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Fra: Lars Ernst
Sendt: 22. juni 2021 11:04
Til: Leon Hiitola Iversen
Cc: Kirstine Skov Nielsen
Emne: VS: Vedr. råstofgraveområdet Addit Syd
Vedhæftede filer: Svar vedr. råstofområdet Addit-Syd - 20.6.2021.pdf; Bilag 5.pdf; Bilag 6.pdf; Fwd: Gode kunde og samarbejdspartner - A. Højfeldt; VS: Gode kunde og samarbejdspartner - Birn; VS: Hjælp til Råstofplan 2020 - Marlon; Bilag 1.pdf; Bilag 2.pdf; Bilag 3.pdf; Bilag 4.pdf

Forslagsstiller Addit.

Med venlig hilsen

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Fra: Thomas Steen Hansen - Dansand A/S <tsh@dansand.dk>

Sendt: 20. juni 2021 17:33

Til: Lars Ernst <Lars.Ernst@RU.RM.DK>

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Emne: SV: Vedr. råstofgraveområdet Addit Syd

Kære Lars Ernst

Vedhæftet finder du svar (inkl. bilag) på din e-mail af den 16. juni 2021 vedr. råstofgraveområdet Addit-Syd.

Jeg står naturligvis til rådighed, hvis du, forretningsudvalget eller andre har yderligere spørgsmål.

Kopi er sendt til regionrådsformand Anders Kühnau samt hele forretningsudvalget, der behandler sagen.

Kopi er sendt til borgmester i Horsens Kommune Peter Sørensen, da svaret inkluderer trafikale udfordringer under hans ansvar.

Med venlig hilsen | Mit freundlichen Grüßen | Best regards

Thomas Steen Hansen

CEO / Managing Director

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Tel.: +45 86 82 58 11
E-mail: tsh@dansand.dk

Dansand A/S • Lervejdal 8b • DK-8740 Brædstrup • www.dansand.dk

Fra: Lars Ernst <Lars.Ernst@RU.RM.DK>
Sendt: 16. juni 2021 09:56
Til: Thomas Steen Hansen - Dansand A/S <tsh@dansand.dk>
Cc: Peter Svensen - Dansand A/S <psv@dansand.dk>
Emne: Vedr. råstofgraveområdet Addit Syd

Til Thomas Steen Hansen.

På regionens Forretningsudvalgsmøde i går d. 15. juni 2021, hvor vedtagelsen af Råstofplan 2020 blev behandlet, før den går videre til regionsrådet den 23. juni, er administrationen blevet bedt om, at høre relevante interessenter og myndigheder i forhold til konsekvenser, såfremt råstofgraveområdet Addit Syd ændres til et råstofinteresseområde i stedet for et råstofgraveområde, inden den endelige behandling på Regionsrådsmødet d. 23. juni 2021.

Høringen er i henhold til råstoflovens § 6 a, stk. 5., hvor det fremgår: "*I forbindelse med den endelige vedtagelse af råstofplanen kan der foretages ændring af det offentliggjorte planforslag. Berører ændringen på væsentlig måde andre myndigheder eller borgere end dem, der ved indsigelse har foranlediget ændringen, kan vedtagelsen af planen ikke ske, før de pågældende har fået lejlighed til at udtale sig*".

Råstofgraveområdet benævnt Addit Syd på matr. nr. 27g Sdr. Vissing By, Sdr. Vissing i Horsens Kommune, var med i Forslag til Råstofplan 2020.

Dansand A/S får hermed muligheden for at udtale sig vedrørende matr. nr. 27g Sdr. Vissing By, Sdr. Vissing, som nu foreslås nedjusteret til et råstofinteresseområde i Råstofplan 2020.

I får mulighed for at udtale jer og fremsende jeres bemærkninger senest mandag den 21. juni kl. 12.00.

Med venlig hilsen

Lars G. Ernst

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Til Region Midt

Addit, den 20. juni 2021

Vedr. råstofgraveområdet Addit-Syd

Som svar på e-mail af den 16.6.2021 fremsendes nedenstående.

Såfremt råstofgraveområdet Addit-Syd ændrer status fra råstofgraveområdet til råstofinteresseområde, vil det have flere alvorlige konsekvenser for Dansk Kvarts Industri A/S og Dansand A/S. Dette redegøres der for i det efterfølgende og i sidste del af dokumentet fremlægges dokumentation.

Nogle af svarets hovedpointer opsummeres indledningsvist i punktform:

- **Dansand har en eksisterende kvartssandsreserve til yderligere maksimalt 5 års produktion (over og under grundvandsspejlet)**
- **Bliver Addit-Syd ikke lagt ud som råstofgraveområde, bliver konsekvensen, at store mængder råstoffer skal tilkøres (ca. 10-14.000 lastbiler flere lastbiler end i dag skal køre gennem bl.a. Addit (by))**
- **Konsekvenserne ved tilkørsel af råstoffer i stedet for lokal indvinding er stigende miljøbelastning og stigende omkostning**
- **Stigende omkostning og stigende miljøbelastning vil medføre udflytning af produktion blandt Dansands kunder og dermed tab af arbejdspladser**
- **Området der ønskes udlagt som råstofgraveområde er allerede reduceret til 24 ha., hvilket er under halvdelen af det oprindelige forslag**
- **Bliver Addit-Syd ikke udlagt som råstofgraveområde i forbindelse med Råstofplan 2020 skrinlægges investering hos både Dansk Kvarts Industri og Dansand for ca. DKK 79 mio.**

Størrelsen på den eksisterende kvartssandsreserve i tilknytning til Dansands produktion i Addit er i dag begrænset til en produktionsperiode med det nuværende aktivitetsniveau på op til **maksimalt 5 år**. Således råder Dansand over en eksisterende kvartssandsreserve på:

- **522.000 tons over grundvandsspejl → svarende til 1,74 år**
- **901.964 tons under grundvandsspejl → svarende til 3,01 år**

At kunne indvinde mængden under grundvandsspejlet kræver imidlertid en større investering for både Dansk Kvarts Industri og Dansand. For Dansands vedkommende er der tale om en samlet investering på ca. DKK 49 mio. En investering som indbefatter både udstyr til sandsugning under vand samt en modtager- og produktionsanlæg på land. En investering af denne størrelse er ikke rentabel i et 5-årigt perspektiv og **forudsætter således, at området ved Addit-Syd udlægges som råstofgraveområde**. Hos Dansk Kvarts Industri er situationen den samme blot med et investeringsbeløb på ca. DKK 30 mio.

Motivationen for at indvinde under grundvandsspejlet er, at man herved **udnytter forekomsten mest effektivt**, hvilket råstofloven foreskriver. Herudover sikrer indvinding under grundvandsspejlet foretaget parallelt med indvinding over grundvandsspejlet, at man totalt arbejder i et **mindre åbent graveområde på samme tid til gavn for natur og landskabelig æstetik**. Yderligere betyder samtidig indvinding over og under grundvandsspejlet, at man ca. **halverer den hastighed man arbejder sig frem i terrænet på**.

Godkendes området ikke som råstofgraveområde er der således tale om, at allerede hensigtsmæssige planlagte investeringer for ca. DKK 79 mio. bliver sat i bero i minimum en 4-årig periode.

Et afslag på udvidelsen af graveområdet vil betyde, at **Regions forpligtelse til at sikre råstoffernes tilgængelighed i minimum 12 år frem** kun ville kunne indfries med tilkørsel af betydelige mængder råstoffer fra andre forekomster.

Eventuel tilkørsel af sand til produktionerne i Addit kan for Dansands vedkommende kunne gøres fra Tandskov nord for Silkeborg og for Dansk Kvarts Industri fra et område ved Varde i Sønderjylland. Dette vil naturligvis påføre råstofferne en væsentlig meromkostning samt have en række **alvorlige miljøpåvirkninger som f.eks. øget CO2-udledning og øget mængde af tung trafik i lokalområderne**.

Byerne **Addit (by), Gl. Rye og Silkeborg** er allerede i dag berørt af omfattende tung trafik. I tilfælde af, at der i fremtiden skal tilkøres råstoffer til Dansand for at kompensere for manglende råstoffer i Addit, skal disse mindre byer udsættes for endnu mere tung trafik. **Det vurderes, at tilkørsel af råstoffer til Dansk Kvarts Industri og Dansand kan betyde op til 10-14.000 flere lastbiler igennem byerne årligt.**

Disse er allerede eksisterende strategiske fokusområder hos Dansand og vil med en afvisning af graveområdet blive vanskeliggjort betydeligt.

Udover de miljømæssige påvirkninger tilkørsel af sand ville medføre, vil den unødvendige ekstra transport af råstofferne også have den naturlige konsekvens, at kostpriserne på råstoffer forhøjes væsentligt for de to virksomheder. Dette betyder, at alle led igennem værdikæden vil opleve **prisforhøjelser på kvartssand** fra virksomhederne i Addit.

Konsekvenserne af at skulle tilkøre råstoffer til produktionerne hos Dansk Kvarts Industri og Dansand vil i tråd med ovenstående have en række **store konsekvenser hos virksomhedernes kunder**. I bilagene 6-9 findes en række udtalelser fra et udpluk af virksomhedernes kunder, der alle aftager kvartssand fra området ved Addit.

I 2017 foretog geologer fra Sibelco Group en opmåling af det **eksisterende graveområde** i Addit. Heraf fremgår de mængder af kvartssand, der ligger **under grundvandsspejlet** i Addit (bilag 1).

Forudsætningen var for Dansand, at der kunne etableres et samarbejde med nabovirksomheden Dansk Kvarts Industri om at udnytte forekomsten over skel. Herved udnyttes forekomsten optimalt og derved opfyldes også råstoflovens intention om at planlægge indvindingsvirksomheder at udnytte råstofforekomsterne effektivt over skel.

Sibelcos geologer udregnede hele den "rå" mængde kvartssand og tog ikke hensyn til, at enkelte delområder enten er eller vil blive permanent blokeret af produktionsanlæg og overjordsdepoter.

Som det er beskrevet i den geologiske rapport, er der nogle sikkerhedshensyn, man skal tage højde for ved gravning under vand. Det er blandt andet krav om lav gradient på skrænterne under vandet for at undgå, at jorden omkring eroderer og skrider ud.

Det er senere bestemt hos Sibelco ved forsøg i geologisk afdeling i Belgien, at en "Slope 1:4" vil være forsvarligt for denne type sand (rundhed og kornfordeling er afgørende).

Dette betyder, at hver gang "søen" bliver 1 meter dybere, skal man gå 4 meter ud fra bredden (hældning på skrænt under vand) og fuld dybde opnås således først 80 meter fra søbredden. (se bilag 1, side 5)

Dette betyder, at bruttomængden i det eksisterende graveområde ved et samarbejde mellem de to virksomheder er på 2.910.735 tons under vandspejl (se bilag 1, side 6, skema øverst til højre)

Der er i dag arealer, der ikke længere er tilgængelige efter, at rapporten blev lavet i 2017:

- Hele matrikel 11K, samt et stykke af 11E er fyldt til med overjord og dele af området er allerede reetableret (se bilag 1, side 2)
- Lige over grundvand spejlet ligger der et brunkulslag på ca. 2,0-2,5 meter. Dette skal fjernes og deponeres som overjord i det øverste af matrikel 11E
- Produktionsanlæg og lagerstakke forventes at tage ca. 1.5 Ha af området

Samlet set betyder ovenstående, at ca. 4 ha. i fuld pumpedybde (20 meter) skal tages ud af mængderapporten, når man går fra teoretisk, til realistisk indvindingsmængde.

Jf. rapporten (bilag 1) udarbejdet af geologerne hos Sibelco og ovenstående forudsætninger bliver områdets samlede (Dansk Kvarts Industri og Dansand) eksisterende kvartssandsreserve under grundvandsspejlet således:

Ressource under grundvand (20 meter) jf. rapport (bilag 1)	2.910.735 tons
Udgået områder jf. ovenstående 4 ha. (40.000 m ² X 20 mtr. i dybden)	-1.440.000 tons
Netto eksisterende kvartssandsreserve under grundvandsspejlet (total for Dansk Kvarts Industri og Dansand)	1.470.730 tons

Dansands andel af den eksisterende kvartssandsreserve under grundvandsspejl (1.470.730 (total) - 568.766 (DKI-andel jf. bilag 1, side 6) bliver dermed **901.964 tons**.

Dansands eksisterende kvartssandsreserve over grundvandsspejl er som tidligere nævnt **522.000 tons**, hvilket er baseret på opmåling jf. bilag 2

Dansand indvinder årligt ca. 300.000 tons kvartssand i Addit, hvilket med en samlet kvartssandsreserve på 1.423.964 tons giver en reserve til 4,75 års produktion.

Den økonomiske forudsætning for at udnytte hele den eksisterende kvartssandsreserve mest effektivt for både Dansk Kvarts Industri og Dansand er, at foretage en større investering i forbindelse med etablering af indvinding under grundvandsspejlet.

Den samlede investering for udstyr til sugning under vand og produktionsanlæg til både Dansk Kvarts Industri og Dansand er ca. DKK 79. mio.

Økonomi, etablering af sandsuger med produktionsanlæg:

Dansand:

Ca. DKK 3.250.000,- 50% af sandsuger (ejes sammen med Dansk Kvarts Industri) jf. tilbud fra Döbke (se bilag 3)

Ca. DKK 35.000.000,- Produktionsanlæg jf. tilbud fra Wier Minerals (se bilag 4)

Ca. DKK 4.500.000,- (anslået) til div. stakkebånd mm. som ikke er en del af tilbuddet fra Wier Minerals

Ca. DKK 6.000.000,- (anslået) til div. fundamenter, elforsyning, ingeniørrådgivning og eget arbejde

I alt ca. DKK 48.750.000,- + moms

Dansk Kvarts industri:

Ca. DKK 3.250.000,- 50% af sandsuger (ejes sammen med Dansk Kvarts Industri) jf. tilbud fra Döbke (se bilag 3)

Ca. DKK 21.850.000,- Produktionsanlæg jf. tilbud fra Wier Minerals (se bilag 5)

Ca. DKK 5.000.000,- (anslået) til div. fundamenter, elforsyning, ingeniørrådgivning og eget arbejde.

I alt ca. 30.100.000 kr + moms

Det er helt usædvanligt, at vi offentliggør ovenstående og vedlagte fortrolige information men vurderer, at situations alvor kræver det.

På baggrund af ovenstående vurderes det, at der hverken er juridiske, miljømæssige eller øvrige argumenter for ikke at få området Addit-Syd udlagt som råstofgraveområde og forventningen er, at Region Midt lever op til sine forpligtelser i forhold til at sikre tilgængeligheden af råstoffer.

Med venlig hilsen

Dansand A/S



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Bilag:

1 – Mine Planning Options Dredging Dansand / Dansk Kvarts Industri (geologisk rapport)

2 – Dansand, Addit – Volumen i gravefront pr. d. 11.6.2021 (Landinspektørfirmaet Bonefeld & Bystrup A/S)

3 – Tilbud på sandsuger af d. 22.12.2020 (Firma Döpke GmbH)

4 – Tilbud på produktionsanlæg (Dansand) af den 19.2.2021 (Firma Weir Minerals Germany GmbH)

5 – Tilbud på produktionsanlæg (Dansk Kvarts Industri) af den 30.4.2021 (Firma Weir Minerals Germany GmbH)

