.71	94.71	98.13	84.88	77.24	94.16	94.75	95.54	68.61	51.33	80.27	96.07	95.42	93.54	95.01	90.96	93.27	92.70	92.31	
350.00	99.03	98.59	98.54	99.54	98.65	46.06	65.99	72.21	85.18	92.45	72.38	62.63	84.30	86.55	87.75	58.58	38.90	69.78	87.17	86.74	83.95	85.95	78.58	83.64	83.71	81.97	
300.00	98.74	98.21	98.09	99.28	98.37	32.34	49.45	56.42	72.60	83.18	58.80	48.48	71.42	75.78	77.26	49.24	29.25	58.57	74.11	74.88	72.00	73.66	63.86	71.78	72.79	69.48	
250.00	98.40	97.71	97.54	98.88	97.98	18.45	30.26	36.84	54.07	67.04	41.33	31.86	52.50	59.32	60.92	37.74	19.53	43.65	53.58	56.79	54.73	55.04	43.99	54.67	56.89	51.85	
210.00	98.05	97.14	96.94	98.37	97.48	8.88	15.71	20.89	36.01	48.62	26.02	18.32	34.06	41.96	43.40	27.10	12.27	29.52	33.02	38.47	37.64	36.38	26.16	37.58	40.59	34.78	
177.00	97.63	96.48	96.26	97.74	96.86	3.25	6.71	10.19	21.38	31.21	14.55	8.72	19.09	26.15	27.18	17.87	7.11	17.69	16.58	23.01	23.05	20.88	12.81	22.69	25.79	20.43	
149.00	97.10	95.68	95.42	96.96	96.08	0.65	2.44	4.53	11.57	17.47	7.33	3.02	9.06	13.71	14.19	10.47	3.65	9.02	6.18	12.14	12.34	10.22	4.64	11.38	13.92	9.98	
125.00	96.41	94.71	94.37	96.00	95.10	0.01	1.21	2.50	6.50	8.78	3.80	0.48	3.90	5.66	5.58	5.23	1.58	3.74	1.39	6.16	5.93	4.49	0.92	4.26	5.85	3.68	
105.00	95.53	93.58	93.11	94.86	93.92	0.00	1.14	2.24	4.80	4.79	2.60	0.00	2.22	1.83	1.35	2.23	0.57	1.37	0.09	3.93	3.17	2.40	0.07	0.94	1.64	0.88	
88.00	94.41	92.24	91.57	93.49	92.51	0.00	1.14	2.24	4.59	3.65	2.32	0.00	2.04	0.79	0.06	0.90	0.17	0.66	0.00	3.54	2.53	2.02	0.00	0.03	0.10	0.04	
74.00	93.07	90.70	89.77	91.90	90.90	0.00	1.14	2.24	4.59	3.58	2.31	0.00	2.04	0.75	0.00	0.75	0.14	0.61	0.00	3.55	2.52	2.02	0.00	0.00	0.00	0.00	
63.00	91.59	89.05	87.83	90.19	89.19	0.00	1.14	2.24	4.59	3.58	2.31	0.00	2.04	0.75	0.00	0.75	0.14	0.61	0.00	3.55	2.52	2.02	0.00	0.00	0.00	0.00	
53.00	89.72	87.05	85.43	88.09	87.12	0.00	1.14	2.18	4.59	3.58	2.30	0.00	2.04	0.75	0.00	0.75	0.14	0.61	0.00	3.55	2.52	2.02	0.00	0.00	0.00	0.00	
44.00	87.39	84.62	82.48	85.53	84.61	0.00	1.14	1.78	4.40	3.57	2.18	0.00	1.95	0.75	0.00	0.75	0.14	0.60	0.00	3.53	2.32	1.95	0.00	0.00	0.00	0.00	
37.00	84.93	82.11	79.42	82.89	82.04	0.00	1.14	1.24	3.94	3.36	1.94	0.00	1.55	0.75	0.00	0.71	0.12	0.52	0.00	3.24	1.83	1.69	0.00	0.00	0.00	0.00	
31.00	82.14	79.33	76.00	79.97	79.19	0.00	1.14	0.72	3.38	2.88	1.62	0.00	1.01	0.75	0.00	0.50	0.03	0.38	0.00	2.81	1.23	1.34	0.00	0.00	0.00	0.00	
15.60	68.69	66.48	60.17	66.77	65.82	0.00	1.14	0.00	2.24	1.45	0.97	0.00	0.00	0.75	0.00	0.00	0.00	0.13	0.00	1.84	0.00	0.61	0.00	0.00	0.00	0.00	
7.80	50.33	49.51	40.49	49.82	47.70	0.00	0.77	0.00	1.75	1.32	0.77	0.00	0.00	0.63	0.00	0.00	0.00	0.10	0.00	1.34	0.00	0.45	0.00	0.00	0.00	0.00	
3.90	29.89	30.26	21.56	30.61	27.71	0.00	0.22	0.00	0.89	0.65	0.35	0.00	0.00	0.13	0.00	0.00	0.00	0.02	0.00	0.47	0.00	0.16	0.00	0.00	0.00	0.00	
2.00	15.45	15.89	10.29	16.16	13.99	0.00	0.00	0.00	0.23	0.11	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.98	6.81	6.95	4.50	7.10	6.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.70	3.85	3.90	2.54	4.00	3.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.49	1.42	1.41	0.90	1.47	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

