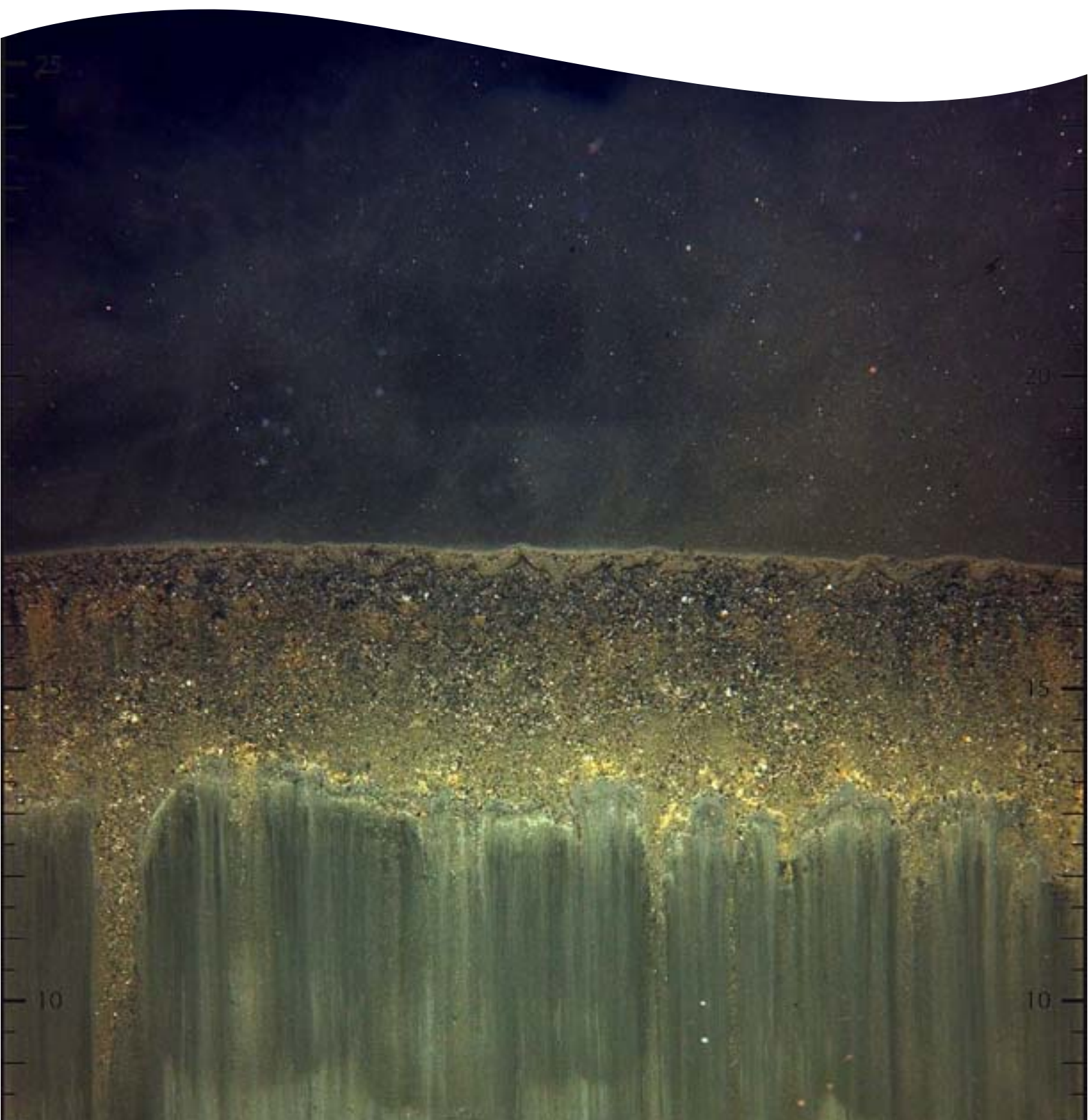


Undersøkelse av tildekking av dypvannsdeponiet ved Malmøy- kalven med Sedimentprofilkamera



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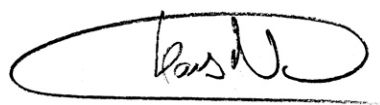
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Tittel Undersøkelse av tildekking av dypvannsdeponiet ved Malmøykalven med Sedimentprofilkamera	Løpenr. (for bestilling) 5775-2009	Dato 31-03-2009
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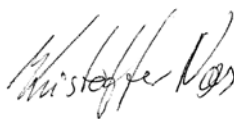
Oppdragsgiver(e) Norges Geotekniske Institutt (NGI)	Oppdragsreferanse Arne Pettersen og Espen Eek
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Sammendrag Denne undersøkelsen er en del av det kontrollprogrammet som gjennomføres for å verifisere utleggingen av det første laget av tildekkingsmasser i deponiområdet ved Malmøykalven. Feltarbeidet ble gjennomført mellom 7. og 9. januar 2009 fra FF 'Trygve Braarud' med hjelp av et sedimentprofil-kamera (SPI). SPI-bildene i denne undersøkelsen ble analysert for penetrasjonsdyp, ujevnheter, nedsynking av dekkmasser, dekklagets tykkelse og eventuelle observasjoner av organismer. Av totalt 97 analyserte bilder ble 75 stasjoner klassifisert som tildekket. 55 stasjoner hadde ≥ 3 cm sand og 20 stasjoner var tildekket med 0,9-2,9 cm sand. Ved 3 stasjoner ble det observert tildekkingsmateriale i hele penetrasjonsdypet og det kan derfor ikke utelukkes at dekklaget på disse stasjonene er tykkere enn angitt i rapporten. Ved 13 stasjoner ble det observert et sjikt med sand under sedimentoverflaten. Ved 8 stasjoner ble det ikke funnet tydelige spor av sand i sedimentprofilbildet.
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Fire norske emneord 1. Sediment profil bilde 2. Malmøykalven 3. Tildekking 4. Indre Oslofjord	Fire engelske emneord 1. Sediment profile image 2. Malmøykalven 3. Capping 4. Inner Oslo fjord
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Undersøkelse av tildekking av dypvannsdeponiet ved Malmøykalven med Sedimentprofilkamera

Forord

Denne rapporten beskriver resultatene fra NIVA-prosjektene O-28477 og O-28478. Begge prosjektene er utført på oppdrag for Norges Geotekniske Institutt (NGI). O-28477 er et ledd i Oslo Havns overvåkning av tildekkingen av dypvanndeponiet ved Malmøykalven. O-28478 inngår som en del av tynnsjikt-tildekkingsprosjektet OPTICAP. Stasjonene i begge prosjektene ble utarbeidet av oppdragsgiver. Kontaktpersoner hos oppdragsgiver har vært Arne Pettersen (Oslo havn prosjektet) og Espen Eek (OPTICAP).

Ved NIVA har forsker Hans C Nilsson gjennomført feltarbeidet og ledet prosjektet. Rapporten er utarbeidet av Hans C Nilsson i samarbeid med Morten Schaanning, NIVA på oppdrag fra NGI.

Oslo, 31 mars 2009

Hans C Nilsson

Innhold

Sammendrag	5
1. Innledning	6
2. Materiale og metoder	7
2.1 Feltarbeid	7
2.2 Analyse av SPI-bilder	8
3. Resultater og diskusjon	11
3.1 Hele undersøkelsesområdet	11
3.2 Undersøkelser i 6 meters grid (Opticap)	16
4. Referanser	17
5. Vedlegg	18

Sammendrag

Denne undersøkelsen er en del av det kontrollprogrammet som gjennomføres for å verifisere utleggingen av det første laget av tildekkingsmasser i deponiområdet ved Malmøykalven. Feltarbeidet ble gjennomført mellom 7. og 9. januar 2009 fra FF 'Trygve Braarud' med hjelp av et sedimentprofilkamera (SPI). Sedimentprofilfotografering er en rask metode for visuell kartlegging og klassifisering av sediment. SPI-bildene i denne undersøkelsen ble analysert for penetrasjonsdyp (cm), ujevnheter på sedimentoverflaten (cm), nedsynking av dekkmasser (cm), dekklagets tykkelse (cm) og eventuelle observasjoner av organismer (makrofauna) eller spor etter slike. Fargenyanser kan være en usikker metode for identifisering av dekkmasser. Dekklagets tykkelse ble derfor primært definert på grunnlag av forskjell i kornstørrelse mellom det sandige tildekkingsmaterialet ($>63\mu\text{m}$) og de mer finkornete deponerte eller opprinnelige sedimenter.

Av totalt 97 analyserte bilder ble 75 stasjoner klassifisert som tildekket. 55 stasjoner hadde ≥ 3 cm dekkmasse (sand) og 20 stasjoner var dekket med mellom 0,9 og 2,9 cm sand. Ved 3 stasjoner ble det observert tildekkingsmateriale i hele penetrasjonsdypet og det kan derfor ikke utelukkes at dekklaget på disse stasjonene er tykkere enn angitt i rapporten. Ved 13 stasjoner ble det observert et sjikt med sand under sedimentoverflaten, og ved 8 stasjoner ble det ikke funnet tydelige spor av sand i sedimentprofilbildet.