6 – Udtalelse fra Saint-Gobain Denmark A/S

7 – Udtalelse fra A. Højfeldt / Vandgruppen A/S

8 – Udtalelse fra Vald. Birn A/S

9 – Udtalelse fra Marlon Tørmørtel A/S



*MINE PLANNING OPTIONS DREDGING
DANSAND – DANSK KVARTS INDUSTRI*

Mattias Häggman

Date: 25.10.2017

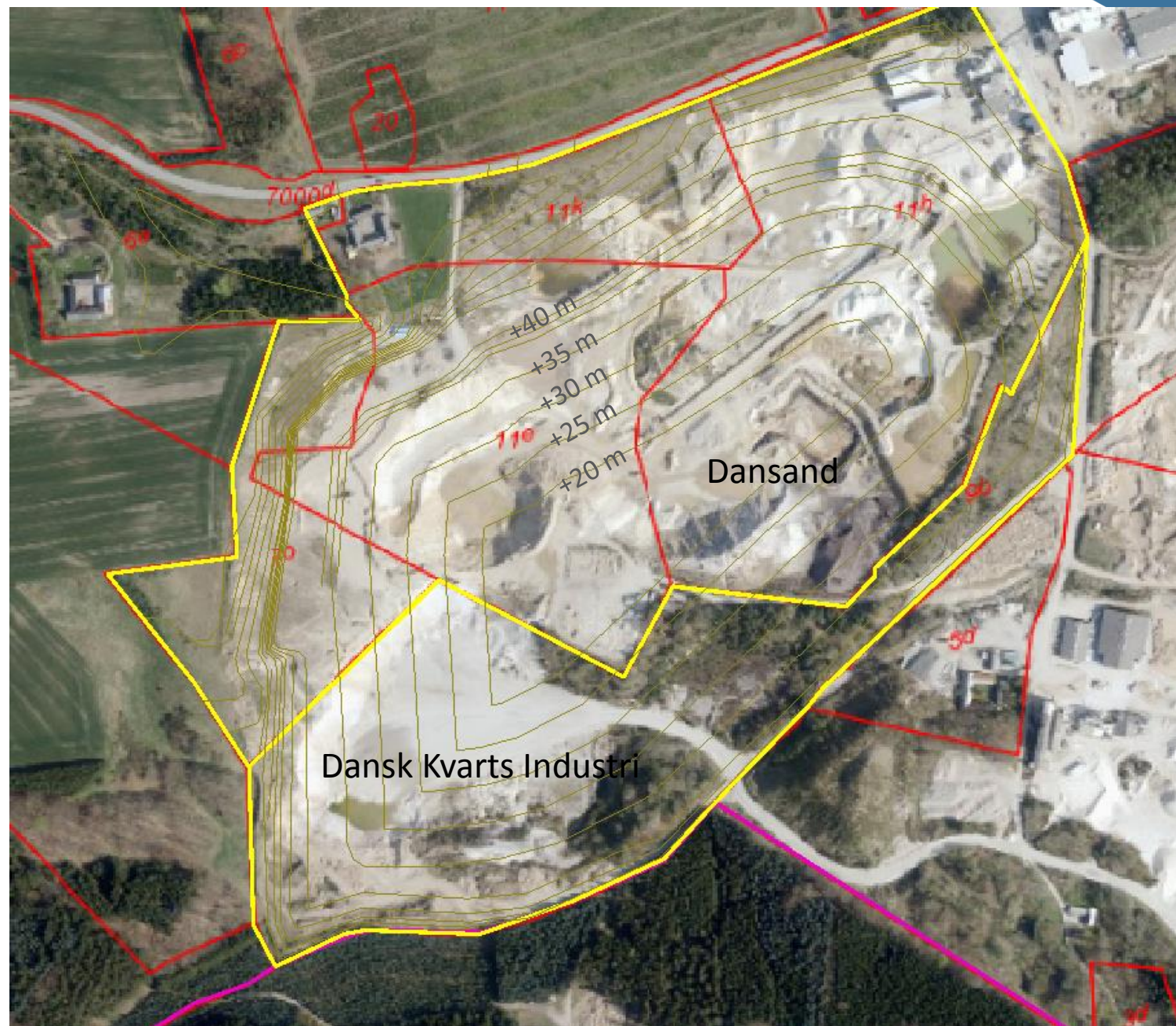
Mine planning dredging

Dansand permit ~25 ha

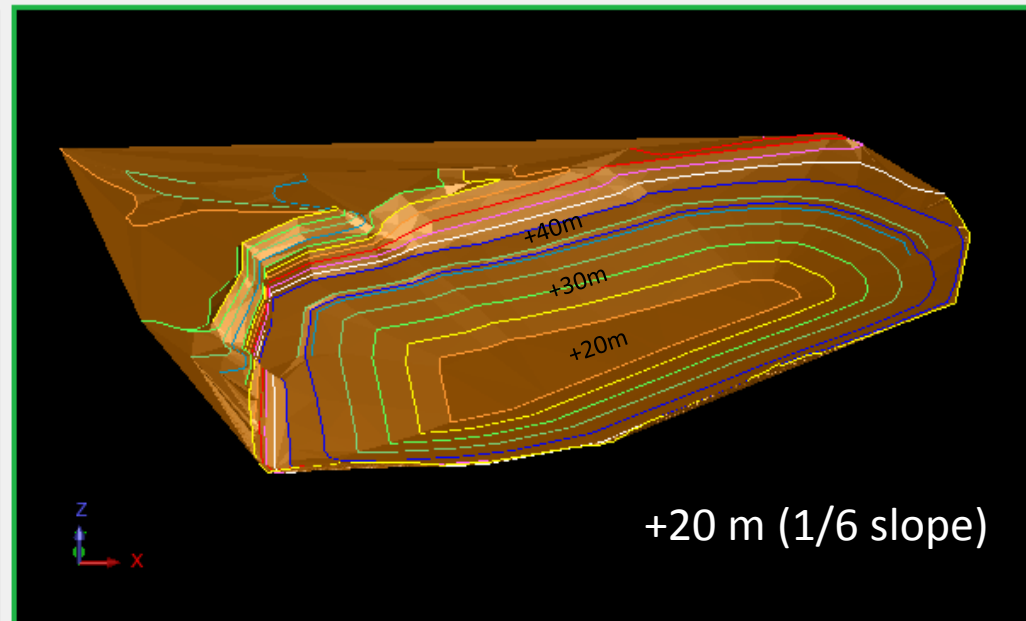
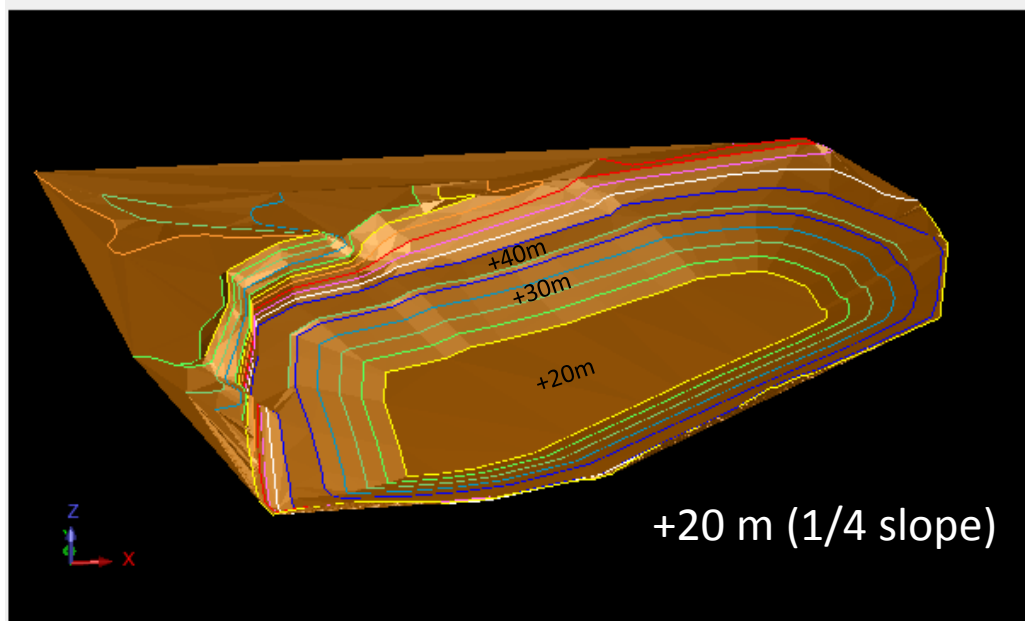
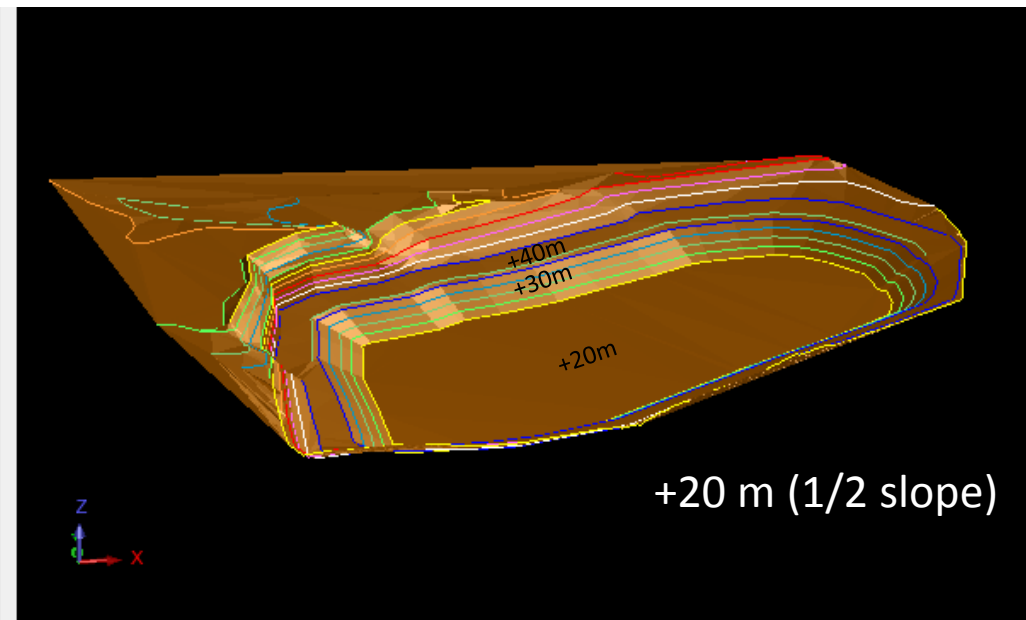
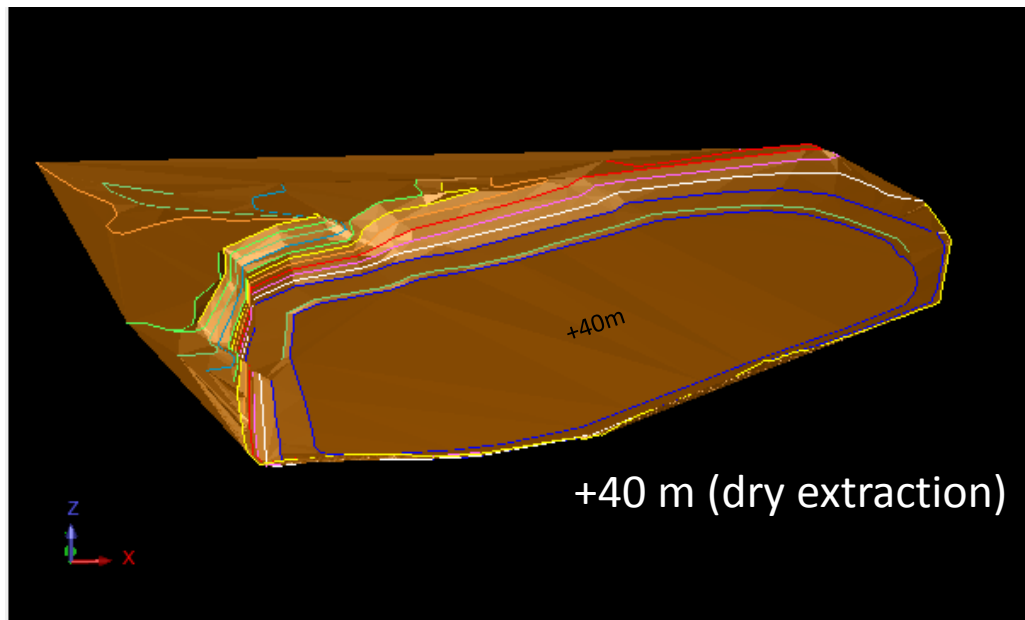
Dansk Kvarts Industri permit ~10,6 ha

Recommended mine plan

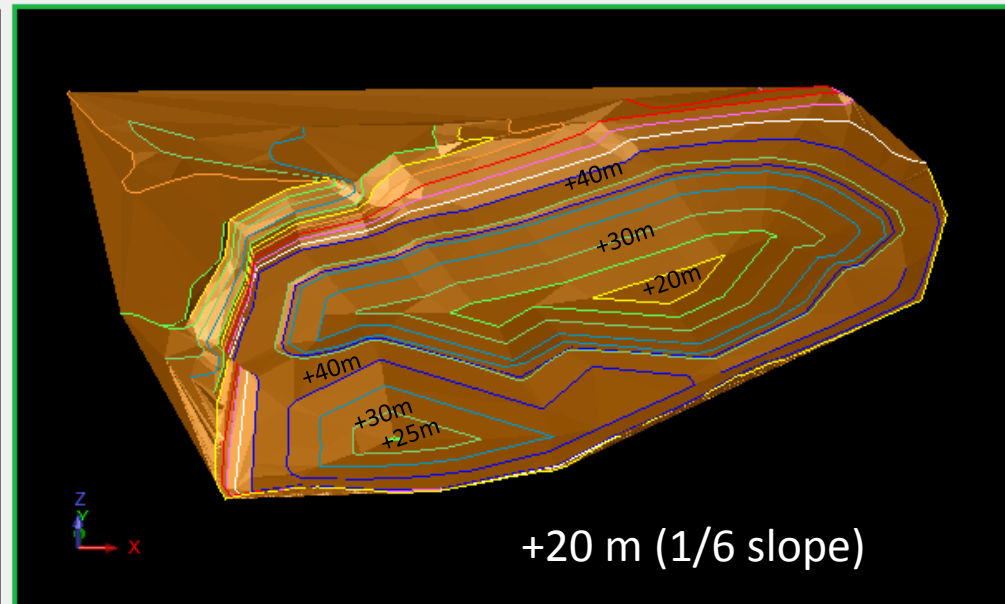
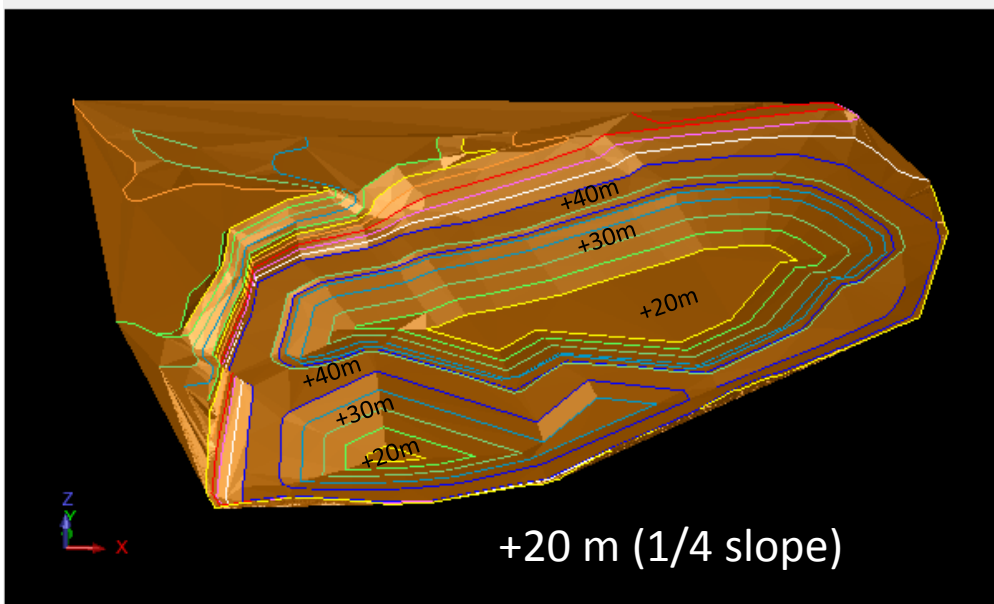
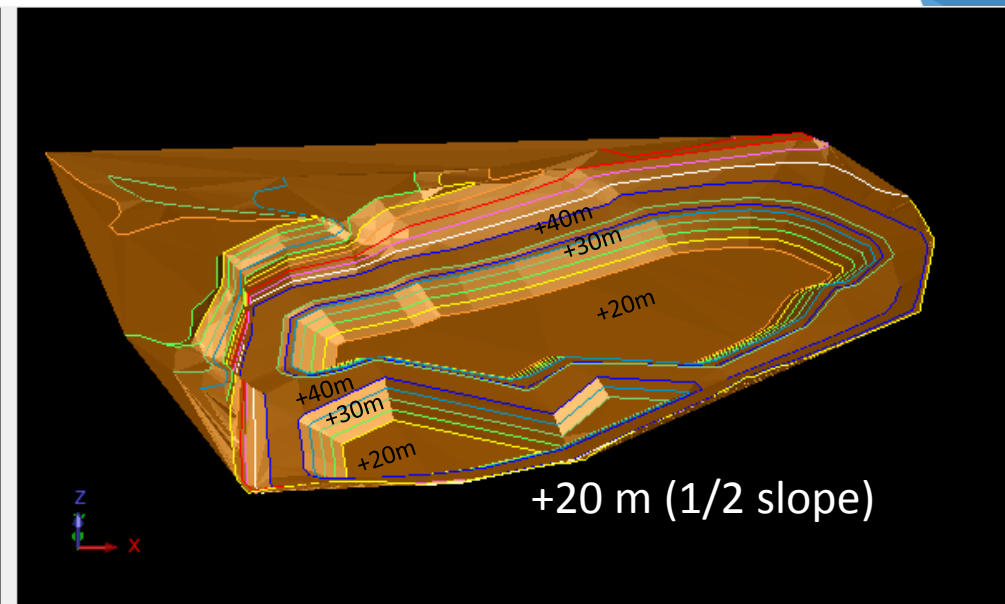
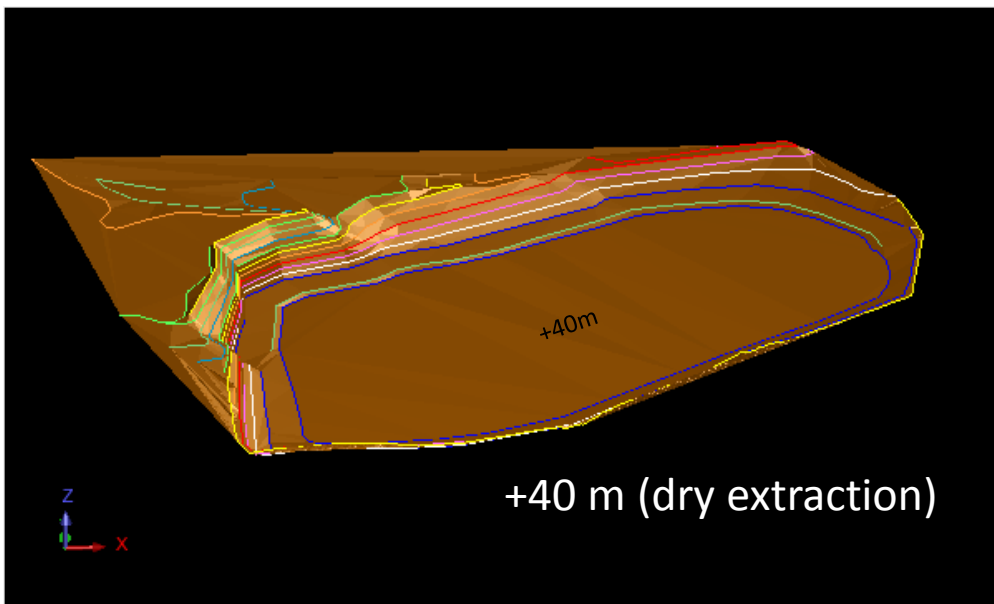
- Underwater slope 1/6
- Ground water level + 40 m
- Maximum dredging depth 20 m
- The underwater slope may be steeper (1/5 or even 1/4), but without any analyses on the sand this is not recommended.
- The original slope of 1/2 is too steep and not recommended due to high risk of slope instability and breaching.