VibroCore					
2000	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
1000	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
710	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
500	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
355	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
250	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
212	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
150	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
125	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
106	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
90	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
63	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
45	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
38	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
31	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
16	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
8	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
4	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
2	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?
P80	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
P50	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!



PSD Analysis

D3-0-B	D3-1-B	D3-2-B	D3-3-B	D3-4-B	D3-5-B	D3_Ave	Size (µm)	Coarse	Nom	Fines
100.00	100.00	100.00	100.00	100.00	100.00	100.00	2000.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	99.77	99.96	1000.00	98.56	99.69	100.00
100.00	100.00	100.00	100.00	100.00	99.28	99.88	840.00	97.20	99.33	100.00
100.00	100.00	100.00	100.00	100.00	98.12	99.69	710.00	95.16	98.72	100.00
99.63	99.53	100.00	99.63	100.00	95.38	99.03	590.00	91.85	97.41	99.93
97.88	97.52	99.42	98.08	99.90	90.99	97.30	500.00	87.34	94.75	98.87
92.87	92.34	97.00	94.03	98.38	83.82	93.07	420.00	80.27	89.11	95.01
82.48	82.37	90.97	85.93	93.20	73.37	84.72	350.00	69.78	78.96	85.95
69.34	70.26	82.23	75.57	84.44	62.47	74.05	300.00	58.57	66.91	74.05
50.37	52.95	67.64	59.78	68.55	48.12	57.90	250.00	41.33	49.95	57.90
32.03	35.87	50.83	42.98	49.64	34.30	40.94	210.00	26.02	33.53	40.94
17.16	21.23	34.09	27.34	31.09	22.11	25.50	177.00	14.55	19.81	25.50
7.13	10.35	19.55	14.64	15.93	12.35	13.33	149.00	7.33	9.98	13.33
1.92	3.70	8.90	6.02	6.03	5.55	5.35	125.00	3.68	4.21	5.35
0.16	0.74	2.86	1.60	1.39	1.81	1.43	105.00	0.88	1.73	2.60
0.00	0.01	0.33	0.09	0.06	0.40	0.15	88.00	0.04	1.04	2.32
0.00	0.00	0.01	0.00	0.00	0.28	0.05	74.00	0.00	1.00	2.31
0.00	0.00	0.00	0.00	0.00	0.28	0.05	63.00	0.00	1.00	2.31
0.00	0.00	0.00	0.00	0.00	0.28	0.05	53.00	0.00	1.00	2.30
0.00	0.00	0.00	0.00	0.00	0.28	0.05	44.00	0.00	0.95	2.18
0.00	0.00	0.00	0.00	0.00	0.28	0.05	37.00	0.00	0.84	1.94
0.00	0.00	0.00	0.00	0.00	0.28	0.05	31.00	0.00	0.68	1.62
0.00	0.00	0.00	0.00	0.00	0.28	0.05	15.60	0.00	0.35	0.97
0.00	0.00	0.00	0.00	0.00	0.28	0.05	7.80	0.00	0.27	0.77
0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90	0.00	0.11	0.35
0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.01	0.07
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00

PSD Analysis

ROM - Selected Data			
	Coarse	Nom	Fines
2000	100.00	100.00	100.00
1000	98.56	99.69	100.00
710	95.16	98.72	100.00
500	87.34	94.75	98.87
355	70.68	79.92	86.88
250	41.33	49.95	57.90
212	26.77	34.38	41.86
150	7.53	10.28	13.73
125	3.68	4.21	5.35
106	0.99	1.81	2.65
90	0.08	1.07	2.32
63	0.00	1.00	2.31
45	0.00	0.96	2.20
38	0.00	0.86	1.98
31	0.00	0.68	1.62
16	0.00	0.35	0.97
8	0.00	0.279	0.78
4	0.00	0.11	0.37
2	0.00	0.01	0.07

C1-0-B	C1-1-B	C1-2-B	C2-0-B	C2-1-B	C2-4-B	C2-5-B	C3-0-B	C3-2-B	D3-0-B	D3-1-B
5.1	1.2	3.4	14.4	0.9	2.8	0.6	0.7	1.1	3.9	4.2
94.9	98.8	96.6	85.6	99.1	97.2	99.4	99.3	98.9	96.1	95.8

3.5