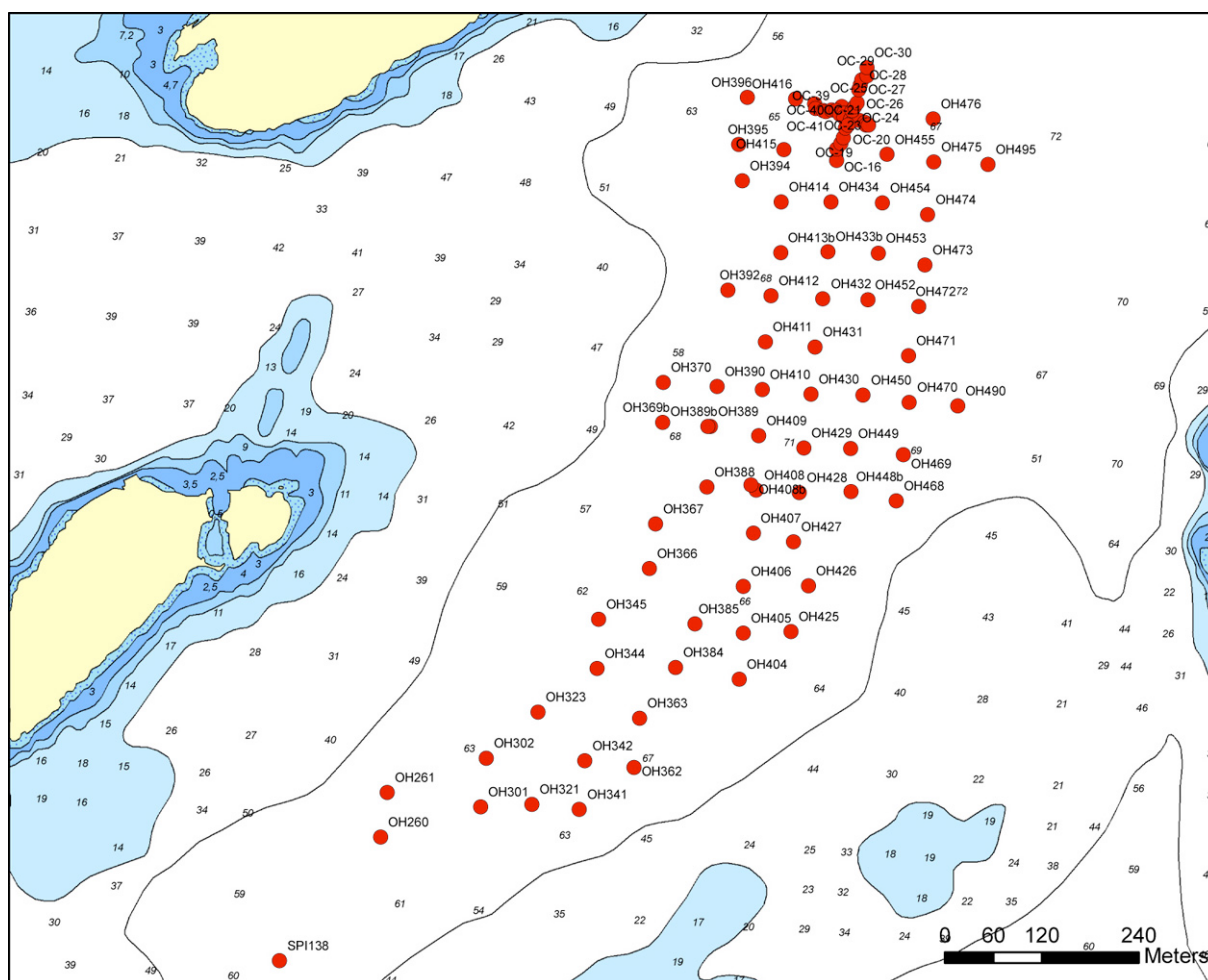
1. Innledning

Mellom februar 2006 og oktober 2008 har dypvanndeponiet ved Malmøykalven blitt brukt til deponering av forurensede sedimenter fra mudringsarbeider utført i Oslos havneområder i regi av prosjektet "Ren Oslofjord". Etter avsluttet deponering startet tildekking av deponiområdet i november 2008. Denne undersøkelsen er en del av det kontrollprogrammet som gjennomføres for å verifisere utleggingen av det første laget av tildekkingsmasser i deponiområdet.

2. Materiale og metoder

2.1 Feltarbeid

Feltarbeidet ble gjennomført mellom 7. og 9. januar 2009 fra FF 'Trygve Braarud' tilhørende Universitetet i Oslo. Stasjonsplasseringen er vist i **Figur 1**. Ytterligere informasjon om posisjoner og vanddyb for alle stasjoner i denne undersøkelsen er gitt i **Vedlegg 1**. Det ble tatt to SPI-bilder av sedimentene på hver stasjon.



Figur 1. Stasjoner i Malmøykalven prøvetatt med SPI-kamera i januar 2009. Stasjonene for Oslo Havn-undersøkelsen (OH) ble utlagt med 60 m standard avstand (O-28477), mens stasjonene undersøkt i regi av OPTICAP (OC) ble utlagt med standard 6 m mellom hver stasjon (O-28478). Stasjon SPI138 (nederst venstre) er en referansestasjon utenfor selve deponiområdet.

2.2 Analyse av SPI-bilder

Sedimentprofilfotografering (SPI) er en rask metode for visuell kartlegging og klassifisering av sediment og bløtbunnfauna (Nilsson og Rosenberg 1997). Teknikken kan sammenlignes med et omvendt periskop som ser horisontalt inn i det øverste laget av sedimentet. Et digitalt kamera (Canon EOS 50D, 35mm/F2,0, 4752 x 3168 piksel) med blits (Canon 220EX) er montert i et vanntett hus på en rigg med tre ben, **Figur 2**. Denne senkes ned til sedimentoverflaten slik at en vertikal glassplate presses ned i sedimentet. Bildet tas gjennom en 17,3 x 26 cm stor glassplate via et skråstilt speil hvilket til sammen utgjør prismet. Resultatet er digitale fotografier med detaljer både av strukturer og farger i overflatesedimentet. Teoretisk oppløsning på bildet er 0,055 mm (55µm).

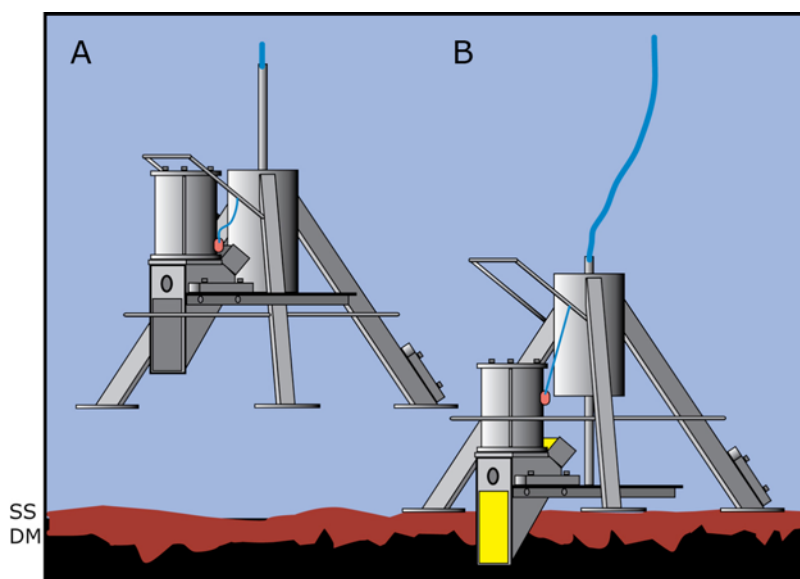
SPI-bildene i denne undersøkelsen ble analysert for:

- Penetrasjonsdyp (cm), dvs. hvor dypt prismet trenger ned i sedimentet
- Ujevnheter på sedimentoverflaten (cm), dvs vertikal avstand fra høyeste til laveste punkt
- Nedsynking av dekkmasser (cm), dvs gjennomsnittlig vertikal avstand fra øvre kant av dekkmasser til sedimentets overflate (cm)
- Dekklagets tykkelse (cm)
- Eventuelle observasjoner av organismer (makrofauna) eller spor etter slike

På grunnlag av bildeanalysen ble sedimentene på hver stasjon klassifisert til en av fire klasser (eksempler er vist i **figur 3**):

- A = tildekking av dekkmasser ≥ 3 cm
- B = tildekking av dekkmasser < 3 cm
- D = dekkmasser overdekket med mer finkornige sediment
- 0 = dekkmasser ikke observert

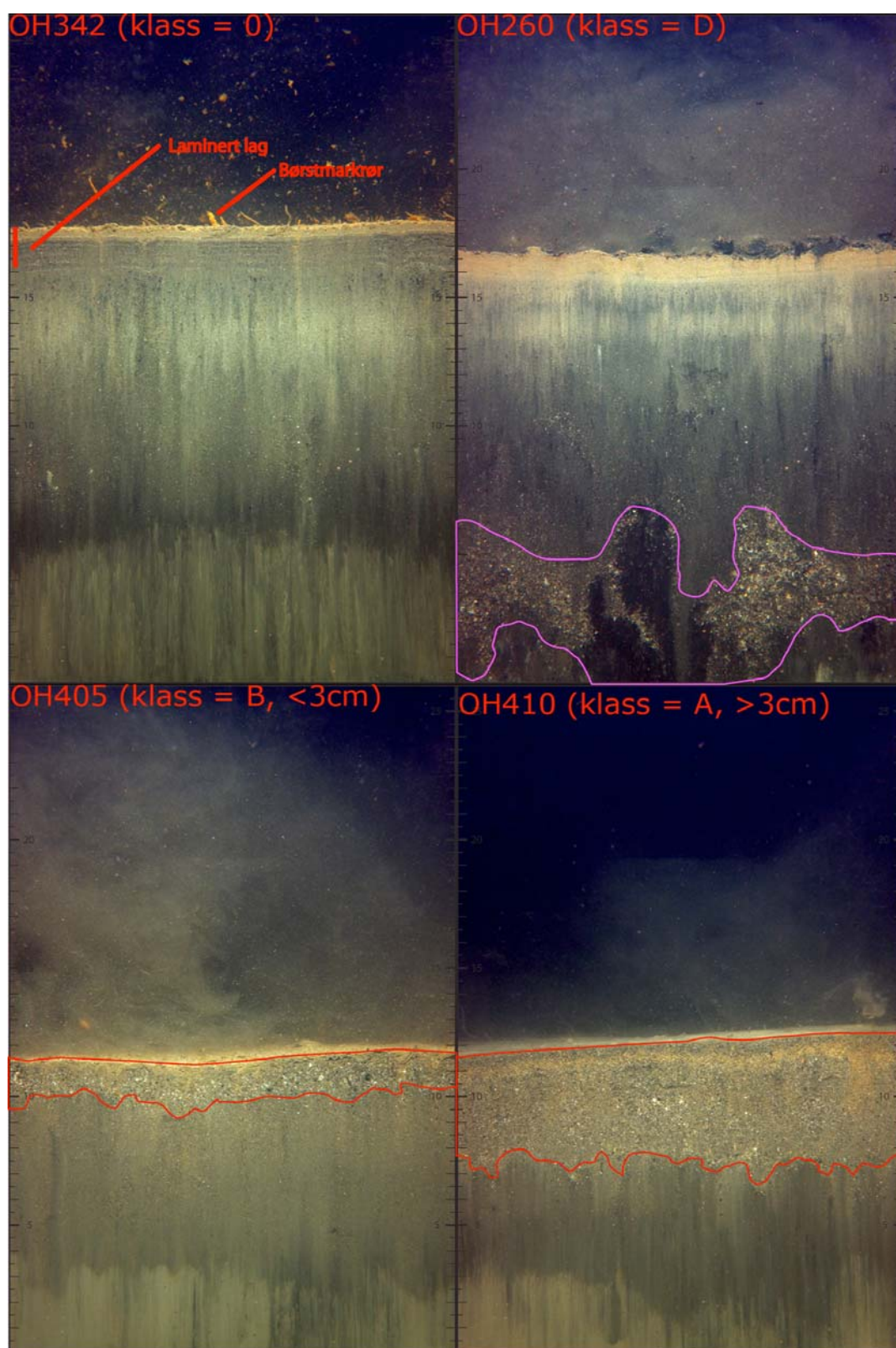
Fargenyanser kan være en usikker metode for identifisering av dekkmasser. Dekklagets tykkelse ble derfor primært definert på grunnlag av forskjell i kornstørrelse mellom det sandige tildekkingsmaterialet ($>63\mu\text{m}$) og de mer finkornete deponerte eller opprinnelige sedimenter.