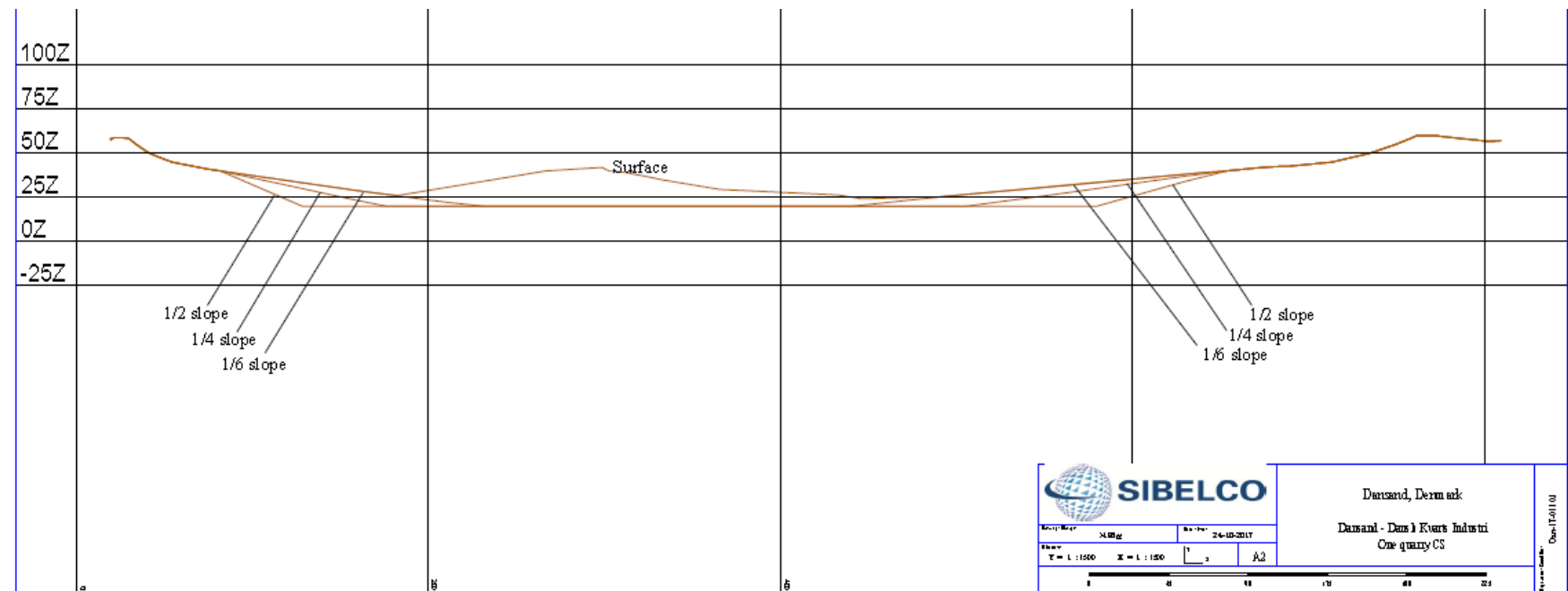
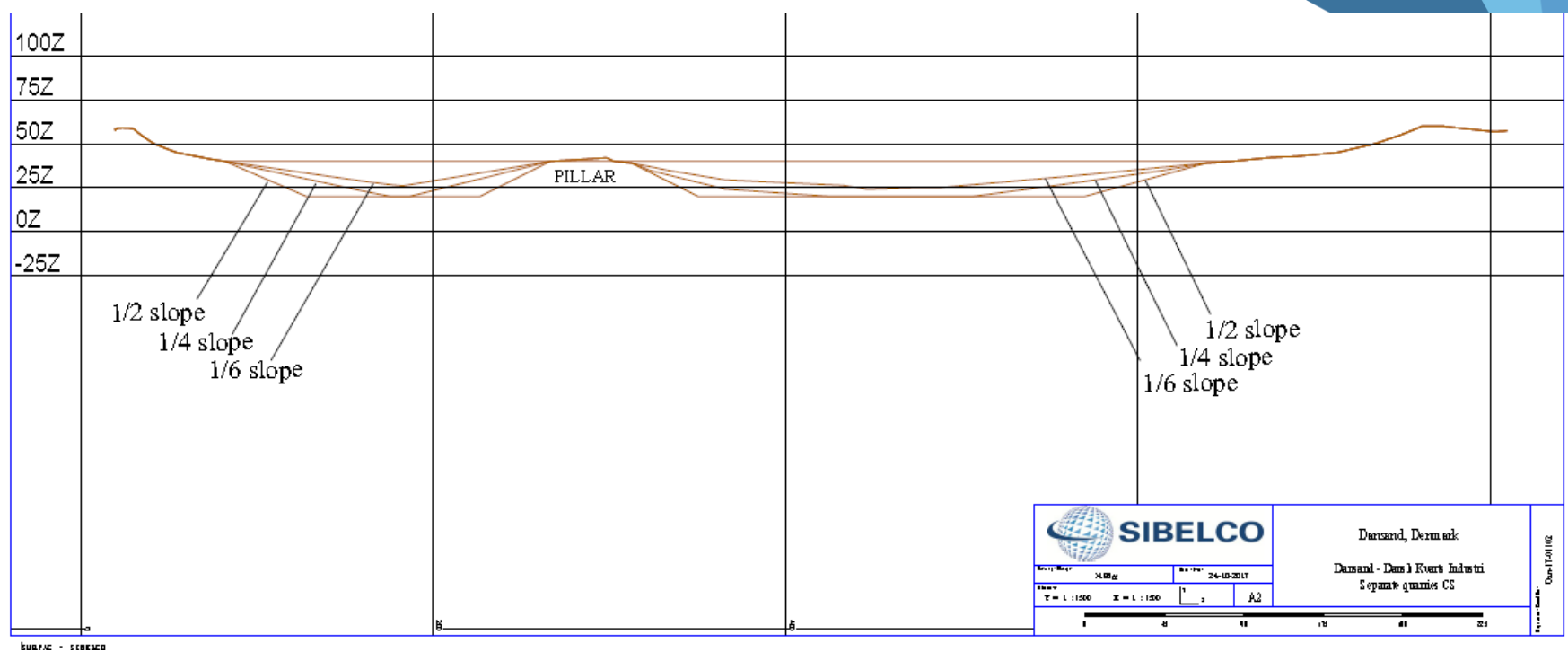
Options for one quarry



Options for two separate quarries



Cross-section



Estimated volumes of the different scenarios

DANSAND - DANSK KVARTS INDUSTRI

Scenarios +20 m	Gross Volume (m3) < 40m			
	Total	Dansand	DKI	Sand in pillar
Separate quarries (slope 1/2)	2 352 918	1 786 160	566 758	995 048
Separate quarries (slope 1/4)	1 796 750	1 445 660	351 090	947 045
Separate quarries (slope 1/6)	1 306 418	1 069 460	236 958	900 073
Joint quarry (slope 1/2)	3 347 965	2 473 023	874 943	
Joint quarry (slope 1/4)	2 743 795	2 078 058	665 738	
Joint quarry (slope 1/6)	2 206 490	1 707 018	499 473	

Gross Tonnes (t) < 40m			
Total	Dansand	DKI	Sand in pillar
4 235 252	3 215 088	1 020 164	1 791 086
3 234 150	2 602 188	631 962	1 704 681
2 351 552	1 925 028	426 524	1 620 131
6 026 337	4 451 441	1 574 897	
4 938 831	3 740 504	1 198 328	
3 971 682	3 072 632	899 051	

Gross Resources (t) < 40m		
Total	Dansand	DKI
3 811 726	2 893 579	918 147
2 910 735	2 341 969	568 766
2 116 396	1 732 525	383 871
5 423 703	4 006 296	1 417 407
4 444 948	3 366 453	1 078 495
3 574 514	2 765 368	809 145

Density 1,8
Yield 90 %

Scenarios +10 m	Gross Volume (m3) < 40m		
	Total	Dansand	DKI
Separate quarries (slope 1/2)	2352918	1786160	566757,5
Separate quarries (slope 1/4)	1796750	1445660	351090
Separate quarries (slope 1/6)	1306418	1069460	236957,5
Joint quarry (slope 1/2)	4550745	3404508	1146238
Joint quarry (slope 1/4)	3315658	2571000	744657,5
Joint quarry (slope 1/6)*	2319665	1811968	507697,5

*Slope 1/6 can only be dredged down to +15 m

Gross Tonnes (t) < 40m		
Total	Dansand	DKI
4 235 252	3 215 088	1 020 164
3 234 150	2 602 188	631 962
2 351 552	1 925 028	426 524
8 191 341	6 128 114	2 063 228
5 968 184	4 627 800	1 340 384
4 175 397	3 261 542	913 856

Gross Resources (t) < 40m		
Total	Dansand	DKI
3 811 726	2 893 579	918 147
2 910 735	2 341 969	568 766
2 116 396	1 732 525	383 871
7 372 207	5 515 302	1 856 905
5 371 365	4 165 020	1 206 345
3 757 857	2 935 387	822 470

*The coal layer at 39-40 m level hasn't been included in the volume estimation at this stage

Recent slope failures within Sibelco

Slope failure in one of Sibelcos quarries in Belgium 2015

- Slope above water: 1/1
- Slope below water: 1/4
- Maximum dredging depth: 20 m
- Dredging at the moment of the breach: 10 m
- Slope failure horizontal effect: 20-25 m
- Cause of stability issue: Suction pipe went more than 1m into the $\frac{1}{4}$ profile



Major slope failures due to dredging

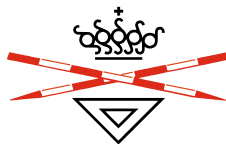
Other examples of instability caused by dredging

- The failure may cause mayor damage on infrastructure or buildings if not planned with care
- Pictures taken from internet, location and circumstances unknown



Recomended tests and analyses to be done

- Grainsize distribution analysis of the different sand layers
- Hardness analyses + grainsize distribution analyse of the coal layer
- Samples and analyses on possible clay layers
- CPT tests (cone penetration test)
 - For exampel 5# 1.5 time the depth of the dredging
 - This will take approximately 1,5-2 days, cost ~5 k€
- All samples can be sent to Maastricht (Sibelco) for analyses
- CPT test results are available directly on site



J.nr. 39871 MHJ/

Dato. 14. juni 2021

Dansand, Addit - Volumen i gravefront pr. 11.06. 2021

Følgende forudsætninger:

Ny bund: 1m over indmålt brunkulslag (DVR90: 41,19m) = 42,19m DVR90

Beregnet volumen fra toppen 2m fra skel, undtaget "trekanten" med overjordsdepot

Anlæg: 1:2 (1 ned : 2 hen)

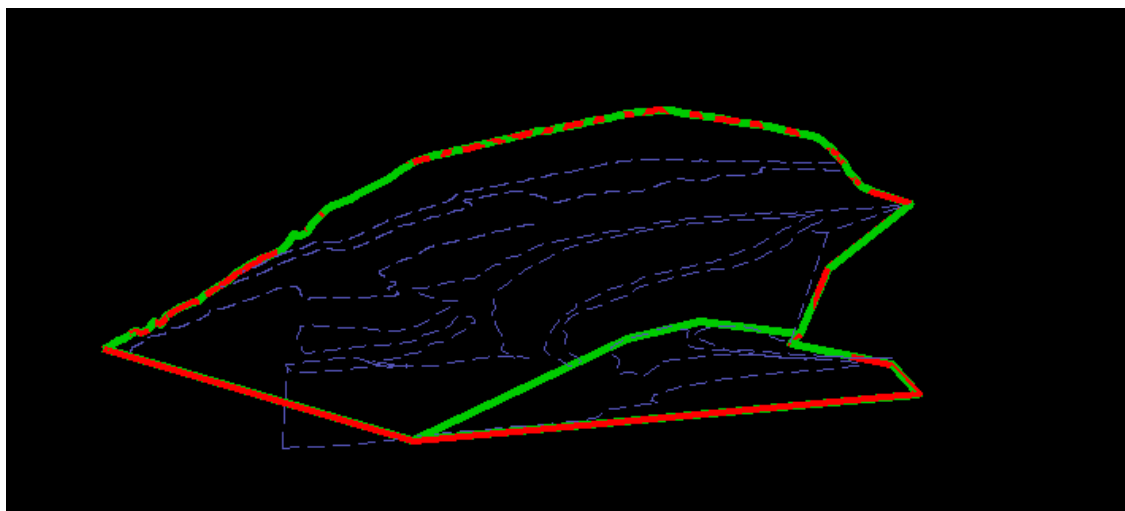
Volumen (fast mål 1:1) er beregnet til:

** Total Cut = 284898 Cubic Meters

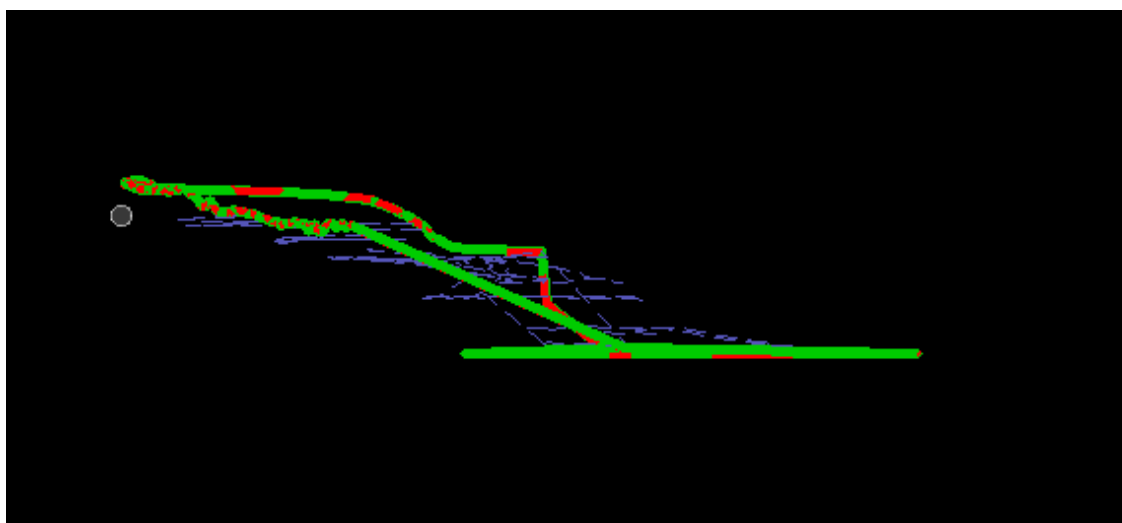
** Total Fill = 9787 Cubic Meters

** **Balance = 275111 Cubic Meters**

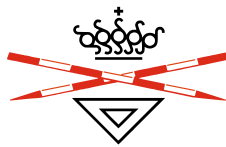
** Area = 43075 Sq Meters



Figur 1 Isometrisk synsvinkel



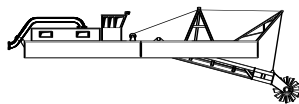
Figur 2 Synsvinkel set fra siden (fra syd)



Figur 3 Overblik

Dansand har altså cirka 275.000 m³ (fast mål) tilbage i denne gravefront.

/Michael Jonassen
landinspektør

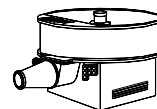


Saug- und Schneidkopfbagger
Schneidradbagger
Zwischenpumpstationen

MASCHINENFABRIK

Anlagen- und Sondermaschinenbau

Heinrich Döpke GmbH · Maschinenfabrik · Postfach 10 01 50 · 26 491 Norden
Internet: www.doepke-gmbh.de E-Mail: info@doepke-gmbh.de



Knet- und Auspressmaschinen
Vollautomatische Brotteig-
Aufbereitungsanlagen

DANSAND A/S
z. H. Herrn Claus Arve
Lervejdal 8b

DK-8740 Bradstrup - DANMARK

Datum: 22.12.2020
Unser Zeichen: Rom
Ihr Schreiben:
Ihr Zeichen:

Angebot - Döpke-Saugbagger - Version I mit Pumpstation
Offer - Döpke-Suction dredger – Version I with booster station

Sehr geehrter Herr Arve,
Dear Mr. Arve,

bezugnehmend auf die zuletzt geführten Gespräche bieten wir wie folgt an:
according to the last conversations we offer as follows:

1 Döpke-Saugbagger Typ S III E, Katamaran – Version I + Pumpstation Typ Z III E

1 Döpke-Suction dredger Type S III E, catamaran - Version I + booster station type Z III E

Druckrohr/ *discharge*: DN 250 mm (Innendurchmesser 250 mm)
Saugrohr/*suction*: DN 300 mm
Tiefe/*depth*: 20 m
Saugbagger/Suction dredger:
Entfernung/*distance*: ca. 400 - 600 m
geodätische Höhe/ *height*: ca. 10 m
Pumpstation/booster station:
Entfernung/*distance*: ca. 300 - 350 m
geodätische Höhe/ *height*: ca. 15 m (Differenz Booster-Dredger)
Gemischleistung/*mixture*: ca. 600 m³/h
Feststoffleistung/*solid*: ca. 200 t/h Feststoff
bei leicht am Saugmund nachrutschendem Material
provided that the material is easy to process
Materialzusammensetzung/ Sand -/ Kiesgemisch 0-4 mm
material composition: sand and gravel 0-4 mm

bestehend aus / consisting of:

2 runde Schwimmpontons und den erforderlichen Verbindungen, Lichtgitterrosten und Geländer
2 round floating pontoons with the necessary connections, with decks and railings

1 Kabine mit Schaltpult und getrenntem Elektroraum
1 Cabine with control system and separate Electric-room

1 Weir Warman Pumpe Type 10/8 F-GH für Druckrohr NW 250 (Innendurchmesser 250 mm)
1 Weir Warman pump type 10/8 F-GH for discharge pipe DN 250 (inside diameter 250 mm)

1 Drehstrommotor 250 kW, 400 V, 50 Hz, 1500 U/min, IP 55, mit Frequenzumrichter
1 electric engine 250 kW, 400 V, 50 Hz, 1.500 r/min, IP 55, with frequency converter

1 Keilriementrieb
1 V-belt system

1 Fundament mit Keilriemen-Spannvorrichtung
1 foundation with V- belt- tensioning device

1 Sperrwasserpumpe mit Elektromotor 7,5 kW
1 gland pump with electric engine 7,5 kW

1 elektrische Saugrohrwinde 5,5 kW mit einer Saugrohrautomatik
1 electric suction pipe winch 5,5 kW with automatic system

4 elektrische Verholwinden je 2,2 kW mit Bremse
4 electric swing winches each 2,2 kW with brake

1 Drehgelenk mit Saugschlauch NW 300
1 swivel with suction hose DN 300

1 Saugrohr NW 300 mit aufgebautem Jet-Rohr für Arbeitstiefe bis 20 m + 1 Saugrohrbock
1 suction pipe DN 300 with jet pipe for a dredging depth of 20 m + 1 suction boom

20 m Saugrohr-Führungsschwimmer
eine Seite mit Laufsteg und verzinktem Geländer
*20 m Suction pipe pontoons
one side with gangway und galvanized railing*

1 Jetaggregat bestehend aus einer Kreiselpumpe mit einer Leistung
von ca. 250 m³/h bei 84 m (8,4 bar) Gesamtförderhöhe, Antrieb über Drehstrommotor 90 kW
1 Jet system with electrical engine 90 kW, 250 m³/h at 84 m (8,4 bar)

1 schwenkbarer Säulenkran 500 kg mit Kettenzug
zum Austausch von Pumpenteilen, wie z.B. Laufrad oder Schleißplatte
*1 crane 500 kg with chain hoist
for replacement of pump parts such as impeller or wear plat*

1 Elektro-Ausrüstung komplett installiert

Elektrische Ausrüstung / Steuerung / DGPS-Anlage :

Elektrotechnik und Steuerung (Dredger Control)
mit Trafo-Anlage 630 kVA, Fließgeschwindigkeitssensor,
sowie DGPS-Anlage (Dredger Naut) und 4G-Router

- siehe anliegende Spezifikation -

1 electrical equipment completely installed

Electrical equipment / control / DGPS system:

*Electrical engineering and control (Dredger Control)
with transformer system 630 kVA, flow velocity sensor,
and DGPS (Dredger Naut) and 4G- router*

- see enclosed specification

Gesamtpreis für Saugbagger

Total price for suction dredger

€ 615.000,--

Mehrpreise für die Fernanbindung (Option):

- a.) DT- Station an Land (Option)
- | | |
|---|------------|
| inkl. DredgerControl- und DredgerNaut-Software-Lizenz | € 4.900,-- |
| Lichtwellenleiterkabel (450 m) ohne Verlegung | € 1.800,-- |
| Bagger - Booster | |
| Lichtwellenleiterkabel (350 m) ohne Verlegung | € 1.400,-- |
| Booster – Landanlage | |
| 3 LWL Ethernet-Koppler (€ 1.500,--/Stück) | € 4.500,-- |
- b.) Anbindung der Landaggregate (Betrieb/Störung-Option)
- | | |
|---|------------|
| Dredger Control – Steuerungsschnittstelle | € 4.500,-- |
|---|------------|

Additional prices for the remote connection (option):

- a.) *DT Station on land (option)*
- | | |
|---|-------------------|
| <i>incl. DredgerControl- and DredgerNaut-software-license</i> | <i>€ 4.900, -</i> |
| <i>Fiber optic cable (450 m) without installation</i> | <i>€ 1.800, -</i> |
| <i>dredger – booster</i> | |
| <i>Fiber optic cable (350 m) without installation</i> | <i>€ 1.400, -</i> |
| <i>booster – land plant</i> | |
| <i>3 pieces of fiber optic Ethernet coupler (€ 1.500, -/pc)</i> | <i>€ 4.500,--</i> |
- b.) *Connection of the landing aggregates (Operation / malfunction- option)*
- | | |
|--|-------------------|
| <i>Dredger Control - Control Interface</i> | <i>€ 4.500, -</i> |
|--|-------------------|

Farbanstrich

Hauptschwimmer werden aus entzundert und geprimerten Blechen gefertigt. Der Fahrstand wird nach Fertigstellung gestrahlt und geprimert. Danach werden alle Teile nochmals mit einem Spezialanstrich SIKA Poxicolor rotbraun versehen.

Schiffskörper, Schwimmer, Rohre etc. erhalten zusätzlich einen zweifachen Anstrich SIKA Poxicolor in schwarz.

Die Beschichtung beträgt ca. 250 my.

Hierdurch ist eine langlebige Konservierung gesichert.

Die Aufbauten erhalten einen Farbton nach Kundenwunsch (in Ihrem Fall RAL) gestrichen.

Painting

all pontoons have a special coating of SIKA Poxicolor brown and additional a double coat of SIKA Poxicolor black.

The coating is about 250 my.

This ensures a long-lasting preservation.

The superstructures are in the color according to customer requirements

(in your case RAL)

1 Booster-Station Typ Z III E, an Land stehend (ca. 400 m entfernt vom Saugbagger)

1 Booster-Station Type Z III E, installed on the land side (~ 400 m from the suction dredger)

Pumpentfernung ca. 300 m weit und 15 m hoch in die Anlage bestehend aus:
pump distance ~ 300 m and 15 m height into the processing plant at the land side:

1 Booster-Pumpe – Weir Warman Type 10/8 F-GH für Druckrohrleitung NW 250

Fördergemisch ca. 600 m³/h

Feststoffanteil bis ca. 200 t/h

(Anmerkung: gleiche Pumpe, wie auf dem Saugbagger)

1 booster-station – Weir Warman type 10/8 F-GH for discharge pipe system DN 250

mixture capacity: ~ 600 m³/h

solid material: ~ 200 t/h

(remarks: the same pump as on the suction dredger)

1 Drehstrommotor 250 kW mit Frequenzumrichter

1 electric engine 250 kW with frequency converter

1 Sperrwasserpumpe mit Motor 7,5 kW

1 gland pump with electric engine 7,5 kW

1 Fundamentrahmen

1 foundation

1 Riementrieb

1 belt system

1 Elektro-Ausrüstung komplett installiert

Booster-Station:

Elektrische Ausrüstung / Steuerung:

Elektrotechnik und Ansteuerung im Steuerungssystem (DredgerControl)

1 electrical equipment completely installed

booster station:

Electrical equipment / control:

Electrical engineering and activation in the control system (DredgerControl)

1 Schaltschrank
1 switch cabinet

1 Installation
1 installation

Gesamtpreis für die Pumpstation mit Steuerung
Total price for the booster station with control system

€ 195.000,--

Montage und Inbetriebnahme:

Montage und Inbetriebnahme des Saugbaggers
für den Zeitraum von 1 Woche inkl. An- und Abreise

Anmerkung:

2-3 Helfer, Krangestellung, Unterkunft und Verpflegung erfolgt kundenseitig € 15.000,--

assembling and commissioning:

each 7 days - journey time included,

remarks: *costs for cranes , 2-3 helpers*

as well as costs for accommodation

and rations are at customer side

Transport:

from 26506 Norden – Braedstrup/DK

€ ~ 10.000,--

Dokumentation

Dokumentation, Bedienungsanleitung, Ersatzteilliste in deutscher
bzw. englischer Sprache

Beschriftung des Schaltpultes in dänischer Sprache

Documentation

Operating and Maintenance Instructions

Spare parts list in german and english language

the control cubicle display in the cabin – in Danish language

<u>Preis / price:</u>	ab Werk / ex works
<u>Preisgültigkeit/price validity:</u>	31.01.2021
<u>Garantie/ warranty:</u>	12 Monate nach Inbetriebnahme, Verschleißteile ausgenommen <i>12 months after delivery, except wear parts</i>
<u>Lieferzeit/ delivery time:</u>	nach Vereinbarung <i>at agreement</i>
<u>Zahlung / payment:</u>	30% bei Auftragserteilung / <i>at order confirmation</i> 30% <i>nach Fertigstellung des Stahlbaus und vor der Lackierung,</i> <i>und Abnahme des Kunden</i> <i>after completion of the steel structure and before painting,</i> <i>and acceptance by the customer</i> 35% bei Versandbereitschaft / <i>before delivery</i> 5% nach Lieferung, Montage und Inbetriebnahme <i>after delivery, assembling and commissioning</i>

Wir würden uns freuen, in dieser Angelegenheit wieder von Ihnen zu hören.
We would be glad to hear again from you in this matter

with best regards,

Mit freundlichen Grüßen

Heinrich Döpke GmbH
Maschinenfabrik
Norden – Nordsee

(gez. Ingo Romeike)

WEIR



Quotation

OPP00003840_6

To

Dansand A/S

Project

Sand Washing Plant

BY

WEIR Minerals Germany GmbH

- Access limited to Weir personnel or by NDA

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M +49 (0)171 567 1774
Sebastian.John@mail.weir

Dansand A/S
Mr. Claus Arve
Lervejdal 8b
8740 Brædstrup
Denmark

Date: 19.02.2021

Quotation OPP00003840_6 – Sand Washing Plant (200 t/h)

Dear Claus

Please find our quotation for a sand washing plant.

The following offer is made on the basis of the delivery and payment conditions of Weir Minerals Germany GmbH. Please inform us in the event of variations from the requested operating conditions, which we shall amend accordingly. Our offer is based on the conveying data and system conditions you have stated.

This proposal provides a first detailed description on your requirements and it is structured as followed:

- Scope of Supply
- Technical Specifications

We hope this competitive offer will meet with your satisfaction.

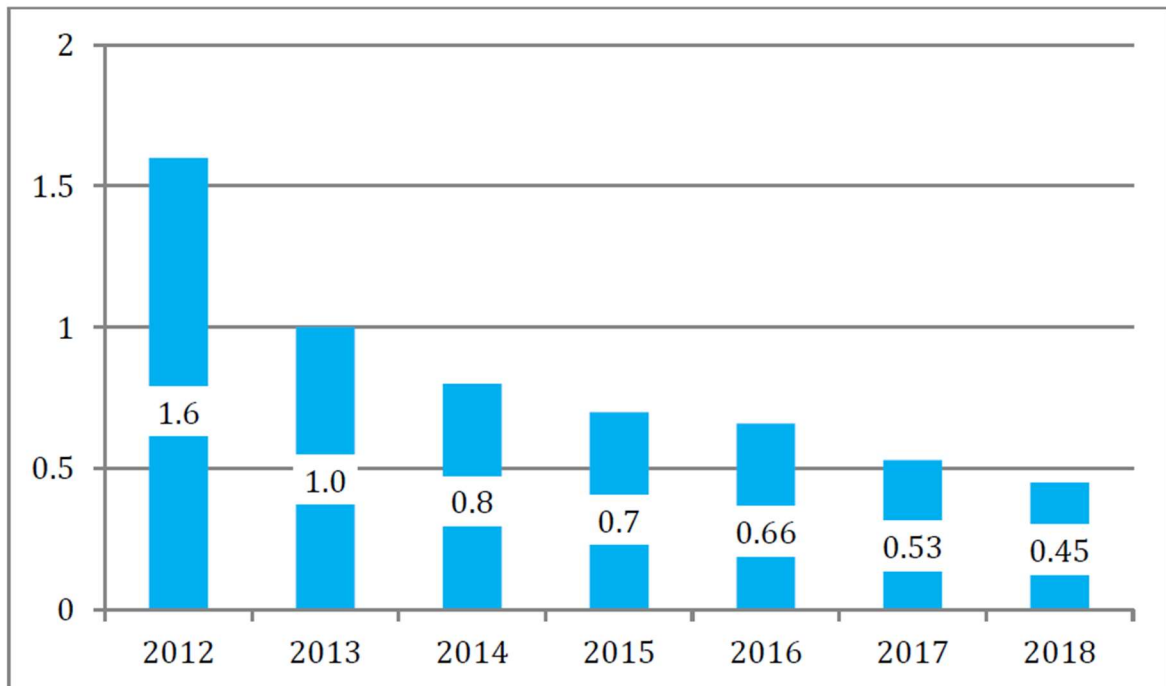
We are at your disposal at all times should you have any questions. We look forward to hearing from you.

Yours sincerely

Weir Minerals Germany GmbH

Dirk Schumann / Dipl.-Ing.
Managing Director

i.A. Sebastian John / M.Sc.
Sales Engineer

World Class Safety Performance**Total Incident Rate**

Any lost time accidents AND medical cases are counted and multiplied by 200,000 hours (OHSAS standard) before being divided by the total number of hours worked to give the Total Injury Rate.

For the past 3 years WEIR Group has outperformed industry peers in terms of safety performance.

WEIR Minerals Europe Locations



WEIR Minerals Overview and Standards

Feature	Benefit
Investment in Product Development	WEIR Minerals is determined to position itself as one of the foremost screen suppliers to the industry and will offer its clients both traditional as well as new technology to meet both existing and new process engineering requirements. Where possible, WEIR Minerals will work with its client's to develop a tailored solution.
Process Support	WEIR Minerals have process engineers that are able to offer process support and advice to customers and recommend the best solutions and this is further backed by dedicated Product Managers on every continent at each key office.
After Sales Service	With its investment in global infrastructure, WEIR Minerals is able to offer support both during commissioning as well as ongoing client support.
Global Resources	WEIR's international presence allows it to draw on the resources of its overseas offices and alliance companies. This knowledge is shared with its customers to help achieve their targets.
Industry Experience	WEIR Minerals, well known for its Warman pumps, Vulco Mill Liners and Cavex cyclones, has significant experience in a wide range of sectors in mineral processing which it is able to draw on to meet the requirements of its clients. It's Comminution business is backed by knowledgeable staff with extensive process experience in various industries.

Process Consideration and Comments

The process conditions to which the equipment is sized are based on your requirements and conditions as stated below and our visit to site.

A new sand washing plant shall be installed at the site of Dansand A/S in Brædstrup in Denmark. The new plant is to be capable of processing sand approximately 200 tonnes per hour (t/h). Input to the plant comes directly from a new dredger (approximately 200 t/h sand + water). As alternative when the dredger is not running the complete sand (approximately 200 t/h) comes from the stockpile. In this case the dry sand has to be mixed with water.

The sand at the plant input has the following specification in average:

Average

Dansand A/S
Lervejdal 8B

DK-8740 Brædstrup

SIEVE ANALYSIS

Report no.: 195204

Customer: Dansand intern (manuel)

Signature: MA

Item: D2 6,5 - 30 m

Printed: 23-04-2019

Article no.: 902

Descr. of goods:

Analysed: 04-03-2019

Aperture size, mm	Amount on sieve		Amount through sieve	
	g	%	Max, %	Actual, % Min, %
8,000	0,00	0,0		100,0
4,000	0,30	0,3		99,7
2,000	3,00	3,0		96,7
1,400	4,70	4,7		92,0
1,000	7,40	7,4		84,6
0,710	8,80	8,8		75,8
0,500	13,00	13,0		62,8
0,355	18,00	18,0		44,8
0,250	23,40	23,4		21,4
0,180	12,40	12,4		9,0
0,125	4,90	4,9		4,1
0,090	2,00	2,0		2,1
0,063	0,90	0,9		1,2
0,020	0,60	0,6		0,6
0,000	0,60	0,6		0,0
Total	100,00	100,0		

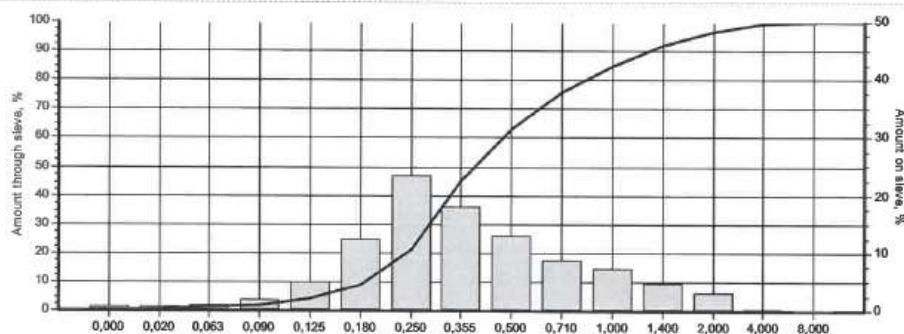
D90, mm: 1,292 D50, mm: 0,397 D20, mm: 0,242 D10, mm: 0,186

Dispersion (D60/D10):

2,572

Mean grain size, mm:

Specific surface, cm²/g:



Analysis is approved

Products with the following sizes are produced

- 4/9mm
- 1.5/4mm
- 0.125/1.5mm
- 0/0.25mm

Specification of the products

Sand 0,010 – 0,250mm

Mean grain size	min 0,115mm	max 0,145mm
	100% through	0,355mm
min	97% through	0,250mm

Sand 0,125 – 1,50mm

	100% through	2,0mm
min	99% through	1,5mm
	96% through	1,0mm
max	5% through	0,180mm
max	1% through	0,125mm