Figur 2. Prinsippskisse for SPI-kamera. (A) Kamera og rigg over bunnen (SS = sediment overflate og DM = grense mellom dekkmasse og deponert eller opprinnelig sediment). (B) Kamera med prismet som har trengt ned i sedimentet og bildet eksponeres.

Tabell 1. Analyse av SPI-bilder fra deponiområdet ved Malmøykalven innsamlet i januar 2009 etter første gangs tildekking. Tabellen viser penetrasjonsdyp, overdekning av dekklaget og dekklagets tykkelse, samt klassifisering til type A, B, D eller 0 (se tekst kapittel 2.2 og figur 3).

Stasjon	Klasse	Penetrasjon dyp (cm)	Overdekning (cm)	Dekklag tykkelse (cm)	Stasjon	Klasse	Penetrasjon dyp (cm)	Overdekning (cm)	Dekklag tykkelse (cm)	Stasjon	Klasse	Penetrasjon dyp (cm)	Overdekning (cm)	Dekklag tykkelse (cm)
OC-16	B	11,0	0,0	2,8	OH363	D	17,5	1,0	4,9	OH450	A	9,0	0,0	7,1
OC-17	B	11,5	0,0	2,7	OH366	D	13,5	3,0	7,1	OH452	A	23,0	0,0	7,7
OC-18	A	10,5	0,0	3,6	OH367	D	14,5	1,0	7,3	OH453	A	18,0	0,0	5,9
OC-19	A	11,0	0,0	3,7	OH369b	A	10,0	0,0	4,9	OH454	A	13,0	0,0	5,5
OC-20	A	14,0	0,0	3,4	OH370	0	12,0			OH455	B	15,0	0,0	2,9
OC-21	A	16,5	0,0	4,7	OH384	D	11,0	2,5	5,4	OH468	A	5,0	0,0	3,1
OC-23	B	13,0	0,0	2,5	OH385	D	14,0	3,5	4,3	OH469	A	5,5	0,0	5,2
OC-24	A	16,5	0,0	3,0	OH388	D	11,5	5,0	4,9	OH470	A	9,5	0,0	8,8
OC-25	A	14,5	0,0	3,6	OH389b	A	11,5	0,0	5,8	OH471	A	10,0	0,0	10,0
OC-26	A	11,0	0,0	3,4	OH390	A	9,5	0,0	4,3	OH472	A	17,0	0,0	6,8
OC-27	A	15,0	0,0	3,4	OH392	0	25,0			OH473	A	11,5	0,0	7,2
OC-28	B	14,5	0,0	2,1	OH394	0	20,5			OH474	ns	0,0		
OC-29	B	15,0	0,0	2,4	OH395	B	19,5	0,0	0,9	OH475	A	13,5	0,0	3,5
OC-30	B	14,0	0,0	2,2	OH396	0	18,0		0,0	OH476	B	11,0	0,0	1,0
OC-31	B	20,5	0,0	2,3	OH404	A	12,0	0,0	7,6	OH490	A	12,0	0,0	3,2
OC-32	B	16,0	0,0	2,1	OH405	A	11,5	0,0	3,1	OH495	A	15,5	0,0	3,5
OC-33	B	9,5	0,0	1,8	OH406	A	13,5	0,0	4,6	SPI138	0	26,0		
OC-34	B	12,5	0,0	2,4	OH407	A	11,5	0,0	8,3					
OC-35	B	11,5	0,0	2,5	OH408b	A	12,0	0,0	7,7					
OC-36	B	15,0	0,0	2,6	OH409	A	11,0	0,0	6,5					
OC-37	B	13,5	0,0	2,8	OH410	A	12,0	0,0	4,6					
OC-38	B	10,0	0,0	2,9	OH411	A	14,0	0,0	3,6					
OC-39	A	7,0	0,0	3,9	OH412	A	16,0	0,0	12,8					
OC-40	A	14,0	0,0	4,3	OH413b	A	24,0	0,0	4,0					
OC-41	A	7,5	0,0	3,7	OH414	A	13,5	0,0	3,6					
OC-42	A	12,5	0,0	3,4	OH415	A	15,5	0,0	3,5					
OC-43	A	7,5	0,0	4,7	OH416	A	10,0	0,0	3,1					
OC-44	B	19,0	0,0	1,8	OH425	A	13,5	0,0	6,2					
OC-45	B	19,0	0,0	1,7	OH426	A	15,5	0,0	5,7					
OH260	D	17,0	9,5	4,3	OH427	A	13,5	0,0	4,9					
OH261	D	15,5	9,0	5,2	OH428	A	7,5	0,0	4,4					
OH301	0	20,0			OH429	A	11,5	0,0	10,3					
OH302	D	16,5	6,5	3,0	OH430	A	9,0	0,0	3,6					
OH321	D	17,0	3,3	3,4	OH431	A	17,0	0,0	4,3					
OH323	0	17,0		0,0	OH432	A	21,0	0,0	3,5					
OH341	D	11,5	4,0	4,8	OH433b	A	25,5	0,0	5,7					
OH342	0	18,0			OH434	B	16,5	0,0	0,9					
OH344	D	13,0	6,0	7,0	OH436	A	12,0	0,0	4,0					
OH345	A	21,0	0,0	8,3	OH448b	A	5,0	0,0	4,9					
OH362	D	16,5	2,5	3,2	OH449	A	11,5	0,0	6,2					



Figur 3. Sedimentprofilbilder fra 4 stasjoner representative for de forskjellige klassene (A, B, D og 0, se tekst). Rød og rosa markering viser utbredelsen av tildekkingsmateriale. I bildet fra stasjon uten tildekkingsmateriale (klasse 0) vises laminering nær sedimentoverflaten og børstemarkrør. Langs sidene på hvert bilde vises en cm-skala (2 streker = 1 cm).

3. Resultater og diskusjon

3.1 Hele undersøkelsesområdet

Alle resultatene er vist i **Tabell 1**. Bilder fra utvalgte områder er vist i **figur 4**, og fullstendig klassifisering av undersøkelsesområdet er vist i **figur 5**.

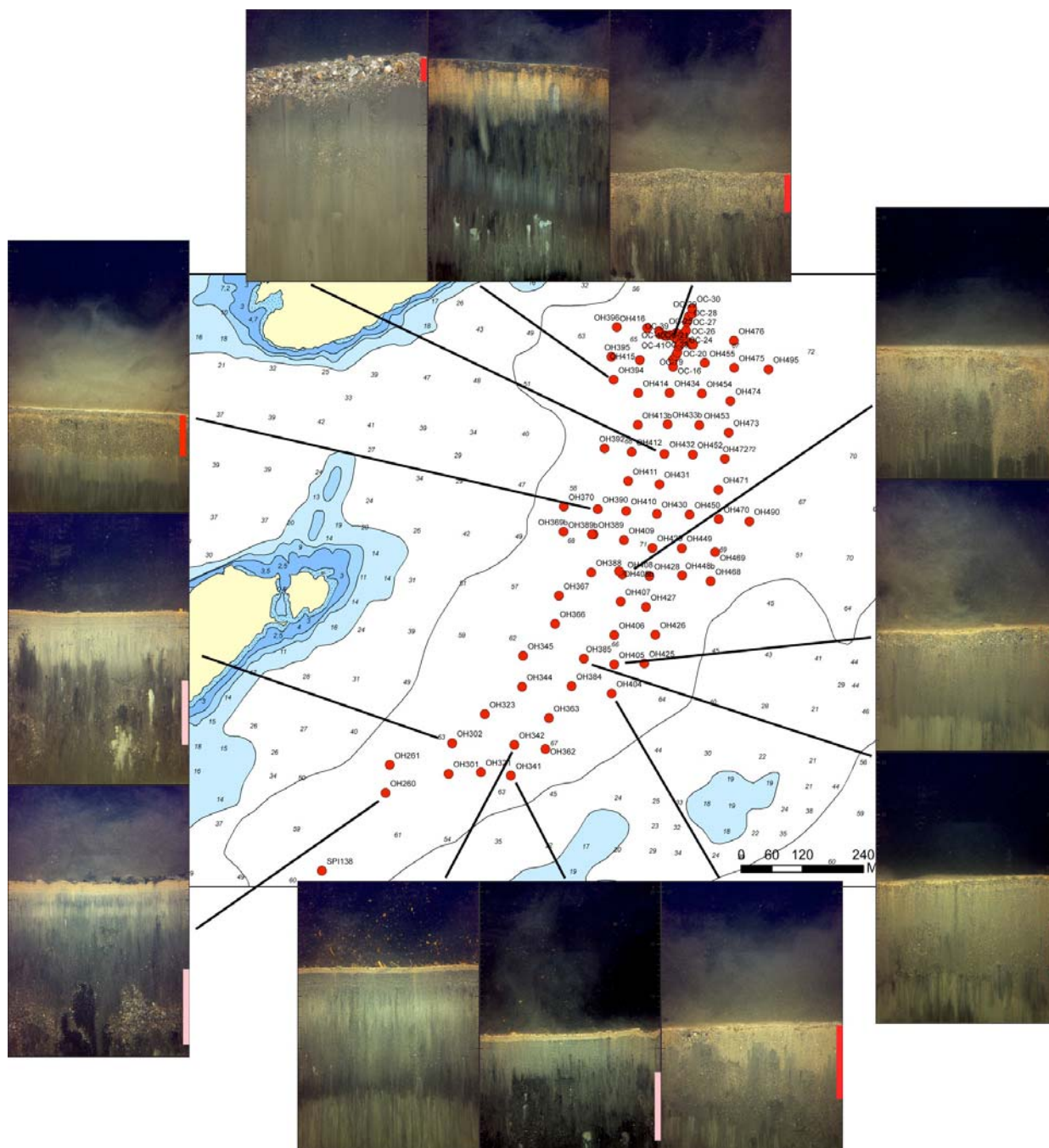
Av totalt 97 analyserte bilder ble 20 stasjoner vurdert til klasse B, dvs at sedimentene på disse stasjonene var tildekket med <3 cm sand. 55 stasjoner ble vurdert til klasse A, dvs tildekket med ≥ 3 cm sand. Ved 3 stasjoner (OH448b, OH469 og OH471) ble det observert tildekkingsmateriale i hele penetrasjonsdypet og det kan derfor ikke utelukkes at dekklaget på disse stasjonene er tykkere enn det som er angitt i **tabell 1**.