Sand 1,5 – 4,0mm

min	95% through	4,0mm
max	5% through	1,5mm
max	1% through	1,0mm

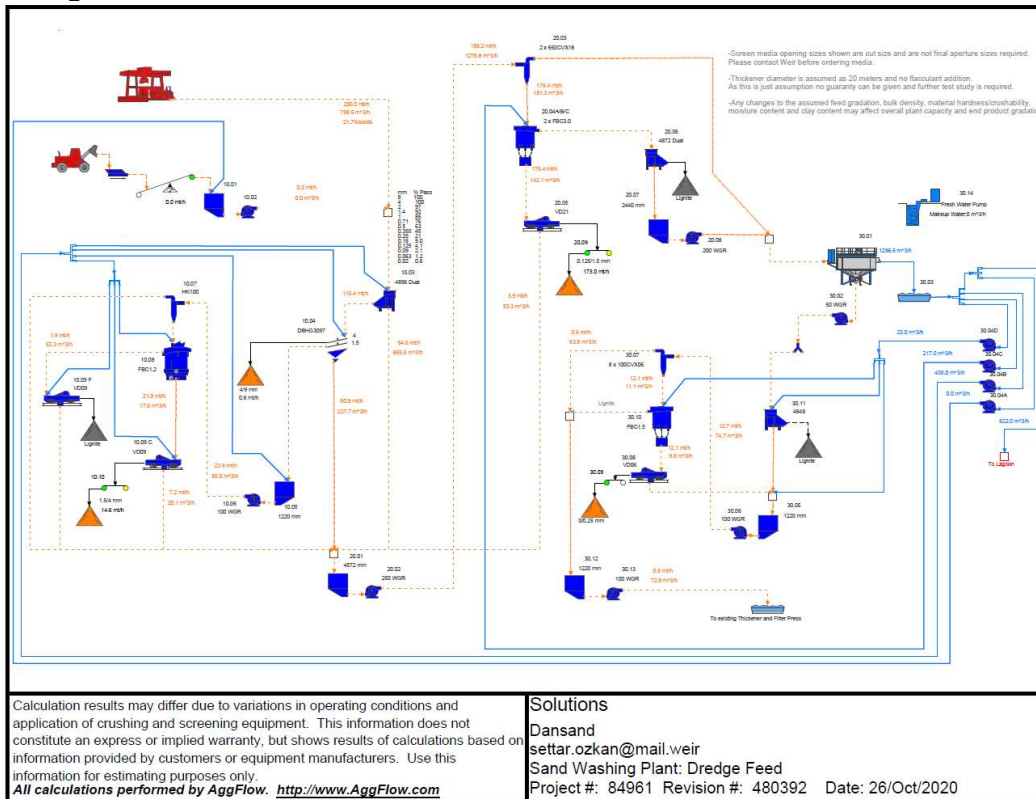
Sand 4 – 9mm

min	99% through	10,0mm
max	2,5% through	4,0mm

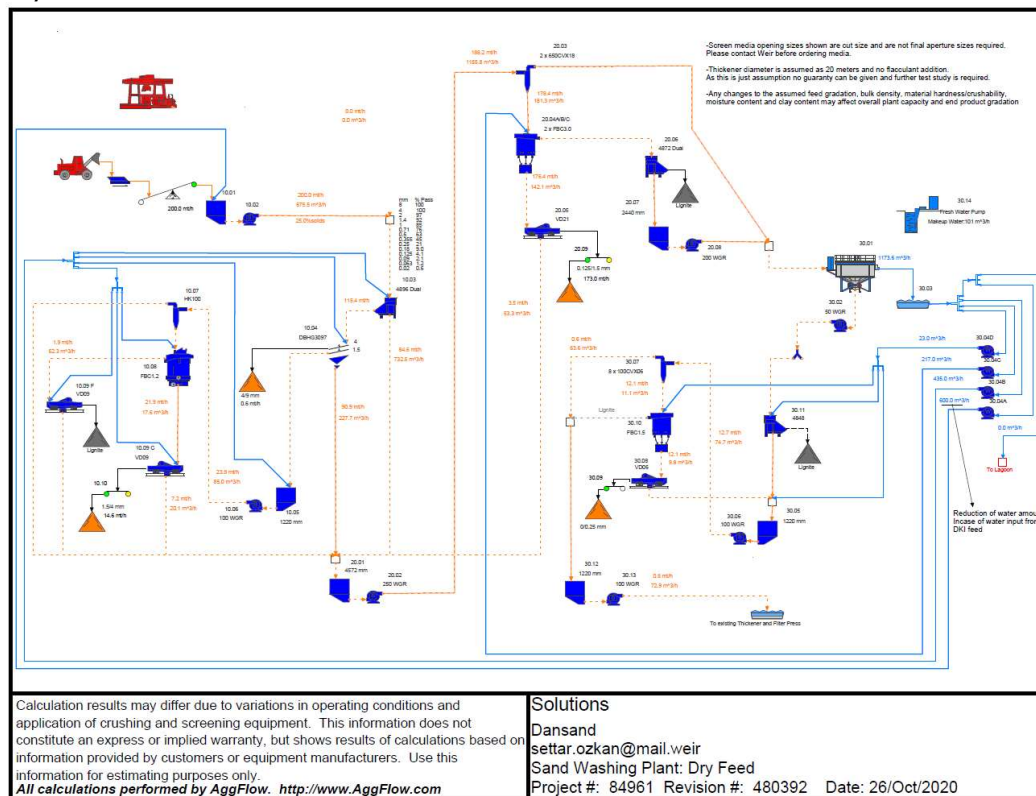
Lignite Removal

The deposits at Brædstrup contain Lignite; however finished products need to have a low Lignite content.

Flowsheet of proposed plant Dredge Feed:



Dry Feed:



Proposed 3D layout

Picture shows layout for 250 t/h
Layout will be similar for 200 t/h



Scope of Supply

Equipment

Eq No.	Qty	Supplier	Machine Model	Machine
10.FR.01	1	Linatex	Ø 4572 mm	Feed Regulating Sump (Dry Feed)
10.WP.02	1	Warman	250 WGR	Centrifugal pump (Dry Feed)
10.SB.03	1	Weir	4896 Dual	Sieve Bend
10.BHG.04	1	Enduron	DBHG3097	Double Deck Banana Screen
10.FR.05	1	Linatex	Ø 1220 mm	Feed Regulating Sump
10.WP.06	1	Warman	100 WGR	Centrifugal pump
10.HC.07	1	Linatex	HK100	Hydrocyclon
10.FBC.08	1	Linatex	FBC1.2	Flat Bottom Classifier
10.VD.09 C/F	1	Enduron	VD09	Dewatering Screen, 2 Sections (Coarse (C) and Fine (F))
10.BC.10	1			Belt Conveyor 1.5/4mm
20.FR.01	1	Linatex	Ø 4572 mm	Feed Regulating Sump
20.WP.02	1	Warman	250 WGR	Centrifugal pump
20.HC.03	2	Cavex	650CVX18	Hydrocyclone
20.DMS.04	2	Linatex	FBC3.0	Dense Media Separator
20.VD.05	1	Enduron	VD21	Dewatering screen
20.SB.06	1	Weir	4872 Dual	Sieve Bend
20.FR.07	1	Linatex	Ø 2440 mm	Feed Regulating Sump
20.WP.08	1	Warman	200 WGR	Centrifugal pump
20.BC.09	1			Belt Conveyor 0.125/1.5mm
30.TH.01	1	Isodry	Ø 20 m	Thickener
30.WP.02	1	Warman	50 WGR	Centrifugal pump
30.WT.03	1	---	Model 14	Water tank (as Option)
30.WP.04.A	1	Warman	250 L	Water Pump for Dry Feed
30.WP.04.B	1	Warman	200/200 MU	Water Pump to Area 10
30.WP.04.C	1	Warman	200/150 MU	Water Pump to Area 20
30.WP.04.D	1	Warman	100/80 MU	Water Pump to Area 30
30.FR.05	1	Linatex	Ø 1220 mm	Feed Regulating Sump
30.WP.06	1	Warman	100 WGR	Centrifugal pump
30.HC.07	1	Cavex	100CVX06	Hydrocyclone cluster (6+2)
30.VD.08	1	Enduron	VD06	Dewatering Screen
30.BC.09	1			Belt Conveyor 0/0.25mm
30.DMS.10	1	Linatex	FBC1.5	Dense Media Separator
30.SB.11	1	Weir	4848	Sieve Bend
30.FR.12	1	Linatex	Ø 1220 mm	Feed Regulating Sump
30.WP.13	1	Warman	100 WGR	Centrifugal pump
30.WP.14	1	Warman	100 SP	Vertical Sump Pump

- The proposed plant will comply with all EU specifications for Plant and machinery.
- The proposed sand plant will be PLC controlled and have SCADA links for Quarry Management monitoring.
- The PLC control system will be of an Industry Standard.
- Specifications - Dansand to provide specification details upon order award and Weir Minerals Acceptance

Steel work and Installation

Supply and Install all steelwork and equipment.

Our suppliers will include the following.

Works to Include:

- Supply of full GA drawings for customer approval (working alongside Weir design team) – two design changes allowed
- Supply of full fabrication drawings.
- Fabrication (at our suppliers' premises) of all structural steelwork/pipework/chute works/access etc. following BS EN 1090 accreditation.
- Delivery of all steelwork / materials to site.
- Finish Steelwork
 - All Structural Steel Material, Collection, Feed and Discharge Boxes / Chutes to be fabricated with the grade of SJ235 or equivalent
 - No Anti-Abrasion Liners considered
 - Nuts and Bolts to be supplied with the grade of 8.8
 - Collection, Feed and Discharge Boxes / Chutes to have lifting lugs
 - Steel Design: Eurocode 3
 - Seismic Design: Eurocode 8
 - Impose Load Assumptions: 300 kgf/m² for Top Level and 500 kgf/m² for Intermediate Levels
 - Seismic Load Assumptions: PGA= 0.1 g / Soil Type E Assumed for Worst Case
 - Grate Weight: 50 kgf/m²
 - Platforms, Handrails & Ladders
 - 4/6 chequered plates welded to the frame: this is only painted
 - Walkways on the platforms measure approximately 650 mm where handrails are located, but certain walkways past various pieces of equipment (motors etc.) may be reduced to a minimum of 400 mm

- Coating
 - All steelwork to be galvanized (hot dip galvanized min. 120 microns) where applicable, otherwise Class 4 Coating to be applied
 - Collection, Feed and Discharge Boxes / Chutes Chute and Boxes to be Class 4 Coating
- Issue to site a full CDM works file containing
 - Company policies/procedures + insurances
 - Fitters competencies
 - Full works RAMs
- Site works to Include:
 - All cost for Employee at site (Wage, Accommodation, Travelling Cost, Daily Expenses)
 - Perimeter Fencing
 - Equipment hire (crane)
 - Diesel, Fuel and Lubricants
 - Site transportation (max. 100m)
 - Small tools and consumables
 - Site establishments:
 - Welfare Cabin
 - Supervisors Cabin
 - Communication facilities incl. phone
 - Office sundries incl. printing
 - Toilet

Conveyors

- Belt Width: 2 off 400 mm and 1 off 800 mm
- Belt Length: 20.8m; 16.98m; 14.1m
- Slope: 0°
- Speed: 1.4 m/s

Belt

- Rubber with textile body EP400/3 G or - resistant to oils and greases.

Carry and Return Idlers

- Carry and return idlers with protection of nip points
- Carry idlers with 35° trough angle for widths
- Rollers Ø 89 for 800 mm
- Spacing of idlers:
 - Carry: 1 meter
 - Return: 3 meters

Drive and Tail Pulley

- Drive pulley to be lagged with 10 mm thickness rubber coating

Drive

- Usually located at the head, may be right or left hand mounted
- "WEG" or equivalent geared motor with helical-bevel gear motors with backstop, coupled directly in the motor pulley and anti-shift system
- "NORD" or equivalent reducer
- Housings with FAG or equivalent bearings
- Installed power is calculated according to capacity, inclination, and speed.

Components

- Primary & Secondary Belt Scrapers
- Plough Cleaners
- Protection of Nip Points
- Corded safety switches
- Belt misalignment switches

Trusses

- U profile as to be modular

Electricals

- MCC Panel and its equipment
- Automation Panel
- PLC and its equipment
- Control System
- Two off 11" HMI Panels
- PLC Licences
- SCADA and Its Equipment (Siemens SCADA, 1 x Computer, 2 x 21" LCD Monitor, 1 x Printer, 1 x Communication Module, 1 x Keyboard and 1 x Mouse)
- 1 piece 5.0 x 7.0m and 1 piece 3.0 x 7.0m containers
- Instruments (Speed Monitors, Corded Safety Switches, Belt Misalignment Switches, Position Inductive Switches, Light Indicated Sirens, Traffic Light for trucks)
- Cables, Control Cables and Cable Trays
- Conduits and Pipes
- Lightning (4 x 200 SMD LED Projector, 50 x LED Waterproof Armature, 4 x Lighting Panels, Cables)
- Earthing (Earthing Strips, Copper Bars, Plates, Bare Wires)

The system has been designed to be fed by transformer station. If the system to be fed by another source such as an electrical generator, there will be a change in equipment supply and quoted separately.

MCC Panel

- Panels will be designed as including %15 percent of space.
- All materials for switching in panel trademark are ABB or equivalent
- MCC panel will be produced according to the technical specification and the motor and control list.
- Panels protection class will be IP54.
- Panels will be made of 2 mm galvanized sheet.
- Panels will be painted with electro-statical method paint.
- Panels will be guaranteed against corrosion.
- Panels will be controlled with thermostat control, when panels inside temperature increased to the set value, cooling fans will work automatically and will cool the system.

- There will be a panel lighting system inside of panel.
- All outputs which is given appendix according to single line diagram of panel will be offered
- Trademarks of the cables which will be used in plant will be one of these; HES.
- There will be an isolation transformer which controls panels control system.
- In the panel control system, there will be a 220V feed unit. And there will be a leak current protection system. Panels covers will be earthed with stranded copper.

Control Panel

- Flow diagram of system will be stay on the cover of control panel.
- There is an emergency button on control panel cover that all system work will be stop
- There is a Selector switch for the selection of the system will be operating mechanism. (Manual, interlock, auto).
- Current of all system will appear on the control panel
- Voltage of all system will appear on the control panel
- Current of all high-power motors will appear separately on the control panel
- Fault notification shall be in the form of sound and light
- Control panel top cover will be controlled on-off damper assembly
- Ways of working with the light on the control panel shall be notified separately.

PLC System

- Proper dimensions will be used as an PLC panel.
- CPU which is placed in the center will be Siemens or ABB. The model would be defined based on the IO quantities.
- All system will be managed with PLC
- All operation and fault information via the PLC phrases can be taken as information.
- PLC software will be given by us in the form of a CD recording Digital Inputs 24V DC - Digital outputs are 220V-AC - 24V DC - Analogue Inputs 4-20mA / / 0-10V DC.

Operator Panel

- There will be an operator panel on control panel.
- Operator Panel will be touch screen system.
- Operator panels screen size will be 15".
- System flow chart can be seen on Operator Panel.
- Whole thermic, speed monitor, pull-cord and situation notice breakdown will be shown as scrolling text on Operator Panel.
- Systems work order and work time settings can be done on Operator Panel.
- Systems suspension order and suspension time settings can be done on Operator Panel.
- Last 100 breakdowns will be seen on Operator Panel.
- Operator Panel Software will be given to you as CD record.
- Breakdown notice reports can be printed with a printer.

Exclusions

- Civil works:
 - Civil works are excluded from our offer
 - Foundation Bolts and Templates
- Documents for plant approval with local authorities
- Fresh Water Tank
- Pontoon for Fresh Water Pump
- Risk Assessment and CE Certification of the whole plant

Commercial Offer

Our offer for the Supply, Fabrication, Delivery, Installation and Commissioning of equipment as described in our offer is as follows

Total cost for turnkey solution

€ 4 593 000

Four Million, Five Hundret Ninety Three Thousand Euros (EUR)

Total Cost for Turnkey Solution include the following labour cost performed by the company Hvirring Smede og Maskinfabrik:

Mechanical Installation Labour	€ 604 812
Electrical Installation Labour	€ 102 232

Additional Options:

Fresh Water Tank (volume: 234m³)	€ 21 700
--	-----------------

Pontoon for Fresh Water Supply Pump	€ 44 800
--	-----------------

Terms of Payment and Delivery	
Incoterms	DDP Brædstrup
Payment Terms	10% on receipt of order 10% on design approval 25% on order of equipment 25% on delivery of equipment & steelwork to site 25% on erection of steelwork & equipment 5% on commissioning
Quotation Validity	31.05.2021
Delivery time	To be agreed

Recommended Spare Part Package

Component	Part No.	Commissioning Spares	Recommened Operational Spares
<u>Cyclons</u>			
650CVX (2 in operation)			
Vortex Finder (+1 size)	65080CVX305R55	2	
Vortex Finder (optimum size)	65080CVX290R55		2
Vortex Finder (-1 size)	65080CVX260R55	2	
Spigot Liner (+1 size)	65064CVX140R55	2	
Spigot Liner (optimum size)	65064CVX130R55		2
Spigot Liner (-1 size)	65064CVX120R55	2	
100CVX (6 in operation + 2 standby)			
Vortex Finder (+1 size)	04080CVX35U03	6	
Vortex Finder (optimum size)	04080CVX30U03		6
Vortex Finder (-1 size)	04080CVX25U03	6	
Spigot Liner (+1 size)	06064C20R55	6	
Spigot Liner (optimum size)	06064C17R55		6
Spigot Liner (-1 size)	06064C15R55	6	
HK100 Seperator (1 in operation)			
Discharge Regulator	45061EAA0187EAEA		1
<u>Flat Bottom Classifier</u>			
FBC 1.2 (1 in operation)			
VALVE PPV2PL 080 C/W LINERS DIN PN10/16	45038EAA1270EAEA		1
FBC 3.0 (2 in operation)			
VALVE SLEEVE	45038EAA1270EAEA		3
FBC 1.5 (1 in operation)			
VALVE Sleeve	45038EAA1291EAEA		1
FBC all sizes (3 in operation)			
FBC nozzle	42039FAA0021EAEA		1000

Slurry Pumps			
250 WGR Ph 2 (2 in operation)			
Impeller	F5GR250147WR35		1
Throatbush	F5GR250083-1R35		1
CPL	F5GR250017-1R35		1
FPL	F5GR250036-1R35		1
Shaft Sleeve	F5WG075-1C21		1
Packing	F5WG111Q21		2
200 WGR Ph 2 (1 in operation)			
Impeller	F4GR200145WR35		1
Throatbush	F4GR200083-1R35		1
CPL	F4GR200017-1R35		1
FPL	F4GR200036-1R35		1
Shaft Sleeve	F4WG075-1C21		1
Packing	F4WG111Q21		2
100 WGR Ph 2 (3 in operation)			
Impeller	F3GR100145WR35		1
CPL	F3GR100017-1R35		1
FPL	F3GR100036-1R35		1
Shaft Sleeve	F3WG075-1C21		1
Packing	F3WG111Q21		2
50 WGR Ph 2 (1 in operation)			
Impeller	F2GR50136WR35		1
CPL	F2GR50017-1R35		1
FPL	F2GR50036-1R35		1
Shaft Sleeve	F2WG075-1C21		1
Packing	F2WG111Q21		2
Sieve Bends			
4896 Dual (1 in operation)			
PU Panel			1
Wedges			
4872 Dual (1 in operation)			
PU Panel			1
Wedges			

4848 (1 in operation)			
PU Panel			1
Wedges			
<u>Dewatering Screens</u>			
VD9 (1 in operation)			
Set of PU Panels + Pins			1
VD21 (1 in operation)			
Set of PU Panels + Pins			1
VD06 (1 in operation)			
Set of PU Panels + Pins			1
<u>Banana Screen</u>			
DBHG3097 (1 in operation)			
MK4 Geared Exciter (3 off per screen)			1
Mechanical Studs – M30 x 1000 (24 off per screen)			8
Cross Beams			1
Stringers and Cleats - Top & Bottom			1
Side Wear Liners - Top & Bottom			1
Top Deck – 4 mm Aperture PU Panels - 305 x 305 x 30 mm THK (320 off per screen)			320
Bottom Deck – 1.5 mm Aperture PU Panels - 305 x 305 x 30 mm THK (320 off per screen)			320
Coil Spring 16.8 kg/mm (24 off per screen)			12

Total cost for Recommended Spare Part package
€ 264 000

Terms and Conditions

This Quotation is subject to Weir Minerals Germany GmbH Terms and Conditions.

Contract Liability – This shall be capped at the Contract Price of the Invoiced Goods and shall not in any case exceed the total Contract Price. Each Parties Liability to the other Party shall exclude all indirect and consequential losses, loss of profit, loss of production, loss of use and loss of opportunity.

Liquidated Damages (if applicable) – Shall be capped at a maximum of 5.0% of the Contract value unless otherwise agreed in writing.

Intellectual Property Rights – Weir shall own all its existing IP Rights and any new IP Rights created as a result of a Contract shall be owned by Weir unless otherwise agreed in writing.

Warranty – Weir's standard warranty is 12 months from Commissioning or 18 Months from Delivery. Extended Warranties are available subject to a separate quotation and agreement in writing.

Payment Terms – Weirs standard Payment terms are 30 days unless otherwise agreed

Payment Milestones – The Payment Milestones quoted in this offer are not subject to change unless otherwise agreed in writing.

Delivery Date(s) – The Delivery Date(s) and or Lead Times quoted in this Commercial Offer are calculated from the programme start date, being the date of Contract / Order Acceptance signed by Weir. The Delivery Date(s) and or Lead Times will also be subject to Dansand's timely approval of the General Arrangement and Layout Design drawings as appropriate, in accordance with a Project Delivery Schedule agreed in writing by both Parties prior to Contract Acceptance by Weir.

Possible Regulatory and Customs duties Price Increase as a result of the UK

Leaving the European Union - Weir reserves the right to amend the prices as quoted in this Commercial Offer, subject to any additional regulatory and customs costs which were unknown as at the date of this Offer and thereafter become known and are due and payable by Weir as a direct result of the UK Government's decision to leave the European Union. Any such additional costs will be notified in writing to you as soon as possible and shall be subject to agreement between the Parties.

Validity Expiry - The prices in this offer remain valid within the validity period of our commercial offer, once this validity date has expired Weir reserves the right to amend the prices in any subsequent commercial offer. Any Order placed after the Expiry date of this commercial offer shall be subject to acceptance by Weir.

Price Variation due to Changes in the Exchange Rate - The Price(s) quoted in this offer are calculated on exchange rates based on the date of this offer and our Price(s) are subject to change in the event of any changes in the exchange rate.

Commercial Price Variation (Cost of Steel)

The price calculations of the steelwork are based on the current cost of the steel and labour per tonnes/kg for the Supply, Fabrication and Installation of the structural steelwork, chutes, liners as at the date of this commercial offer. Our current offer is based on a calculated mass of approximately 118 tonnes in total for the structural and plate materials stated within our offer. Weir reserves the right to amend the pricing for the steelwork subject to a variation in price based on changes in the material indices and changes in the mass / weight of material. The requirements for the motors will be confirmed on final analysis of the equipment requirements. Any price changes requested by Weir are subject to agreement. The weight of the steelwork has been estimated for the purposes of this commercial offer and can only be confirmed upon the completion of the detailed design.

A full set of Weir Germany Terms and Conditions are available upon request.

Feed Regulating Sump

Manufactured in mild steel and fitted with central feed box, anti-turbulence ring, supporting legs and overflow collecting trough. Complete with mm bore internal pipework to suit pump, including drain valve, gasket and all fixings.

Centrifugal Pumps

The Warman® WGR® pump has been specifically designed for use in abrasive slurry and various chemical applications and a wide choice of pump sizes makes it well suited to a broad range of slurry pumping duties.

The Warman® MU is designed to meet the requirements of the slurry, liquor and process applications, where the use of the world renowned AH® ultra-heavy duty slurry pump might not be justified, the Warman® MU medium duty slurry pump provides: abrasion resistance, simple installation and maintenance

Cyclone

Manufactured in mild steel and natural rubber lined. Fitted with an extended feed box and underflow collecting box, with pressure flange with pressure gauge and protector.

Dewatering Cyclone

Of mild steel construction and Linatex lined where required. Fitted with discharge regulator. Complete with pressure flange assembly, two pressure gauges, overflow tee with valve, overflow pipe and muff to overflow collecting tank.

Flat Bottom Classifier

Manufactured of mild steel and Linatex lined where required and fitted with a central feed box and overflow collecting trough. Complete with sensing device and air operated discharge valve, including air compressor, which will be mounted on an adjacent platform and clean water line from a position on the support structure.

Dewatering Screen

Fitted with 2 vibrating motors mounted over and under execution. Complete with urethane decks, side wear liners and suspension components.

Sieve Bend

Enduron® sieve bends can be custom designed and manufactured to fit multiple applications. For dewatering applications, the sieve bend provides a quick inexpensive method of dewatering slurries. In oversize material removal, the sieve bend can remove tramp material or provide a scalping of coarse material.

Thickener

Thickener intended for sludge treatment and sand washing complete with automatic sludge discharge system.

Separation Screen

Enduron® vibrating screens offer extremely robust design and construction. With the benefits of high efficiency, high capacity, low headroom and reduced operating and maintenance costs, these screens are ideally suited for heavy duty applications in the sand and minerals processing industries.

Product Support and Services

WEIR Minerals Services: **Performance – Reliability – Options.**

Our WEIR Minerals Service team is your trusted operating partner.

Our knowledge is built from over 140 years engineering expertise and experience. It is from this wealth of experience that our Performance, Reliability and Options (PRO) Services have been designed to ensure your operation and process equipment consistently performs at its optimal capacity.

By focusing on performance and reliability we work with you to achieve maximum productivity and efficiency for your operation, combined with flexible commercial options.

With an extensive global network and the ability to service on-site or at one of over 150 dedicated service centres, we are always there when you need us, no matter how remote your operation is.

Performance, Reliability and Options (PRO) ensure the success of your business.

Performance

Our performance-enhancing engineering services ensure that you not only receive the best in class equipment, but expert configuration and support to optimise each of your applications.

Reliability

Prevention is better than cure, and our WEIR Minerals Service team is committed to preventative and predictive maintenance. We work with you over the products' entire wear life to ensure it reliably performs to its original design and runs continually without unplanned downtime and lost productivity.

Options

As a trusted partner we understand the challenges that you face. We offer a range of flexible commercial arrangements to overcome your capital constraints, because we know we are not successful unless you are

Closing Words

At WEIR Minerals we deliver customised solutions unique to understand your working environment, capacity, product and investment scale needs.

WEIR



Quotation

OPP000071826_2

To

Dansk Kvarts Industri A/S

Project

Sand Washing Plant

BY

WEIR Minerals Germany GmbH

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Dansk Kvarts Industri A/S

Mr. Claus Hove Sørensen
Mr. Jørgen Lund
Lervejdal 14D
8740 Brædstrup
Denmark

Date: 30.04.2021

Budget Quotation OPP000071826_2 – Sand Washing Plant (100 t/h)

Dear Claus, Dear Jørgen

Please find our budget quotation for a sand washing plant.

The following offer is made on the basis of the delivery and payment conditions of Weir Minerals Germany GmbH. Please inform us in the event of variations from the requested operating conditions, which we shall amend accordingly. Our offer is based on the conveying data and system conditions you have stated.

This proposal provides a first detailed description on your requirements and it is structured as followed:

- Scope of Supply
- Technical Specifications

We hope this competitive offer will meet with your satisfaction.

We are at your disposal at all times should you have any questions. We look forward to hearing from you.

Yours sincerely

Weir Minerals Germany GmbH

Dirk Schümann / Dipl.-Ing.
Managing Director

i.A. Sebastian John / M.Sc.
Sales Engineer

WEIR Minerals Europe Locations



WEIR Minerals Overview and Standards

Feature	Benefit
Investment in Product Development	WEIR Minerals is determined to position itself as one of the foremost screen suppliers to the industry and will offer its clients both traditional as well as new technology to meet both existing and new process engineering requirements. Where possible, WEIR Minerals will work with its client's to develop a tailored solution.
Process Support	WEIR Minerals have process engineers that are able to offer process support and advice to customers and recommend the best solutions and this is further backed by dedicated Product Managers on every continent at each key office.
After Sales Service	With its investment in global infrastructure, WEIR Minerals is able to offer support both during commissioning as well as ongoing client support.
Global Resources	WEIR's international presence allows it to draw on the resources of its overseas offices and alliance companies. This knowledge is shared with its customers to help achieve their targets.
Industry Experience	WEIR Minerals, well known for its Warman pumps, Vulco Mill Liners and Cavex cyclones, has significant experience in a wide range of sectors in mineral processing which it is able to draw on to meet the requirements of its clients. It's Comminution business is backed by knowledgeable staff with extensive process experience in various industries.

Process Consideration and Comments

The process conditions to which the equipment is sized are based on your requirements and conditions as stated below and our meeting by phone.

A new sand washing plant shall be installed at the site of Dansk Kvarter Industri A/S in Brædstrup in Denmark. The new plant consists of a dewatering and a separation part. Input to the dewatering part comes directly from a new dredger (approximately 200 t/h fine sand 0-8mm + water). The dewatered sand is stored and fed by a tunnel feeder (DKI supply) to the separation part. The separation part is capable of processing sand approximately 100 tonnes per hour (t/h). There are two operation modes of the separation part. In Mode 1 only fine sand from the dredger (100t/h) is fed to the separation plant. In Mode 2 fine sand from the dredger (80 t/h) is mixed with additional coarse sand 2-16mm (20 t/h) and fed to the separation plant.

The fine sand from the dredger has the following Particle Size Distribution in average:

Size (mm)	%passing	%passing	%passing	%passing	%passing	%passing	Average %passing
8000	100	100	100	100	100	100	100
4000	100	99,6	99,9	99,9	99,5	99,5	100
2000	100	97,2	98	98,3	95,9	94,2	97
1400	100	93,8	94,8	96,1	90,7	84,5	93
1000	92,6	88,4	90,3	92,5	83,5	68,2	86
710	88,2	80,6	83,3	86,6	74,2	54	78
500	81	68,1	71,4	76,2	60,2	38,3	66
355	69,5	50,2	53,6	56,2	42,4	21,5	49
250	45,4	22,9	29	26,4	18,6	10,3	25
180	23,2	8,8	13,3	10,1	7,2	5,7	11
125	11,4	4,2	6,2	3,9	3,2	2,8	5
90	6,2	2,4	3,1	1,8	1,7	1,5	3
63	3,7	1,4	1,7	1	1	0,8	2
20	2,7	0,8	0,9	0,4	0,5	0,3	1

The average (red) is calculated based on the Particle Size Distributions (black) from the file "Boreprøver Sugeproject" from Dansand.

The coarse sand has the following Particle Size Distribution:

mm	% Pass
16	100
11.2	99
8	93
5.6	70
2	0.1

Products with the following sizes are produced

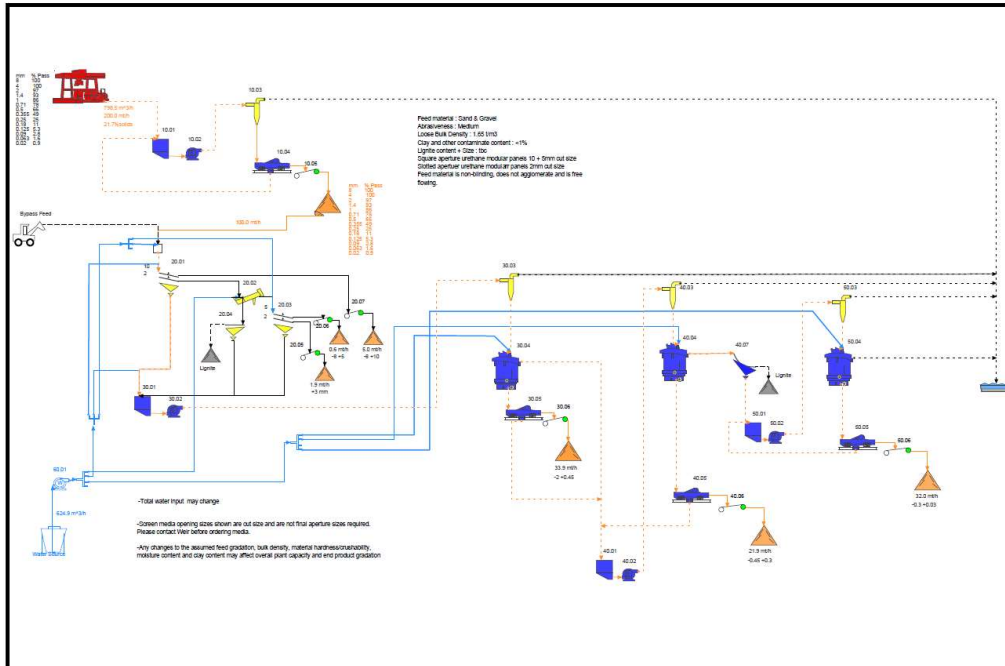
- 10/16mm
- 5.0/10mm
- 2.0/5.0mm
- 0.45/2.0mm
- 0.3/0.45mm
- 0.03/0.3mm

Lignite Removal

The deposits at Brædstrup contain Lignite; however finished products need to have a low Lignite content.

Flowsheet of proposed plant

Operation Mode 1: Feed Separation Plant: 100 t/h Fine Sand 0-8mm



Calculation results may differ due to variations in operating conditions and application of crushing and screening equipment. This information does not constitute an express or implied warranty, but shows results of calculations based on information provided by customers or equipment manufacturers. Use this information for estimating purposes only.
All calculations performed by AggFlow. <http://www.AggFlow.com>

Solutions

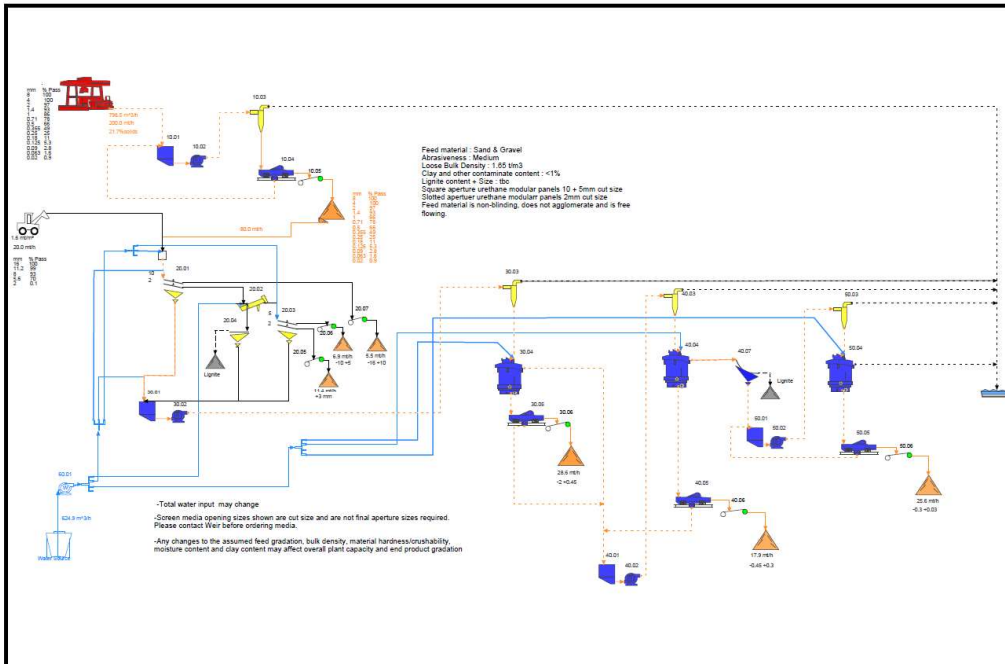
OPP00071826 DKI Dansk Kvarts Industri

settar.ozkan@mail.weir

Option 1:

Project #: 104188 Revision #: 522922 Date: 9/Apr/2021

Operation Mode 2: Feed Separation Plant: 80 t/h Fine Sand 0-8mm + 20 t/h Coarse Sand 2-16mm



Calculation results may differ due to variations in operating conditions and application of crushing and screening equipment. This information does not constitute an express or implied warranty, but shows results of calculations based on information provided by customers or equipment manufacturers. Use this information for estimating purposes only.
All calculations performed by AggFlow. <http://www.AggFlow.com>

Solutions

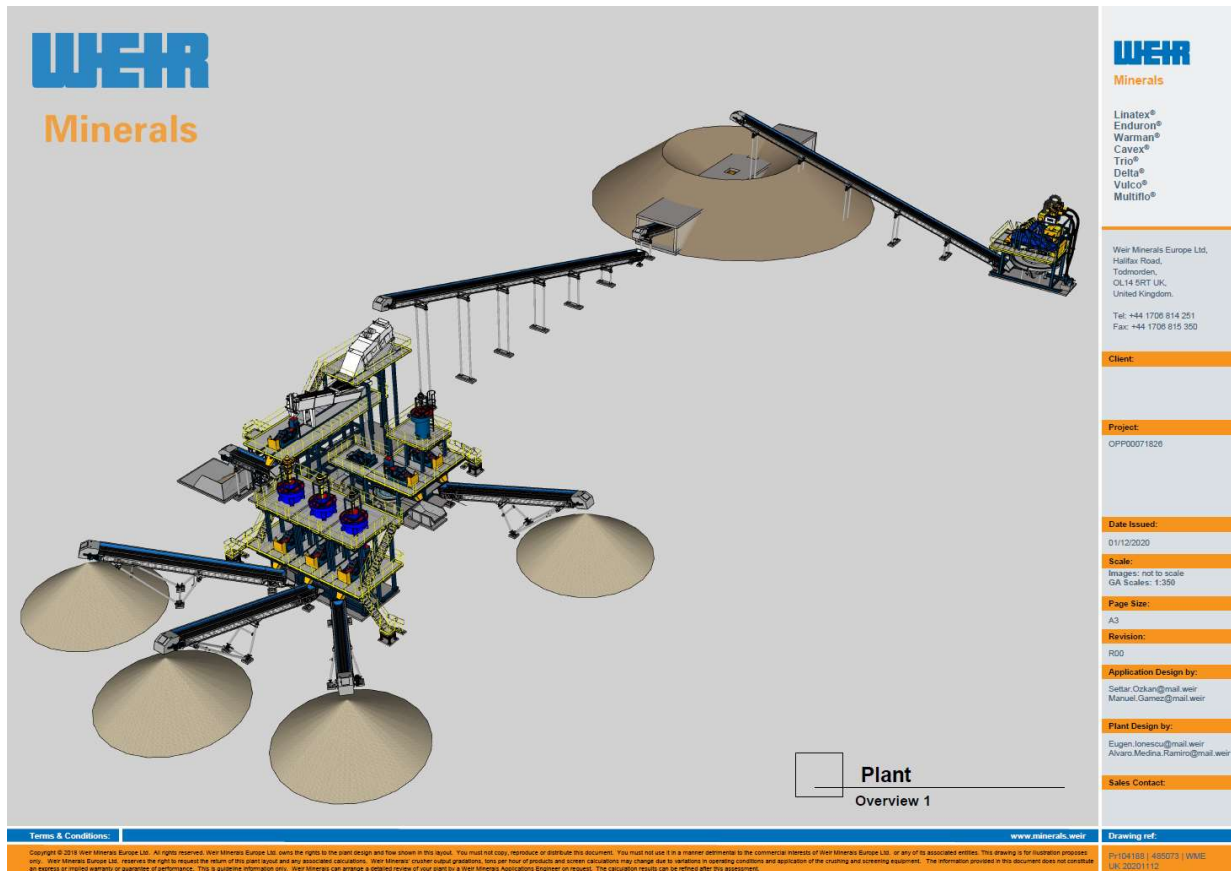
OPP00071826 DKI Dansk Kvarts Industri

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Option 1: Page #2

Project #: 104188 Revision #: 522922 Date: 9/Apr/2021

Proposed 3D layout



The 3D Layout shows the first version of the quotation OPP000071826 from 26th January 2021. The 3D Layout will be similar for the current version. Adjustment on request to the current version.