Ved 13 stasjoner ble det observert et sjikt med sand under sedimentoverflaten (klasse D), og ved 8 stasjoner ble det ikke funnet tydelige spor av sand på sedimentprofilbildet (klasse 0). Klasse 0 kan skyldes at det ikke har vært deponert sand på stasjonen eller at sanden er overdekket med et sedimentlag som er tykkere enn det angitte penetrasjonsdypet. Bildene gir ikke noe grunnlag for å spekulere på hvorvidt overdekkingen på D-stasjonene skyldes nedsynking gjennom et bløtt topplag med utilstrekkelig bæreevne, eller om overdekkingen er en følge av en horisontal forflytning av sedimenter som har skjedd etter sedimentasjon av dekkmassene.

En stasjon (OH474) ble ikke klassifisert pga. for lite penetrasjonsdyp.

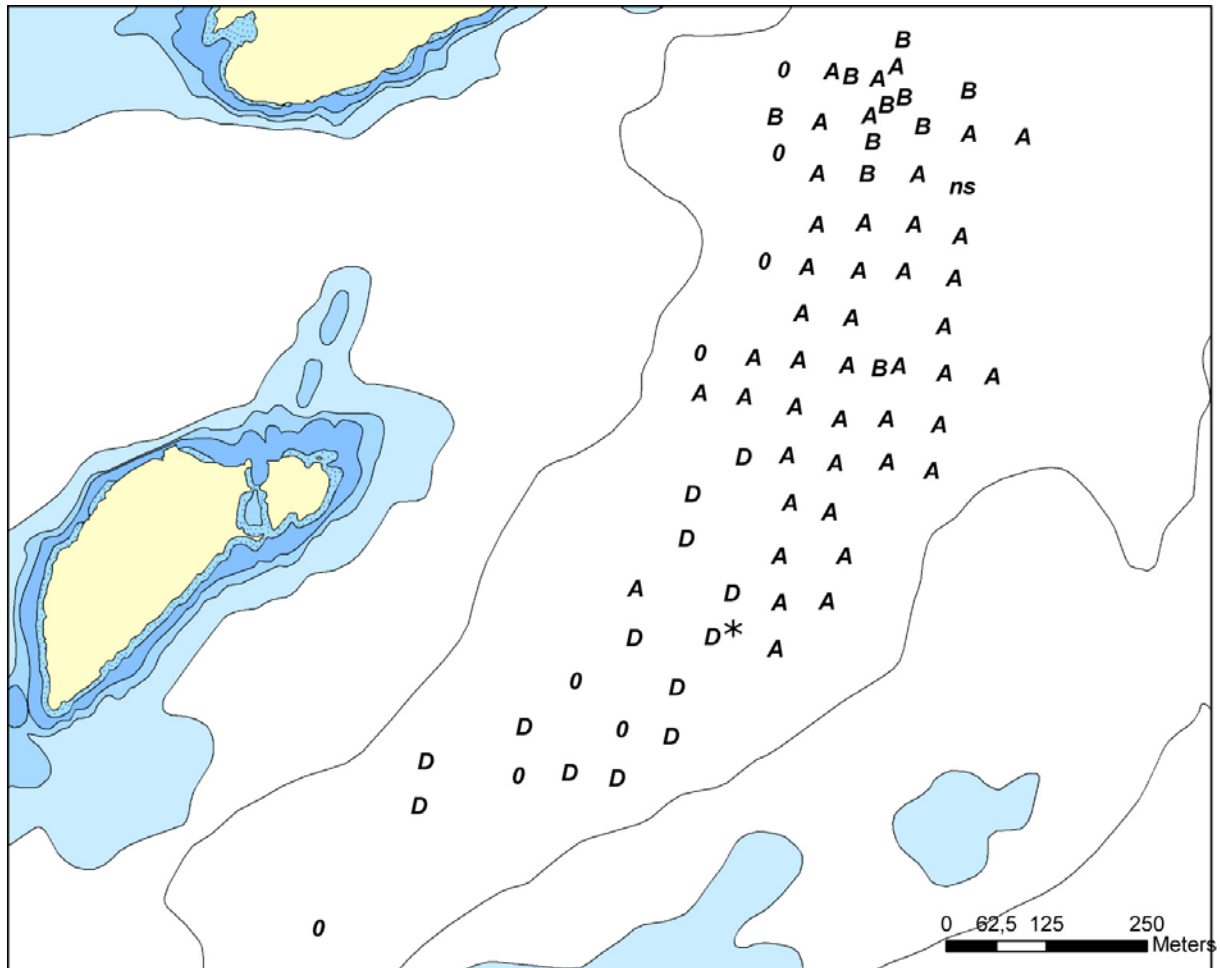
Referansestasjonen SPI138 syd for deponi- og tildekkingsområdet, ble som forventet, klassifisert til klasse 0. Penetrasjonsdypet på 26 cm viste forholdsvis bløte sedimenter med liten bæreevne.

Gjennomsnittlig penetrasjonsdyp (± 1 standardavvik) var ikke vesentlig forskjellig i de tre klassene A ($12,9 \pm 4,4$ cm), B ($14,4 \pm 3,3$ cm) og D ($14,5 \pm 2,3$ cm), men noe større i klasse 0 ($19 \pm 4,5$ cm). I den grad dekkmassene på stasjoner i klasse D har sunket ned i sedimentet, skulle en forvente at sedimentene på disse stasjonene var bløtere enn sedimentene på klasse A og B stasjoner. Det faktum at dette ikke observeres etter tildekkingen, kan tyde på at tildekkingen har bidratt til å redusere penetrasjonsdypet og øke bæreevnen i sedimentet.



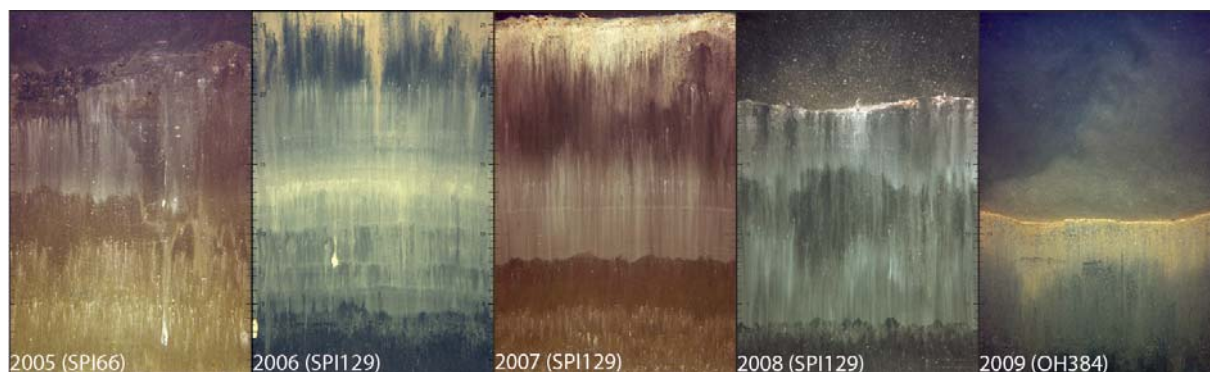
Figur 4. Sedimentprofilbilder fra utvalgte stasjoner. Røde streker markerer dekklagets tykkelse på klasse A- eller B-stasjoner. Rosa streker markerer tykkelse av overdekket dekklag på klasse D stasjoner. På bilder uten markering ble det ikke observert spor av tildekkingsmasser (klasse 0).

Figur 5 viser at klasse D og klasse 0 dominerte i den søndre delen av deponiområdet, dvs syd og vest for stasjon OH 388. I tillegg ble det observert klasse 0 på 4 stasjoner langs vestsiden av deponiet. Disse fire stasjonene (OH396, OH394, OH392 og OH370) var lokalisert i den relativt skarpe overgangen mellom det flate deponiområdet og den tilstøtende bassengskrånningen. Dette ses best på kart med ekvidistanse 1 m (Hauge m. fl. 2009, kartbilag 01).



Figur 5. Klassifisering av sedimentene i deponiområdet på grunnlag av SPI-bilder i januar 2009. **0** = ingen observasjon av tildekkingsmateriale, **D** er dekkmasser overdekket med finkornt sediment, **B** er tildekket med < 3 cm tildekkingsmateriale på toppen av sedimentet, **A** er tildekket med ≥ 3 cm tildekkingsmateriale på toppen av sedimentet, **ns** = ingen penetrasjon. *Stasjon O384/SPI129 se **figur 6**.

Figur 6 viser SPI-bilder innsamlet i den sydlige delen av deponiområdet tilbake til 2005, før deponeringen begynte¹. Bildet fra 2005 (SPI66) ble innsamlet litt syd for posisjonen der SPI129 (2006 til 2008) og OH384 (2009) ble innsamlet. Alle bildene er tatt i området klassifisert til D eller 0 i herværende rapport. Bildene viser at før tildekking varierte penetrasjonsdypet fra ca 17 cm til > 26 cm. På OH384 er penetrasjonsdypet bare 11 cm, dvs vesentlig mindre enn før både tildekking og deponering startet. Dette viser at sedimentet på denne stasjonen har god bæreevne sammenlignet med tidligere års undersøkelser.