Scope of Supply

Equipment

Eq No.	Qty	Supplier	Machine Model	Machine
10.HP.01	1	Linatex	Ø 4572 mm	Feed Regulating Sump
10.CP.02	1	Warman	250 WGR	Centrifugal Pump
10.CYC.03	2	Weir	650CVX	Hydrocyclone
10.DW.04	1	Enduron	VD24	Dewatering Screen
20.SC.01	1	Trio	TIO6202	Screen
20.SW.02	1	Trio	TSW3625	Screw Classifier
20.SC.03	1	Trio	TIK4102	Screen
20.SC.04	1	Enduron	VE06	Trash Screen Screen
20.BC.05	1			Belt Conveyor 2/5mm
20.BC.06	1			Belt Conveyor 5/10mm
20.BC.07	1			Belt Conveyor 10/16mm
30.HP.01	1	Linatex	Ø 2400 mm	Feed Regulating Sump
30.CP.02	1	Warman	150 WGR	Centrifugal Pump
30.CYC.03	1	Weir	500CVX10	Hydrocyclone
30.FB.04	1	Linatex	FB 2.4	Flat Bottom Classifier
30.DW.05	1	Enduron	VD06	Dewatering Screen
30.BC.06	1			Belt Conveyor 2/0.45mm
40.HP.01	1	Linatex	Ø 2400 mm	Feed Regulating Sump
40.CP.02	1	Warman	150 WGR	Centrifugal Pump
40.CYC.03	1	Weir	500CVX18	Hydrocyclone
40.FB.04	1	Linatex	FB 2.0	Flat Bottom Classifier
40.DW.05	1	Enduron	VD06	Dewatering Screen
40.BC.06	1			Belt Conveyor 0.3/0.45mm
40.SB.07	1	Weir	4860	Sieve Bend
50.HP.01	1	Linatex	Ø 1800 mm	Feed Regulating Sump
50.CP.02	1	Warman	100 WGR	Centrifugal Pump
50.CYC.03	1	Weir	400CVX10	Hydrocyclone
50.FB.04	1	Linatex	FB 2.4	Flat Bottom Classifier
50.DW.05	1	Enduron	VD06	Dewatering Screen
50.BC.06	1			Belt Conveyor 0.03/0.3mm

- The proposed plant will comply with all EU specifications for Plant and machinery.
- The proposed sand plant will be PLC controlled and have SCADA links for Quarry Management monitoring.
- The PLC control system will be of an Industry Standard.
- Specifications - DKI to provide specification details upon order award and Weir Minerals Acceptance

Steel work and Installation

Supply and Install all steelwork and equipment.

This includes CE marking the structure and CDM

Our suppliers will include the following.

Works to Include:

- Supply of full GA drawings for customer approval (working alongside Weir design team) – two design changes allowed
- Supply of full fabrication drawings.
- Fabrication (at our suppliers' premises) of all structural steelwork/pipework/chute works/access etc. following BS EN 1090 accreditation.
- Delivery of all steelwork / materials to site.
- Finish Steelwork
 - All Structural Steel Material, Collection, Feed and Discharge Boxes / Chutes to be fabricated with the grade of SJ235 or equivalent
 - No Anti-Abrasion Liners considered
 - Nuts and Bolts to be supplied with the grade of 8.8
 - Collection, Feed and Discharge Boxes / Chutes to have lifting lugs
 - Steel Design: Eurocode 3
 - Seismic Design: Eurocode 8
 - Impose Load Assumptions: 300 kgf/m² for Top Level and 500 kgf/m² for Intermediate Levels
 - Seismic Load Assumptions: PGA= 0.1 g / Soil Type E Assumed for Worst Case
 - Grate Weight: 50 kgf/m²
 - Platforms, Handrails & Ladders
 - 4/6 chequered plates welded to the frame: this is only painted
 - Walkways on the platforms measure approximately 650 mm where handrails are located, but certain walkways past various pieces of equipment (motors etc.) may be reduced to a minimum of 400 mm

- Coating
 - All steelwork to be galvanized (hot dip galvanized min. 120 microns) where applicable, otherwise Class 4 Coating to be applied
 - Collection, Feed and Discharge Boxes / Chutes Chute and Boxes to be Class 4 Coating
- Issue to site a full CDM works file containing
 - Company policies/procedures + insurances
 - Fitters competencies
 - Full works RAMs
- Site works to Include:
 - All cost for Employee at site (Wage, Accommodation, Travelling Cost, Daily Expenses)
 - Perimeter Fencing
 - Equipment hire (crane)
 - Diesel, Fuel and Lubricants
 - Site transportation (max. 100m)
 - Small tools and consumables
 - Site establishments:
 - Welfare Cabin
 - Supervisors Cabin
 - Communication facilities incl. phone
 - Office sundries incl. printing
 - Toilet

Conveyors

- Belt Width: 3 off 450 mm and 3 off 600 mm (to be confirmed)
- Belt Length: 3 off 12m and 3 off 16m (to be confirmed)
- Slope: 18°
- Speed: 1.4 m/s

Belt

- Rubber with textile body EP400/3 G or - resistant to oils and greases.

Carry and Return Idlers

- Carry and return idlers with protection of nip points
- Carry idlers with 35° trough angle for widths
- Spacing of idlers:
 - Carry: 1 meter
 - Return: 3 meters

Drive and Tail Pulley

- Drive pulley to be lagged with 10 mm thickness rubber coating

Drive

- Usually located at the head, may be right or left hand mounted
- "WEG" or equivalent geared motor with helical-bevel gear motors with backstop, coupled directly in the motor pulley and anti-shift system
- "NORD" or equivalent reducer
- Housings with FAG or equivalent bearings
- Installed power is calculated according to capacity, inclination, and speed.

Components

- Primary & Secondary Belt Scrapers
- Plough Cleaners
- Protection of Nip Points
- Corded safety switches
- Belt misalignment switches

Trusses

- U profile as to be modular

Electricals

- MCC Panel and its equipment
- Automation Panel
- PLC and its equipment
- Control System
- Two off 11" HMI Panels
- PLC Licences
- SCADA and Its Equipment (Siemens SCADA, 1 x Computer, 2 x 21" LCD Monitor, 1 x Printer, 1 x Communication Module, 1 x Keyboard and 1 x Mouse)
- 1 piece 5.0 x 7.0m and 1 piece 3.0 x 7.0m containers
- Instruments (Speed Monitors, Corded Safety Switches, Belt Misalignment Switches, Position Inductive Switches, Light Indicated Sirens, Traffic Light for trucks)
- Cables, Control Cables and Cable Trays
- Conduits and Pipes
- Lightning
- Earthing (Earthing Strips, Copper Bars, Plates, Bare Wires)

The system has been designed to be fed by transformer station. If the system to be fed by another source such as an electrical generator, there will be a change in equipment supply and quoted separately.

MCC Panel

- Panels will be designed as including %15 percent of space.
- All materials for switching in panel trademark are ABB or equivalent
- MCC panel will be produced according to the technical specification and the motor and control list.
- Panels protection class will be IP54.
- Panels will be made of 2 mm galvanized sheet.
- Panels will be painted with electro-statical method paint.
- Panels will be guaranteed against corrosion.
- Panels will be controlled with thermostat control, when panels inside temperature increased to the set value, cooling fans will work automatically and will cool the system.

- There will be a panel lighting system inside of panel.
- All outputs which is given appendix according to single line diagram of panel will be offered
- Trademarks of the cables which will be used in plant will be one of these; HES.
- There will be an isolation transformer which controls panels control system.
- In the panel control system, there will be a 220V feed unit. And there will be a leak current protection system. Panels covers will be earthed with stranded copper.

Control Panel

- Flow diagram of system will be stay on the cover of control panel.
- There is an emergency button on control panel cover that all system work will be stop
- There is a Selector switch for the selection of the system will be operating mechanism. (Manual, interlock, auto).
- Current of all system will appear on the control panel
- Voltage of all system will appear on the control panel
- Current of all high-power motors will appear separately on the control panel
- Fault notification shall be in the form of sound and light
- Control panel top cover will be controlled on-off damper assembly
- Ways of working with the light on the control panel shall be notified separately.

PLC System

- Proper dimensions will be used as an PLC panel.
- CPU which is placed in the center will be Siemens or ABB. The model would be defined based on the IO quantities.
- All system will be managed with PLC
- All operation and fault information via the PLC phrases can be taken as information.
- PLC software will be given by us in the form of a CD recording Digital Inputs 24V DC - Digital outputs are 220V-AC - 24V DC - Analogue Inputs 4-20mA / / 0-10V DC.

Operator Panel

- There will be an operator panel on control panel.
- Operator panel trademark will be Siemens or equivalent.
- Operator Panel will be touch screen system.
- Operator panels screen size will be 11".
- System flow chart can be seen on Operator Panel.
- Whole thermic, speed monitor, pull-cord and situation notice breakdown will be shown as scrolling text on Operator Panel.
- Systems work order and work time settings can be done on Operator Panel.
- Systems suspension order and suspension time settings can be done on Operator Panel.
- Last 100 breakdowns will be seen on Operator Panel.
- Operator Panel Software will be given to you as CD record.
- Breakdown notice reports can be printed with a printer.

Exclusions

- Civil works:
 - Civil works are excluded from our offer
 - Foundation Bolts and Templates
- Tunnel Feeder
- Conveyor 10.05 in the flowsheet after the dewatering plant to the tunnel feeder
- Conveyor from tunnel feeder to separation plant
- Fresh Water Pump 60.01
- Documents for plant approval with local authorities
- Risk Assessment and CE Certification of the whole plant

Commercial Offer

Our offer for the Supply, Fabrication, Delivery, Installation and Commissioning of equipment as described in our offer is as follows

Total cost for turnkey solution

€ 2 929 000

Two Million, Nine Hundred Twenty-Nine Thousand Euros (EUR)

The total cost of the turnkey solution consists of the following items:

Dewatering Plant + Supervision for Installation and Commissioning	€ 312 000
Separation Plant + Supervision for Installation and Commissioning	€ 1 771 000
Electrics	€ 276 000
Mechanical and Electrical Installation + Commissioning Dewatering + Separation Plant	€ 451 000
Conveyors	€ 119 000

Options:

**Additional cost for Jig instead of Screw Classifier
in Separation Plant** **€ 146 000**
Type: Alljig - Allmineral

Proposed Terms of Payment and Delivery	
Incoterms	DDP Brædstrup
Payment Terms	10% on receipt of order 10% on design approval 25% on order of equipment 25% on delivery of equipment & steelwork to site 25% on erection of steelwork & equipment 5% on commissioning
Quotation Validity	NA
Delivery time	To be agreed

Terms and Conditions

Contract Liability – This shall be capped at the Contract Price of the Invoiced Goods and shall not in any case exceed the total Contract Price.

Indemnities (if applicable) – Shall be subject to an acceptable capped value agreed prior to any contract award.

Liquidated Damages (if applicable) – Shall be capped at a maximum of 5.0% of the Contract value unless otherwise agreed in writing.

Intellectual Property Rights – Weir shall own all its existing IP Rights and any new IP created as a result of a Contract shall be owned by Weir unless otherwise agreed in writing.

Warranty – Weir's standard warranty is 12 months from Commissioning or 18 Months from Delivery. Extended Warranties are available subject to a separate quotation.

Payment Terms – Weirs standard Payment terms are 30 days unless otherwise agreed

Payment Milestones – The Payment Milestones quoted in this offer are not subject to change unless otherwise agreed in writing.

Delivery Date(s) – The Delivery Date(s) and or Lead Times quoted in this Commercial Offer are calculated from the programme start date, being the date of Contract / Order Acceptance signed by Weir. The Delivery Date(s) and or Lead Times will also be subject to the Client's Approval of the General Arrangement and Layout Design drawings as appropriate.

Possible Regulatory and Customs duties Price Increase as a result of the UK Leaving the European Union - Weir reserves the right to amend the prices as quoted in this Commercial Offer, subject to any additional regulatory and customs costs which were unknown as at the date of this Offer and thereafter become known and are due and payable by Weir as a direct result of the UK Government's decision to leave the European Union. Any such additional costs will be notified in writing to you as soon as possible and shall be subject to agreement between the Parties.

Validity Expiry (applicable to firm prices) - The prices in this offer remain valid within the validity period of our commercial offer, once this validity date has expired Weir reserves the right to amend the prices in any subsequent commercial offer. Any Order placed after the Expiry date of this commercial offer shall be subject to acceptance by Weir.

Price Variation due to Changes in the Exchange Rate - The Price(s) quoted in this offer are calculated on exchange rates based on the date of this offer and our Price(s) are subject to change in the event of any changes in the exchange rate.

Commercial Price Variation (Cost of Steel)

The price calculations of the steelwork are based on the current cost of the steel and labour per tonnes/kg for the Supply, Fabrication and Installation of the structural steelwork, chutes, liners as at the date of this commercial offer. Our current offer is based on a calculated mass of approximately 95 tonnes in total for the structural and plate materials stated within our offer. Weir reserves the right to amend the pricing for the steelwork subject to a variation in price based on changes in the material indices and changes in the mass / weight of material. The requirements for the motors will be confirmed on final analysis of the equipment requirements. Any price changes requested by Weir are subject to agreement. The weight of the steelwork has been estimated for the purposes of this commercial offer and can only be confirmed upon the completion of the detailed design.

Feed Regulating Sump

Manufactured in mild steel and fitted with central feed box, anti-turbulence ring, supporting legs and overflow collecting trough. Complete with mm bore internal pipework to suit pump, including drain valve, gasket and all fixings.

Centrifugal Pumps

The Warman® WGR® rubber lined slurry pumps are designed for various abrasive and corrosive slurry applications and ideally suited in sand and aggregate applications. The range is available with extensive selection of pump sizes making it well suited for a broad range of slurry pump duties. Unique hydraulic design together with Linatex® premium rubber provide long wear life and reliable pump operation. Improved safety feature and simple design provides easy maintenance.

Hydrocyclone

The Cavex® hydrocyclone with robust housing lined with duty appropriate rubber is designed to provide exceptional performance together with strength and corrosion resistance. With sizes from 40mm to 1200mm in diameter.

Flat Bottom Classifier

Manufactured of mild steel and Linatex lined where required and fitted with a central feed box and overflow collecting trough. Complete with sensing device and air operated discharge valve, including air compressor, which will be mounted on an adjacent platform and clean water line from a position on the support structure.

Dewatering Screen

The Enduron® dewatering screens incorporate a sloping back deck section, fitted with slotted aperture panels. Slurry is fed uniformly along the top of this back section, which acts as a vibration drainage panel. The screen deck slopes upward at 3-5° to improve the dewatering result.

Separation Screen

Trio® TIH series screens are grease lubricated, have a feed acceptance size of up to 200mm (8") and are available in 1, 2 and 3-deck configurations for wet and dry standard duty applications. Standard features include: Huck-bolted construction for structural integrity, coil springs and spring bases, rubber side snubbers to prevent surge motion, side tensioned clamp rails, lined feed box, discharge lips, V-belt drive, flywheel guard and pivoting Rosta motor mount. Screen Support decks can be supplied to accommodate a wide variety of media types including woven wire mesh, urethane, rubber mats, and self-cleaning mesh.

The Trio® TIO series screens range are designed for continuous operation in the most demanding wet and dry applications. TIO screens are available in 2, 3 and 4 deck configurations with a feed acceptance size up to 200mm (8"). Screen support decks can be supplied to accommodate all media types including woven wire mesh, urethane, rubber mats, self-cleaning mesh and punch plate. These screens are oil lubricated and the operating angles can vary from 15 to 20 degrees depending on the velocity required for stratification.