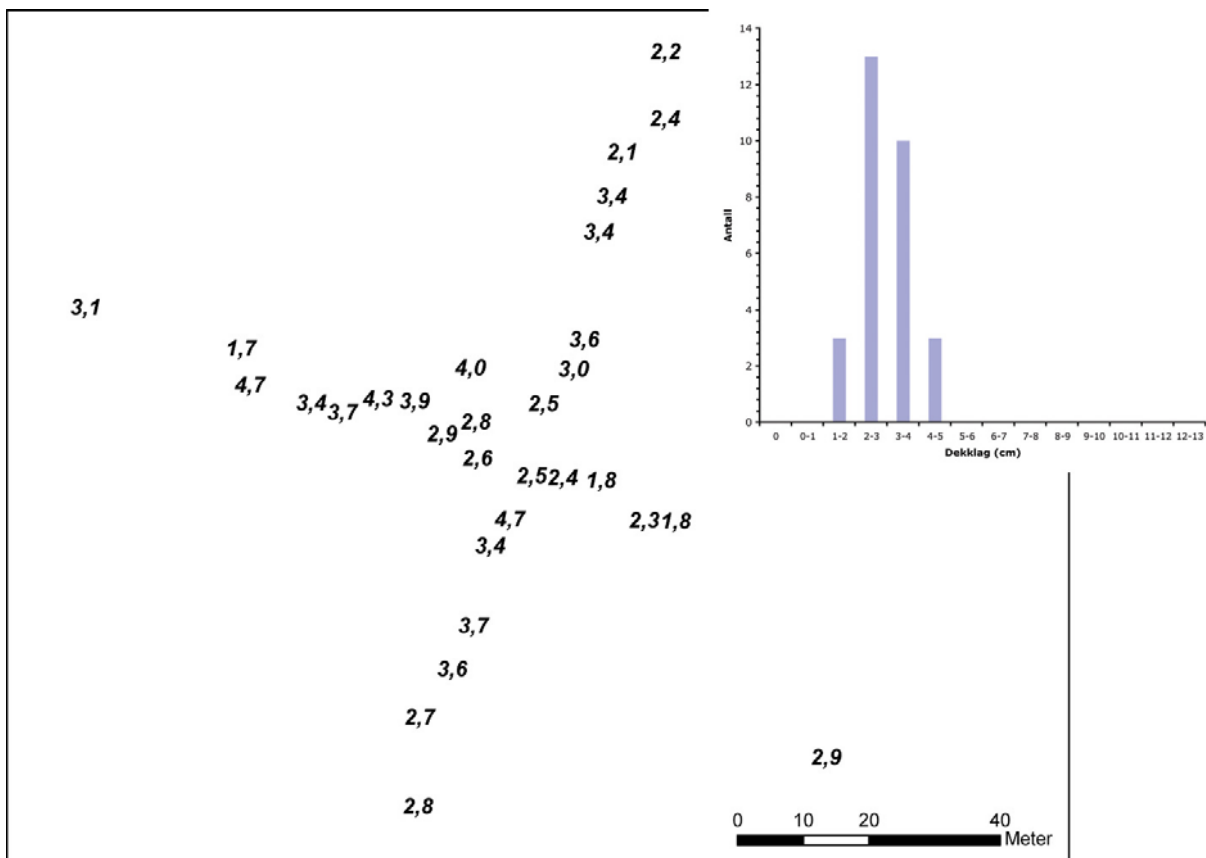


Figur 6. Sedimentprofilbilder innsamlet i søndre del av deponiområdet fra før deponering startet (bildet lengst til venstre) til etter utlegging av første dekklag (bildet lengst til høyre). Se **figur 5**.

¹ Bildene er innsamlet i 2005 av NIVA og mellom 2006 og 2008 i tilknytning til SFTs overvåkningsprogram for deponiet og mudringsarbeidene i Oslo havn.

3.2 Undersøkelser i 6 meters grid (Opticap)

Målsettingen med denne delen av undersøkelsen var å undersøke hvor jevnt dekklaget er i et avgrenset område der massene er lagt ut fra en og samme leker. Dette ble gjort ved å ta bilder med kort avstand langs to kryssende transekter i et område der massene fra den valgte lekteren var lagt ut. Resultatene er vist i **tabell 1** (OC-stasjoner) og **figur 8**. Av totalt 29 stasjoner ble 13 klassifisert som A (dekklag ≥ 3 cm) og 16 klassifisert som B (dekklag < 3 cm). Histogrammet innfelt i figur 8 viser at 23 stasjoner hadde dekklag mellom 2 og 4 cm. Minimum tykkelse var 1,7 cm og maksimum tykkelse var 4,7 cm. Det var heller ingen klare gradienter verken i Nord-Sør eller i Øst-Vest retningen. Variasjonen langs de to transektene syntes å være tilfeldig og ikke vesentlig større enn usikkerheten i målemetoden.



Figur 8. Tildekkingslagets tykkelse (cm) i undersøkelsesområdet for Opticap-prosjektet. Histogrammet viser frekvensen av de forskjellige tykkelsene av tildekkingsmaterial.

4. Referanser

Hauge A, Pettersen A, Breedveld GD (2009) Kontroll av tildekkingen av dypvannsdeponiet etter utlegging av første dekklag 27. januar 2009 NGI 20051785-61, s 11.

Nilsson HC, Rosenberg R (1997) Benthic habitat quality assessment of an oxygen stressed fjord by surface and sediment profile images. *Journal of Marine Systems* 11:249-264.

5. Vedlegg

OC-16 SPI Malmøykalven NGI Opticap

Visit ID	1817	Date	2009-01-09	Station	OC-16	Cap class	B
Latitude	59,86812	Longitude	10,73163	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4161
OC-16_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 11,0
Sediment roughness (cm) 0,5
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 48,0
Cap thickness (cm) 2,8

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. stucture Børstmarkrør

OC-17 SPI Malmøykalven NGI Opticap

Visit ID	1818	Date	2009-01-09	Station	OC-17	Cap class	B
Latitude	59,86824	Longitude	10,73162	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4162
OC-17_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	46,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,7

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-18 SPI Malmøykalven NGI Opticap

Visit ID	1819	Date	2009-01-09	Station	OC-18	Cap class	
Latitude	59,86831	Longitude	10,73170	Depth (m)	67		A

Detailed BHQ analyse of shown Image

Image ID 4163
OC-18_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ # 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	10,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	63,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,6

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-19 SPI Malmøykalven NGI Opticap

Visit ID	1820	Date	2009-01-09	Station	OC-19	Cap class	A
Latitude	59,86837	Longitude	10,73175	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4164
OC-19_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 11,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 64,0
Cap thickness (cm) 3,7

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-20 SPI Malmøykalven NGI Opticap

Visit ID	1821	Date	2009-01-09	Station	OC-20	Cap class	
Latitude	59,86848	Longitude	10,73178	Depth (m)	67		A

Detailed BHQ analyse of shown Image

Image ID 4165
OC-20_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	14,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	59,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,4

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-21 SPI Malmøykalven NGI Opticap

Visit ID	1822	Date	2009-01-09	Station	OC-21	Cap class	A
Latitude	59,86852	Longitude	10,73183	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4166
OC-21_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 16,5
Sediment roughness (cm) 0,5
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 82,0
Cap thickness (cm) 4,7

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-23 SPI Malmøykalven NGI Opticap

Visit ID	1823	Date	2009-01-09	Station	OC-23	Cap class	B
Latitude	59,86868	Longitude	10,73190	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4167
OC-23_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	13,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	44,0
SPI weight SPI 26 kg		Cap thickness (cm)	2,5

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-24 SPI Malmøykalven NGI Opticap

Visit ID	1824	Date	2009-01-09	Station	OC-24	Cap class	A
Latitude	59,86873	Longitude	10,73195	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4168
OC-24_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	16,5	Cap crest (cm)	0,0
Sediment roughness (cm)	2,5	Cap area (cm ²)	52,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,0

Color sediment layer 1 Lysgrå
Color sediment layer 2 Sort

Biogen. stucture

OC-25 SPI Malmøykalven NGI Opticap

Visit ID	1825	Date	2009-01-09	Station	OC-25	Cap class	A
Latitude	59,86877	Longitude	10,73200	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4169
OC-25_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	14,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	62,0
SPI weight SPI 26 kg		Cap thickness (cm)	3,6

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OC-26 SPI Malmøykalven NGI Opticap

Visit ID	1826	Date	2009-01-09	Station	OC-26	Cap class	A
Latitude	59,86892	Longitude	10,73202	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4170
OC-26_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,0	Cap crest (cm)	0,0
Sediment roughness (cm)	3,0	Cap area (cm ²)	58,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,4

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OC-27 SPI Malmøykalven NGI Opticap

Visit ID	1827	Date	2009-01-09	Station	OC-27	Cap class	A
Latitude	59,86897	Longitude	10,73205	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4171
OC-27_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 15,0
Sediment roughness (cm) 0,5
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 59,0
Cap thickness (cm) 3,4

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Sort

Biogen. stucture

OC-28 SPI Malmøykalven NGI Opticap

Visit ID	1828	Date	2009-01-09	Station	OC-28	Cap class	B
Latitude	59,86903	Longitude	10,73207	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4172
OC-28_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	14,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	37,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,1

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OC-29 SPI Malmøykalven NGI Opticap

Visit ID	1829	Date	2009-01-09	Station	OC-29	Cap class	B
Latitude	59,86908	Longitude	10,73218	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4173
OC-29_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 15,0
Sediment roughness (cm) 1,5
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 41,0
Cap thickness (cm) 2,4

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. stucture Børstmarkrør

OC-30 SPI Malmøykalven NGI Opticap

Visit ID	1830	Date	2009-01-09	Station	OC-30	Cap class	B
Latitude	59,86917	Longitude	10,73217	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4174
OC-30_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 14,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 38,0
Cap thickness (cm) 2,2

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. structure Børstmarkrør

OC-31 SPI Malmøykalven NGI Opticap

Visit ID	1815	Date	2009-01-09	Station	OC-31	Cap class	B
Latitude	59,86853	Longitude	10,73223	Depth (m)			

Detailed BHQ analyse of shown Image

Image ID 4175
OC-31_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	20,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	40,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,3

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

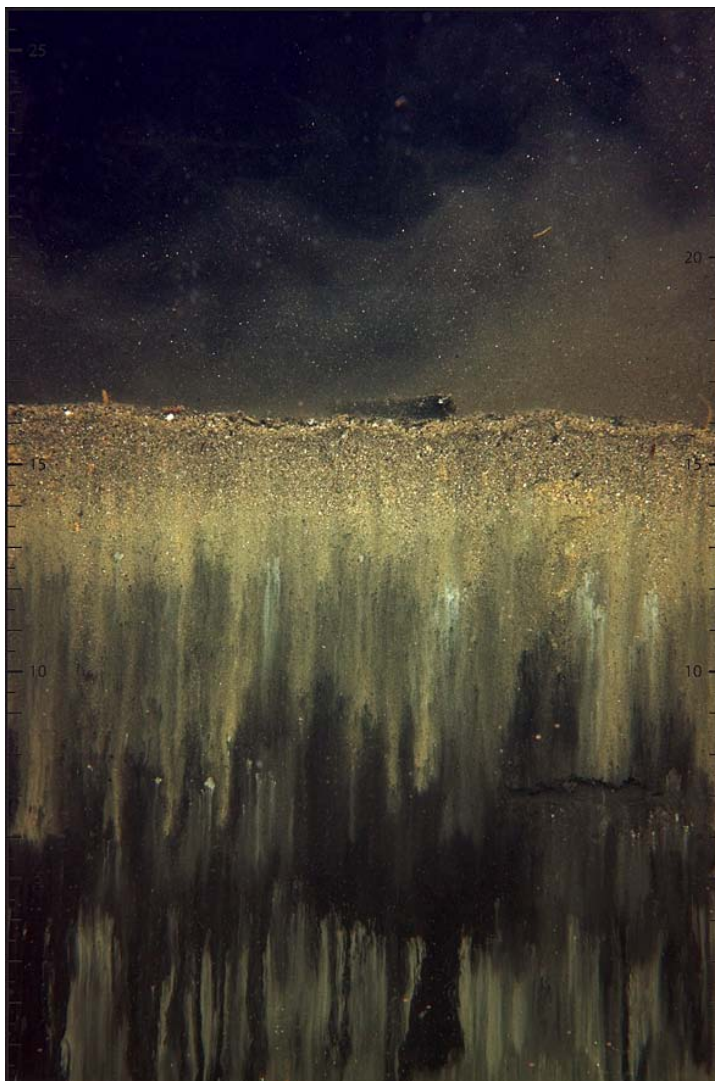
OC-32 SPI Malmøykalven NGI Opticap

Visit ID	1814	Date	2009-01-09	Station	OC-32	Cap class	B
Latitude	59,86549	Longitude	10,73212	Depth (m)	64		

Detailed BHQ analyse of shown Image

Image ID 4176
OC-32_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 16,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 37,0
Cap thickness (cm) 2,1

Color sediment layer 1 Sort
Color sediment layer 2 Mørkgrå

Biogen. stucture Børstmarkrør

OC-33 SPI Malmøykalven NGI Opticap

Visit ID	1813	Date	2009-01-09	Station	OC-33	Cap class	B
Latitude	59,86858	Longitude	10,73207	Depth (m)	64		

Detailed BHQ analyse of shown Image

Image ID 4177
OC-33_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	9,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	31,0
SPI weight	SPI 26 kg	Cap thickness (cm)	1,8

Color sediment layer 1 Lysgrå
Color sediment layer 2 Sort

Biogen. stucture Børstmarkrør

OC-34 SPI Malmøykalven NGI Opticap

Visit ID	1812	Date	2009-01-09	Station	OC-34	Cap class	B
Latitude	59,86858	Longitude	10,73195	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4178
OC-34_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	12,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	41,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,4

Color sediment layer 1 Lysgrå
Color sediment layer 2 Sort

Biogen. stucture Børstmarkrør

OC-35 SPI Malmøykalven NGI Opticap

Visit ID 1811 Date 2009-01-09 Station OC-35 Cap class
 Latitude 59,86858 Longitude 10,73188 Depth (m) B

Detailed BHQ analyse of shown Image

Image ID 4179
 OC-35_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface #

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface #

aRPD (cm)

RPD #

BHQ index Σ#

Ecological status

Mean
 Ecological status



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	43,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,5

Color sediment layer 1 Sort
 Color sediment layer 2 Mørkgrå

Biogen. stucture

OC-36 SPI Malmøykalven NGI Opticap

Visit ID	1810	Date	2009-01-09	Station	OC-36	Cap class	B
Latitude	59,86860	Longitude	10,73173	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4180
OC-36_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 15,0
Sediment roughness (cm) 1,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 45,0
Cap thickness (cm) 2,6

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Sort

Biogen. stucture

OC-37 SPI Malmøykalven NGI Opticap

Visit ID	1809	Date	2009-01-09	Station	OC-37	Cap class	B
Latitude	59,86865	Longitude	10,73172	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4181
OC-37_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface #

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface #

aRPD (cm)

RPD #

BHQ index Σ#

Ecological status

Mean
Ecological status



Penetration depth (cm)	13,5
Sediment roughness (cm)	1,0
SPI weight	SPI 26 kg

Cap crest (cm)	0,0
Cap area (cm ²)	48,0
Cap thickness (cm)	2,8

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture Børstmarkrør

OC-38 SPI Malmøykalven NGI Opticap

Visit ID	1808	Date	2009-01-09	Station	OC-38	Cap class	B
Latitude	59,86863	Longitude	10,73163	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4182
OC-38_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	10,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	51,0
SPI weight	SPI 26 kg	Cap thickness (cm)	2,9

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OC-39 SPI Malmøykalven NGI Opticap

Visit ID	1807	Date	2009-01-09	Station	OC-39	Cap class	
Latitude	59,86867	Longitude	10,73155	Depth (m)	65		A

Detailed BHQ analyse of shown Image

Image ID 4183
OC-39_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	7,0	Cap crest (cm)	0,0
Sediment roughness (cm)	1,5	Cap area (cm ²)	67,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,9

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OC-40 SPI Malmøykalven NGI Opticap

Visit ID	1806	Date	2009-01-09	Station	OC-40	Cap class	A
Latitude	59,86867	Longitude	10,73145	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4184
OC-40_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 14,0
Sediment roughness (cm) 0,5
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 75,0
Cap thickness (cm) 4,3

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. structure

OC-41 SPI Malmøykalven NGI Opticap

Visit ID	1805	Date	2009-01-09	Station	OC-41	Cap class	
Latitude	59,86865	Longitude	10,73132	Depth (m)	65		A

Detailed BHQ analyse of shown Image

Image ID 4185
OC-41_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	7,5	Cap crest (cm)	0,0
Sediment roughness (cm)	4,0	Cap area (cm ²)	64,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,7

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OC-42 SPI Malmøykalven NGI Opticap

Visit ID	1804	Date	2009-01-09	Station	OC-42	Cap class	A
Latitude	59,86866	Longitude	10,73127	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4186
OC-42_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	12,5	Cap crest (cm)	0,0
Sediment roughness (cm)	2,5	Cap area (cm ²)	58,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,4

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OC-43 SPI Malmøykalven NGI Opticap

Visit ID	1803	Date	2009-01-09	Station	OC-43	Cap class	A
Latitude	59,86868	Longitude	10,73110	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4187
OC-43_2.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	7,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	81,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,7

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. structure

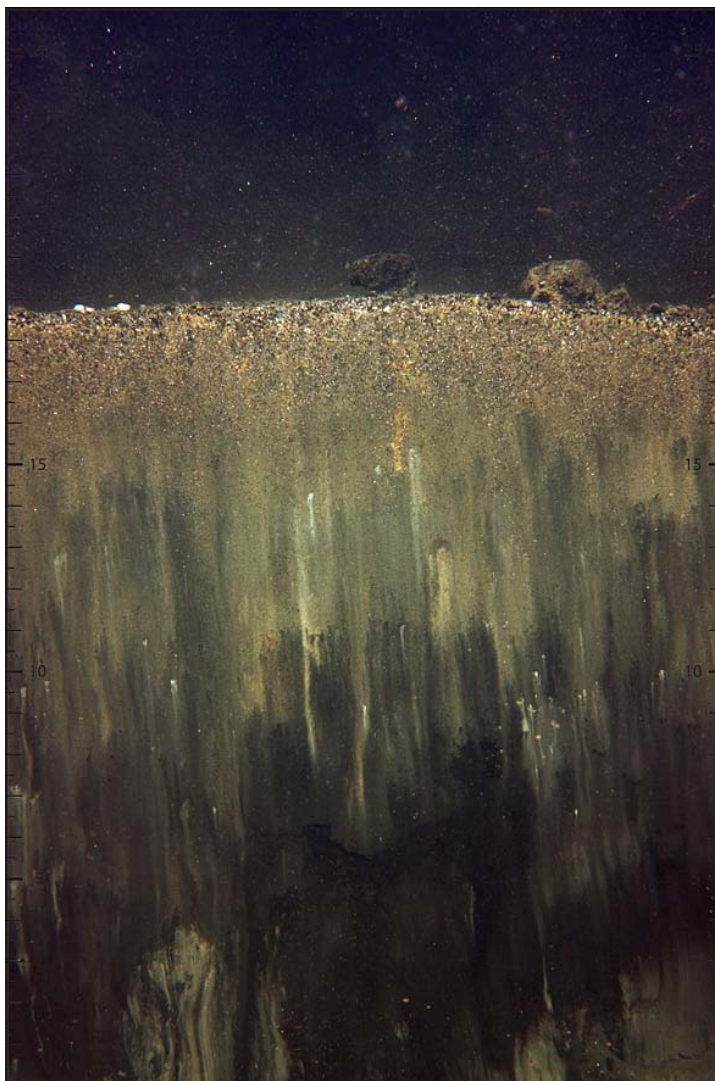
OC-44 SPI Malmøykalven NGI Opticap

Visit ID	1816	Date	2009-01-09	Station	OC-44	Cap class	B
Latitude	59,86853	Longitude	10,73228	Depth (m)	64		

Detailed BHQ analyse of shown Image

Image ID 4188
OC-44_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	19,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	32,0
SPI weight	SPI 26 kg	Cap thickness (cm)	1,8

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OC-45 SPI Malmøykalven NGI Opticap

Visit ID	1802	Date	2009-01-09	Station	OC-45	Cap class	B
Latitude	59,86872	Longitude	10,73107	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4189
OC-45_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	19,0	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	29,0
SPI weight	SPI 26 kg	Cap thickness (cm)	1,7

Color sediment layer 1 Lysgrå
Color sediment layer 2 Sort

Biogen. stucture

OH260 SPI NGI Malmøykalven Oslo Havn

Visit ID	1769	Date	2009-01-07	Station	OH260	Cap class	D
Latitude	59,86027	Longitude	10,72253	Depth (m)	64,5		

Detailed BHQ analyse of shown Image

Image ID 4089
OH260_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	17,0	Cap crest (cm)	9,5
Sediment roughness (cm)	0,0	Cap area (cm ²)	75,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,3

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH261 SPI NGI Malmøykalven Oslo Havn

Visit ID 1765 Date 2009-01-07 Station OH261 Cap class
 Latitude 59,86077 Longitude 10,72262 Depth (m) 65 D

Detailed BHQ analyse of shown Image

Image ID 4090
 OH261_2.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesi epifauna
 Shallow Burrow
 Deep Burrow
 Oxic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 15,5
 Sediment roughness (cm) 0,5
 SPI weight SPI 26 kg