Screw Classifier / Fine Washers

Trio® TSW fine sand washers utilize hydraulic separation with water as the medium to clean and classify sand particles by weight. Larger particles weight more, sink and are collected in the bottom of the trough. The sand particles are transported to the inclined discharge end by a double pitched steel spiral shaft with replaceable cast wear shoes. The smaller lighter unwanted particles are floated to the surface of the claim settling pool and are discharged over the weirs. Dewatering occurs as the spiral shaft transports the settled sand up the incline of the trough and is discharged.

Product Support and Services

WEIR Minerals Services: **Performance – Reliability – Options.**

Our WEIR Minerals Service team is your trusted operating partner.

Our knowledge is built from over 140 years engineering expertise and experience. It is from this wealth of experience that our Performance, Reliability and Options (PRO) Services have been designed to ensure your operation and process equipment consistently performs at its optimal capacity.

By focusing on performance and reliability we work with you to achieve maximum productivity and efficiency for your operation, combined with flexible commercial options.

With an extensive global network and the ability to service on-site or at one of over 150 dedicated service centres, we are always there when you need us, no matter how remote your operation is.

Performance, Reliability and Options (PRO) ensure the success of your business.

Performance

Our performance-enhancing engineering services ensure that you not only receive the best in class equipment, but expert configuration and support to optimise each of your applications.

Reliability

Prevention is better than cure, and our WEIR Minerals Service team is committed to preventative and predictive maintenance. We work with you over the products' entire wear life to ensure it reliably performs to its original design and runs continually without unplanned downtime and lost productivity.

Options

As a trusted partner we understand the challenges that you face. We offer a range of flexible commercial arrangements to overcome your capital constraints, because we know we are not successful unless you are

Closing Words

At WEIR Minerals we deliver customised solutions unique to understand your working environment, capacity, product and investment scale needs.

18. juni 2021

Dansand A/S
Att.: adm. dir. Thomas Steen Hansen
Lervejdal 8b, Addit
8740 Brædstrup

Leverance af danske råvarer

Kære Thomas

I forbindelse med den opståede usikkerhed om jeres fremadrettede leverancer af danske råvarer, føler vi os kaldet til at påpege vigtigheden af sammenhæng mellem sourcing og produktion for os.

Saint-Gobain er en global koncern med produktion i det meste af verden. Af økonomiske såvel som miljømæssige årsager er det derfor afgørende for koncernen at undgå unødigt fragt af råvarer og/eller færdige materialer mellem lande.

Det betyder, at en evt. omlægning af råvareudvinding til et andet land vil tvinge os til, enten at skulle skifte til en anden dansk leverandør, der kan levere på lignende vilkår – hvilket formodentlig ikke er muligt – eller mere sandsynligt, at skulle omlægge produktionen helt eller delvist fra Danmark til en af vores søstervirksomheder i det pågældende eller i et nærliggende land.

Sidstnævnte vil medføre en konkret risiko for, at vores produktion i Galten og dermed i omegnen af 12-15 lokale arbejdspladser på sigt må nedjusteres eller nedlægges.

Vi håber derfor, at I finder en løsning her i landet, så vi fortsat kan samarbejde om at levere danskproducerede produkter med lokal oprindelse til det danske marked – til gavn for miljøet og for lokale arbejdspladser.

Med venlig hilsen
Saint-Gobain Weber


Klavs Eske
Managing Director

Margit Madsen

Fra: Peter Svensen - Dansand A/S <psv@dansand.dk>
Sendt: 17. juni 2021 13:52
Til: Thomas Steen Hansen - Dansand A/S
Emne: Fwd: Gode kunde og samarbejdspartner - A. Højfeldt

Sendt fra min Nokia Mobira Senator
Med venlig hilsen
Peter Svensen
Dansand A/S
PSV@DANSAND.DK

Start på videresendt besked:

Fra: Ole Maarbjerg Kristensen <omk@a-hoejfeldt.dk>
Dato: 17. juni 2021 kl. 13.43.42 CEST
Til: Peter Svensen - Dansand A/S <psv@dansand.dk>
Cc: Asbjørn Højfeldt <ah@a-hoejfeldt.dk>
Emne: **SV: Gode kunde og samarbejdspartner**

Hej Peter

Hermed svar på det fremsendte skriv

- Først og fremmest er vi kede af at høre, at en af vores nære leverandører og samarbejdspartnere, er i problemer i forhold til deres fremtidige drift.
- Det virker jo helt ubegribeligt at i ikke kan få lov til at fortsætte med at bearbejde jeres råstoffer, der hvor de ligger, nemlig lige under fødderne hos jer.
- Og i disse tider hvor alle, med god grund, tænker på miljø og klima, virker det da tåbeligt at fragte så store mængder råstoffer til Addit, om det så er fra DK eller udlandet, min lille udregning siger vel 50-70 lastvogns træk pr dag!
- Sidst men ikke mindst, vil dette selvfølgelig også få en stor økonomisk konsekvens for os. Denne udgift vil vi naturligvis skulle "sende" videre til vores kunder, som er vandværkerne i Danmark, Så regningen for dette vil ende hos slutbrugeren!
- På den længere bane, er vore klare vurdering at dette kan koste omsætning, og derved arbejdspladser i vores koncern.

Med venlig hilsen
Ole Maarbjerg Kristensen



BRØNDBORING OG TOTALLØSNINGER TIL VANDVÆRKER OG INDUSTRI

omk@a-hoejfeldt.dk
M +45 2249 9884

Mads Eg Damgaards Vej 52
DK-7400 Herning

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Fra: Peter Svensen - Dansand A/S [mailto:psv@dansand.dk]

Sendt: 17. juni 2021 09:10

Til: Ole Maarbjerg Kristensen <omk@a-hoejfeldt.dk>

Emne: VS: Gode kunde og samarbejdspartner

Fra: Peter Svensen - Dansand A/S

Sendt: 16. juni 2021 15:47

Til: Asbjørn Højfeldt <ah@a-hoejfeldt.dk>

Emne: Gode kunde og samarbejdspartner

Hej Asbjørn.

Vi har brug for din hjælp med Regionen.

Jeg håber du vil hjælpe, men jeg ringer lige til dig i morgen.

Mvh Svensen

Fra: Peter Svensen - Dansand A/S

Sendt: 16. juni 2021 14:48

Til: 'Thomas Steen Hansen - Dansand A/S' <tsh@dansand.dk>

Emne: Gode kunde og samarbejdspartner

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Margit Madsen

Fra: Peter Svensen - Dansand A/S <psv@dansand.dk>
Sendt: 17. juni 2021 08:59
Til: Thomas Steen Hansen - Dansand A/S; Poul Konrad Beck - Dansand A/S;
chs@kvarts.dk
Emne: VS: Gode kunde og samarbejdspartner - Birn

Fra: Jens Axel Birn <jab@birn.dk>
Sendt: 17. juni 2021 08:56
Til: Peter Svensen - Dansand A/S <psv@dansand.dk>
Cc: Jørgen Johansen <jj@birn.dk>
Emne: SV: Gode kunde og samarbejdspartner

Kære Peter Svensen

Tak for din opfordring til støtte af jeres omkring tilladelse til udvinding af sand.

Vald. Birn A/S anvender ca 6000 ton sand om året fra Dansand og sandet er en vital del i, at kunne gennemføre produktionen.

Hvis sandet skal transportes over længere stræk, vil det udover klimabelastningen betyde en øget transport omkostning for vores virksomhed, som i forvejen er stærkt konkurrence udsat.

Vi henstiller til at Regionsrådet giver tilladelse til udvinding, så Dansand kan sikre leverancer til Vald. Birn A/S og mindske klimabelastningen.

Med venlig hilsen / Best Regards / Mit Freundlichen Grüßen,

Jens Axel Birn
DIRECTOR

MOBILE +45 61 63 15 20
DIRECT +45 99 10 21 20
PHONE +45 99 10 20 30
MAIL jab@birn.dk



WEB • WWW.BIRN.COM

VALD. BIRN A/S • FRØJKVEJ 75, DK 7500 HOLSTEBRO • DENMARK

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Fra: Jørgen Johansen <jj@birn.dk>

Sendt: 16. juni 2021 16:05

Til: Jens Axel Birn <jab@birn.dk>

Cc: Peter Frost Jepsen <pfj@birn.dk>

Emne: VS: Gode kunde og samarbejdspartner

Hej Jens

Som tidligere nævnt i dag. Her brev fra Dansand hvor de beder om vores støtte og opbagning for at påvirke beslutningstagerne hos Regionalrådets medlemmer.

Med venlig hilsen / Best Regards / Mit Freundlichen Grüßen,

Jørgen Johansen

PURCHASING MANAGER

MOBILE +45 30 16 01 57

DIRECT +45 99 10 20 57

PHONE +45 99 10 20 30

MAIL jj@birn.dk



WEB • WWW.BIRN.COM

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Fra: Peter Svensen - Dansand A/S <psv@dansand.dk>

Sendt: 16. juni 2021 15:46

Til: Jørgen Johansen <jj@birn.dk>

Emne: Gode kunde og samarbejdspartner

Hej Jørgen.

Tak for snakken og tilsagn om hjælp.

Det sætter vi stor pris på.

Jeg ringer lige til dig i morgen.

Med venlig hilsen | Mit freundlichen Grüßen | Best regards

Peter Svensen

Mobil: +45 23 22 72 58

Mail: psv@dansand.dk



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Margit Madsen

Fra: Claus Hove Sørensen <chs@kvarts.dk>
Sendt: 17. juni 2021 08:57
Til: Poul Konrad Beck - Dansand A/S; Peter Svensen - Dansand A/S; Thomas Steen Hansen - Dansand A/S
Emne: VS: Hjælp til Råstofplan 2020 - Marlon
Vedhæftede filer: image001.jpg

Hej Dansand

Retur svar fra Marlon

Med venlig hilsen / Best regards



Dansk Kvarts Industri A/S

Claus Hove Sørensen
Fabrikant / CEO

Lervejdal 14D, Addit
DK-8740 Brædstrup
Tlf. +45 8652 0700
CVR. 17475800
www.kvarts.dk

Fra: Martin Ladegaard <mlla@marlon.dk>
Sendt: 17. juni 2021 08:37
Til: Claus Hove Sørensen <chs@kvarts.dk>
Emne: VS: Hjælp til Råstofplan 2020

Hej Claus,

Jeg har læst din mail og udsættelsen med yderlig 4 år er mig uforståeligt. Marlon har lige netop valgt at placere deres fabrik tæt på råstofområdet, unødigt transport er dyrt og miljøbelastende og for at være konkurrence dygtig overfor udlandske produkter var Brædstrup en oplagt lokation da vi var tæt på kvartssand som er hovedingrediensen i en mørtel - forsyningssikkerheden er særdeles vigtig for en mørtelproduktion. Manglende resurser af råstoffer vil være det samme som at sige farvel til produktion og arbejdspladser i Brædstrup.

Med venlig hilsen / Best regards

Martin Ladegaard

+45 4078 4302 | mlla@marlon.dk



Virkelyst 20, 8740 Brædstrup
Tlf: +45 7575 4300 | marlon.dk

A solid solution



Den 16. jun. 2021 kl. 16.14 skrev Claus Hove Sørensen <chs@kvarts.dk>:

Hej Martin

Først og fremmest vil vi beklage at måtte bede om jeres hjælp på denne måde. Det er for os meget uvant.

Regionsrådet i RegionMidt skal på onsdag den 23/6 vedtage Råstofplanen 2020.

Regionen er forpligtiget til at sørge for at der er tilgængelige råstoffer til råstofvirksomheder, som Dansand og Dansk Kvarts Industri, så virksomhederne kan servicere de mange vigtige erhverv der forbruger dansk kvartssand.

I Råstofplanen 2020 er et råstofområde kaldet Addit Syd. Arealet ligger grænsende lige op til vore eksisterende sandgrave, og hvor vore to fabrikker ligger. Fabrikker med en samlet investering på op mod 300 mio.

Her er det meningen at Dansand og Dansk Kvarts Industri de næste 40 år skal kunne indvinde kvartssand bl.a. til jeres virksomhed, jeres produkter og i sidste ende jeres kunder.

Indvindingen er planlagt til at skulle foregå såvel ved tørgravning som nu, men også med en suger der indvinder ned til ca. 20 meter under vand for kunne udnytte kvartssandet bedst og tættest muligt på forarbejdningsstederne.

Dansand og Dansk Kvarts Industri har siden starten af 2018 ved købet af de ca. 63 Ha, arbejdet på, og er af Regionen blevet stillet i udsigt, at der kunne ansøges om en gravetilladelse her i 2021. Lige nu er der fra vor side forslag om ca. 24 ha. i Råstofplanen 2020.

Nu er det imidlertid kommet det til at Regionsrådet bl.a. på grund af lokale protester fra en dygtig Facebook-gruppe, overvejer at skubbe beslutningen om at området skal i regionalt graveområde med 4 år. Den lokale Facebook-gruppe mener at det årlige forbrug på ca. 500.000 tons sand, blot kan graves et andet sted og tilkøres med ca. 13.200 lastbiler årligt.

Enten fra andre små forekomster rundt i Jylland eller med biler a ca. 24 tons fra f.eks. Polen eller Tyskland.

En uhørt økonomisk og miljømæssig belastning.

Dette vil ikke kun for Dansand og Dansk Kvarts Industri få en stor negativ betydning, men absolut også for jer som kunder få store konsekvenser.

Helt undtagelsesvist må vi derfor bede om jeres meget korte beskrivelse af de konsekvenser det vil få for jeres virksomhed

mht. f.eks. fortsat forsyningssikkerhed af kvartssand, økonomi, beskæftigelse i virksomheden mv. som kan understøtte vores projekt.

Dette sammen med jeres underskrift vil vi kunne bruge i vores videre argumentation over for Regionsrådets medlemmer.

Tiden er meget knap, og vi beder om at I hjælper os med det samme ved at svare på en returmail. På forhånd mange tak for hjælpen.

Med venlig hilsen / Best regards

<image001.jpg>

Dansk Kvarts Industri A/S

Claus Hove Sørensen

Fabrikant / CEO

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DK-8740 Brædstrup

Tlf. +45 8652 0700

CVR. 17475800

www.kvarts.dk

Margit Madsen

Fra: Lars Ernst
Sendt: 22. juni 2021 11:04
Til: Leon Hiitola Iversen
Cc: Kirstine Skov Nielsen
Emne: VS: Aalborg Portland udtalelse vedr. råstofgraveområdet Addit Syd

Tillæg til den første mail de sendte.

Med venlig hilsen

Lars G. Ernst

Cand. Scient, Geologi

E-mail: lars.ernst@ru.rm.dk

Tel. 784 11940

Klima, Ressourcer og Grøn Omstilling - Teamleder Råstof • Region Midtjylland

Skottenborg 26 • DK-8800 Viborg

Fra: Thomas Steen Hansen - Dansand A/S <tsh@dansand.dk>

Sendt: 21. juni 2021 10:00

Til: Lars Ernst <Lars.Ernst@RU.RM.DK>

Cc: Anders Kühnau <kuhnau@rr.rm.dk>; Morten Pedersen Flæng <Morten.Flaeng@rr.rm.dk>; Henrik Gottlieb Hansen <Henrik.Hansen@rr.rm.dk>; Peter Møller Andersen <Peter.Moller.Andersen@rr.rm.dk>; Hanne Roed <Hanne.Roed@rr.rm.dk>; Nicolaj Bang <Nicolaj.Bang@rr.rm.dk>; Jacob Klærke <Jacob.Klaerke@rr.rm.dk>; Jakob Ulrich Rixen <Jakob.Rixen@rr.rm.dk>; Marianne Karlsmose Nielsen <Marianne.Karlsmose@rr.rm.dk>; Lone Vase Langballe <lone.langballe@rr.rm.dk>; Steen Bagger Thomsen <Steen.Thomsen@rr.rm.dk>; Carsten Kissmeyer <Carsten.Kissmeyer@rr.rm.dk>; Dorte West <Dorte.West@rr.rm.dk>; Else Kayser Nielsen <Else.Kayser@rr.rm.dk>; Rasmus Foged <Rasmus.Foged@rr.rm.dk>; Peter Sørensen <Borgmester@horsens.dk>

Emne: Aalborg Portland udtalelse vedr. råstofgraveområdet Addit Syd

Kære Lars Ernst

I tillæg til min e-mail af den 20.6.2001 fremsender jeg hermed en udtalelse fra Dansands kunde og samarbejdspartner Aalborg Portland. Se venligst nedenstående.

Med venlig hilsen | Mit freundlichen Grüßen | Best regards

Thomas Steen Hansen

CEO / Managing Director

Mobile: +45 23 47 49 28

Tel.: +45 86 82 58 11

E-mail: tsh@dansand.dk

Dansand A/S • Lervejdal 8b • DK-8740 Brædstrup • www.dansand.dk

Fra: Thomas Uhd <Thomas.Uhd@aalborgportland.com>

Sendt: 21. juni 2021 09:51

Til: Karsten DeRosche Beierholm <karsten.beierholm@aalborgportland.com>

Cc: Peter Svensen - Dansand A/S <psv@dansand.dk>

Emne: RE: Gode kunde og samarbejdspartner

Hej Karsten og Peter

Her revideret skriv. Peter: Sig endelig til, hvis vi skal gøre mere. Jeg er også i dialog med DI.

Aalborg Portland producerer en særlig holdbar cement til infrastrukturprojekter. Vejdirektoratet anbefaler kun at bruge den cementtype til infrastrukturprojekter. Denne cement er produceret af en bestemt type sand med lavt alkali-indhold, som i Danmark kun kan leves af DanSand. Aalborg Portland bruger årligt 10.000 tons af denne sandtype. Til Femern vil den mængde stige til 60.000 tons. Alternativet er import af denne type sand, hvilket vil betyde 20-30% højere omkostninger og 250 lastbiler årligt på motorvejene fra importlandet (1.500 lastbiler mens Femern bliver bygget). Import vil altså både gøre danske infrastrukturprojekter dyrere og belaste både det danske og europæiske vejnet med et betragteligt stort antal lastbiler, som ikke blot skal køre 150 km fra DanSand i Brædstrup til Aalborg Portland.

Bedste hilsner/Best regards

Thomas Uhd

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