Cap crest (cm) 9,0
 Cap area (cm²) 90,0
 Cap thickness (cm) 5,2

Color sediment layer 1 Sort
 Color sediment layer 2 Lysgrå

Biogen. stucture Børstmarkrør

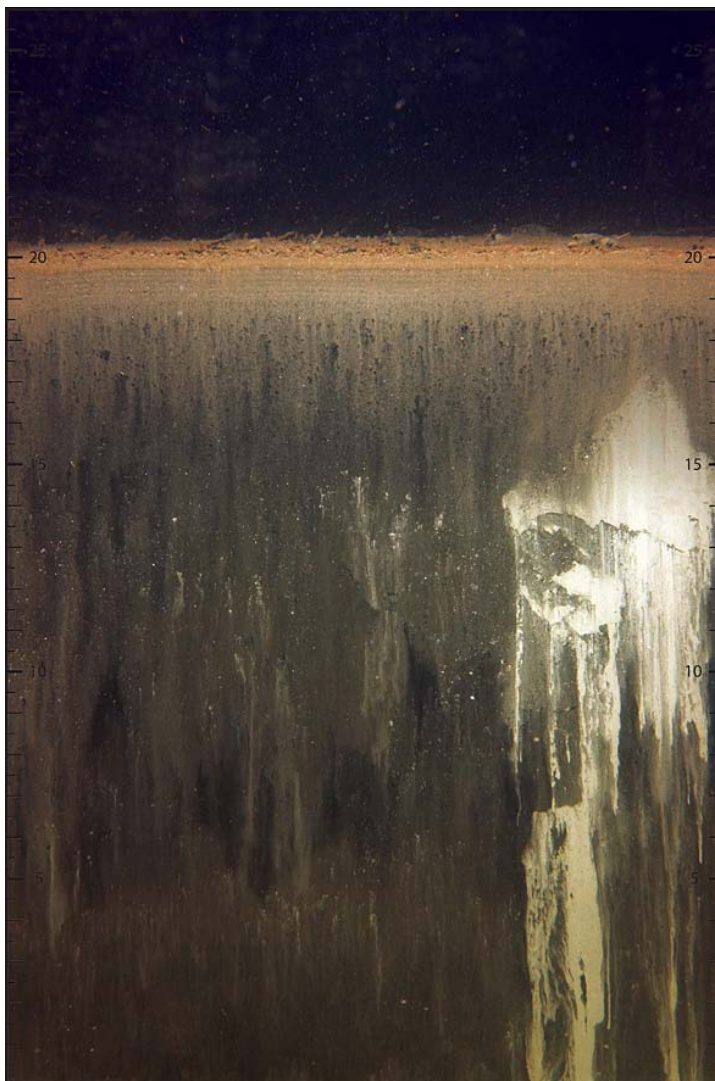
OH301 SPI NGI Malmøykalven Oslo Havn

Visit ID	1766	Date	2009-01-07	Station	OH301	Cap class	0
Latitude	59,86068	Longitude	10,72470	Depth (m)	65,5		

Detailed BHQ analyse of shown Image

Image ID 4091
OH301_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	20,0
Sediment roughness (cm)	0,0
SPI weight	SPI 26 kg

Cap crest (cm)	
Cap area (cm ²)	0,0
Cap thickness (cm)	0,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture Børstmarkrør

OH302 SPI NGI Malmøykalven Oslo Havn

Visit ID	1764	Date	2009-01-07	Station	OH302	Cap class	D
Latitude	59,86123	Longitude	10,72475	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4092
OH302_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 16,5
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 6,5
Cap area (cm²) 52,0
Cap thickness (cm) 3,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture Børstmarkrør

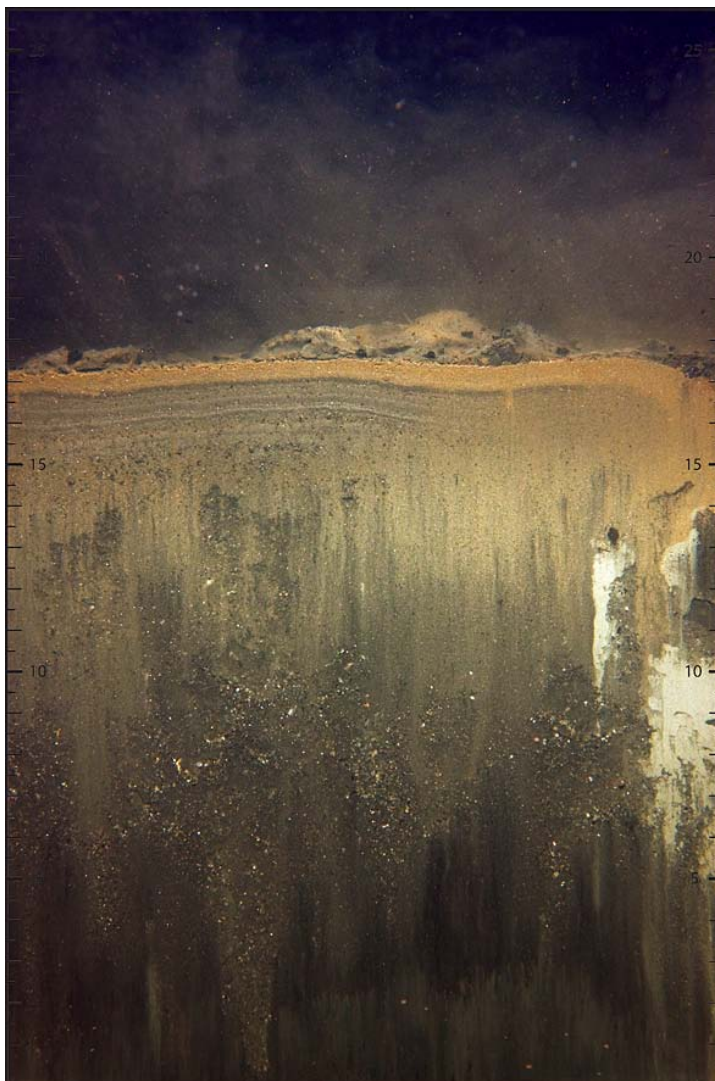
OH321 SPI NGI Malmøykalven Oslo Havn

Visit ID 1767 Date 2009-01-07 Station OH321 Cap class
Latitude 59,86075 Longitude 10,72583 Depth (m) D

Detailed BHQ analyse of shown Image

Image ID 4094
OH321_1.jpg

Fecal
Small tube
Large tube
Brittle star
Feeding pit
Mound
Surface #
Infauna
Sesil epifauna
Shallow Burrow
Deep Burrow
Oxic void
Anoxic void
Subsurface #
aRPD (cm)
RPD #
BHQ index Σ#
Ecological status
Mean
Ecological status



Penetration depth (cm) 17,0 Cap crest (cm) 3,3
Sediment roughness (cm) 0,5 Cap area (cm²) 59,0
SPI weight SPI 26 kg Cap thickness (cm) 3,4

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

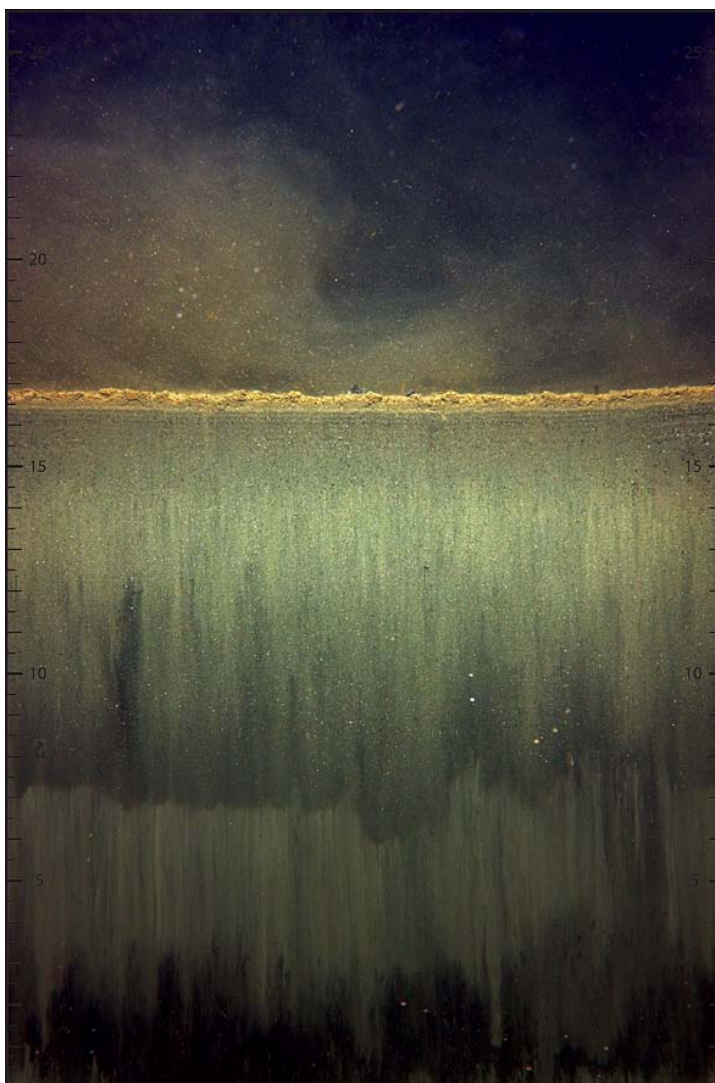
OH323 SPI NGI Malmøykalven Oslo Havn

Visit ID	1760	Date	2009-01-07	Station	OH323	Cap class	0
Latitude	59,86178	Longitude	10,72583	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4095
OH323_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	17,0	Cap crest (cm)	
Sediment roughness (cm)	0,0	Cap area (cm ²)	0,0
SPI weight	SPI 26 kg	Cap thickness (cm)	0,0

Color sediment layer 1
Color sediment layer 2

Biogen. stucture

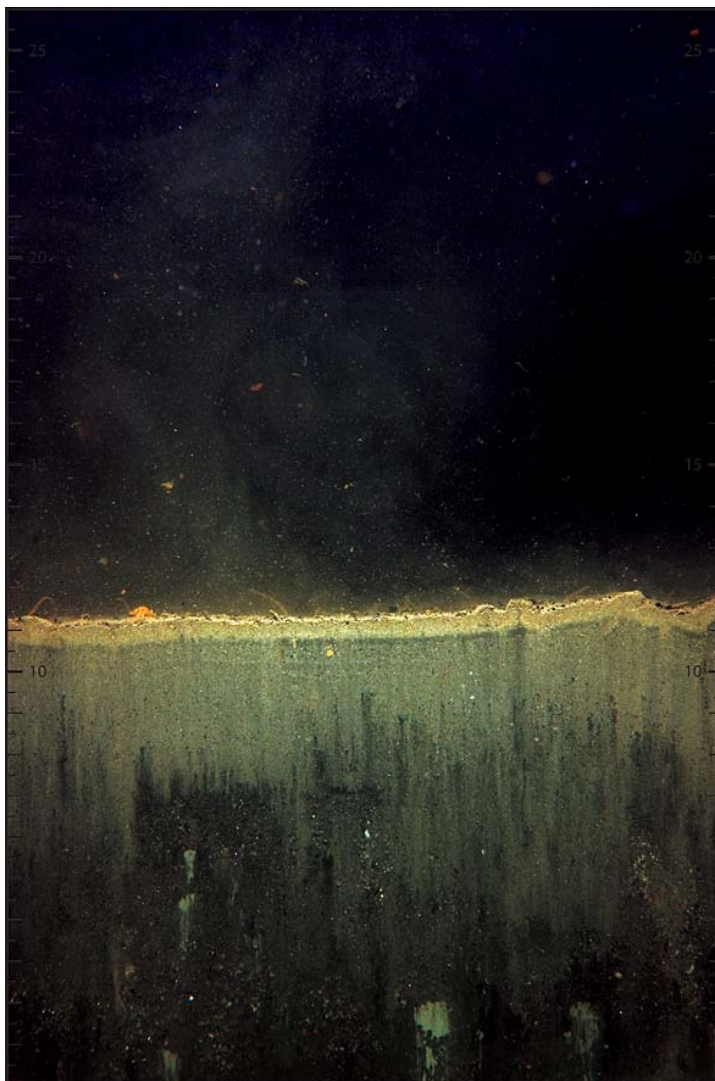
OH341 SPI NGI Malmøykalven Oslo Havn

Visit ID	1768	Date	2009-01-07	Station	OH341	Cap class	D
Latitude	59,86072	Longitude	10,72688	Depth (m)	65,5		

Detailed BHQ analyse of shown Image

Image ID 4096
OH341_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	4,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	83,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,8

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture Børstmarkrør

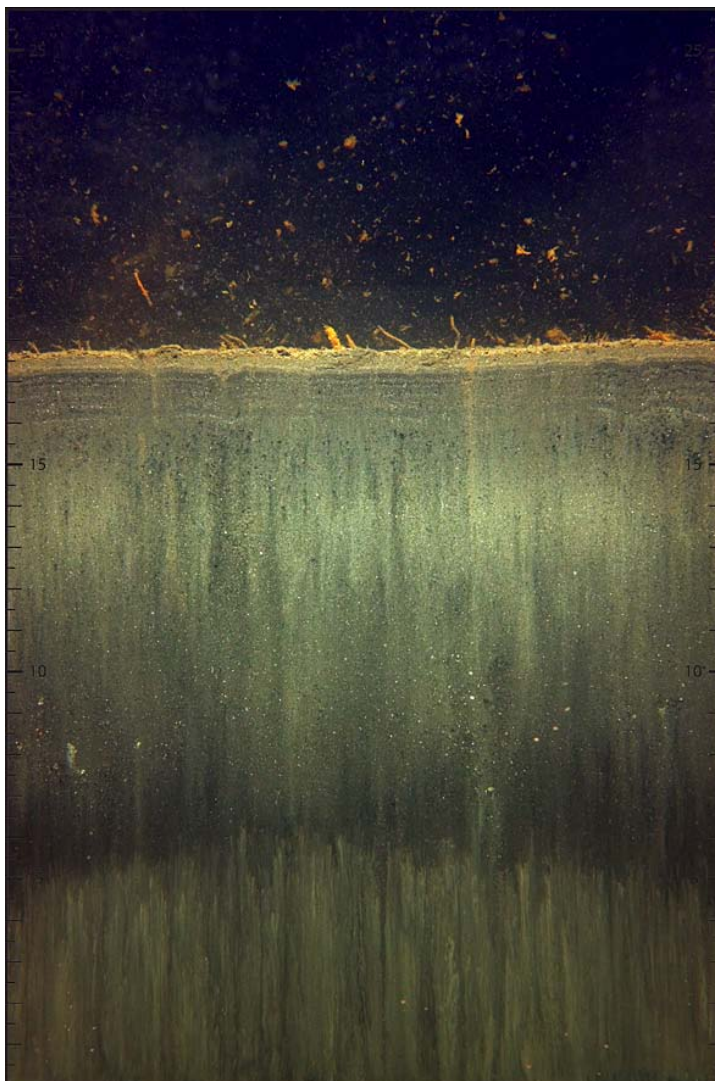
OH342 SPI NGI Malmøykalven Oslo Havn

Visit ID	1763	Date	2009-01-07	Station	OH342	Cap class	0
Latitude	59,86127	Longitude	10,72693	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4097
OH342_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 18,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm)
Cap area (cm²) 0,0
Cap thickness (cm) 0,0

Color sediment layer 1
Color sediment layer 2

Biogen. stucture Børstmarkrør

OH344 SPI NGI Malmøykalven Oslo Havn

Visit ID	1759	Date	2009-01-07	Station	OH344	Cap class	D
Latitude	59,86230	Longitude	10,72707	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4098
OH344_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	13,0	Cap crest (cm)	6,0
Sediment roughness (cm)	2,0	Cap area (cm ²)	121,0
SPI weight	SPI 26 kg	Cap thickness (cm)	7,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. structure

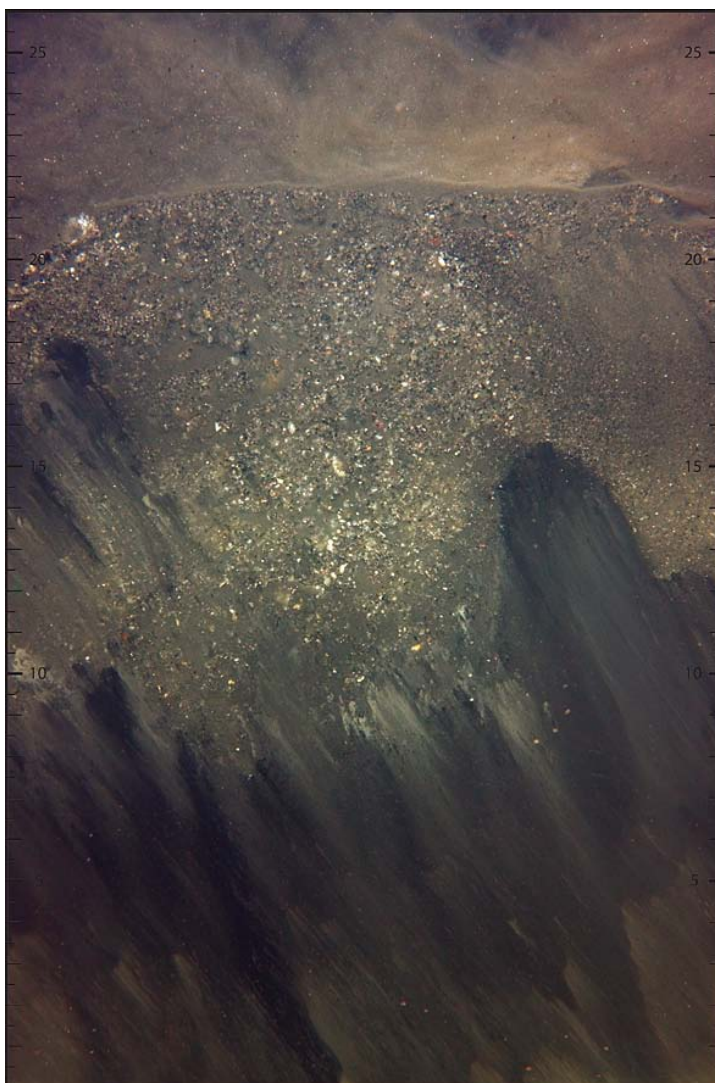
OH345 SPI NGI Malmøykalven Oslo Havn

Visit ID 1753 Date 2009-01-07 Station OH345 Cap class
 Latitude 59,86285 Longitude 10,72703 Depth (m) 66 A

Detailed BHQ analyse of shown Image

Image ID 4099
 OH345_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesi epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 21,0 Cap crest (cm) 0,0
 Sediment roughness (cm) 2,0 Cap area (cm²) 143,0
 SPI weight SPI 26 kg Cap thickness (cm) 8,3

Color sediment layer 1 Sort
 Color sediment layer 2

Biogen. structure

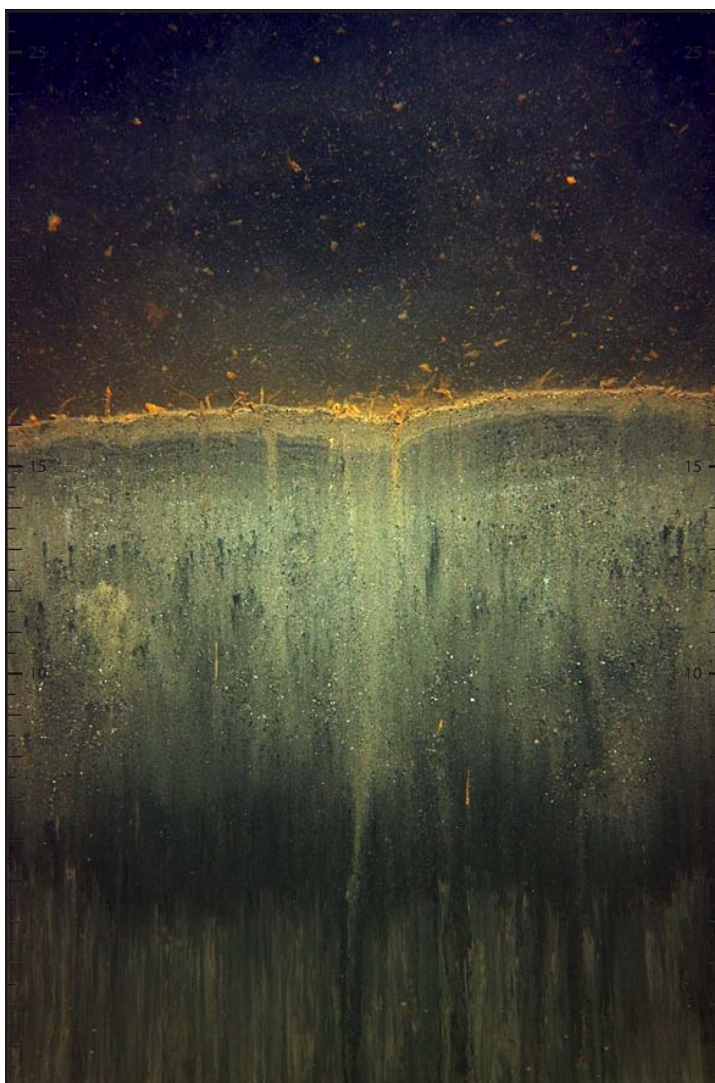
OH362 SPI NGI Malmøykalven Oslo Havn

Visit ID	1762	Date	2009-01-07	Station	OH362	Cap class	D
Latitude	59,86123	Longitude	10,72803	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4100
OH362_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 16,5
Sediment roughness (cm) 0,5
SPI weight SPI 26 kg

Cap crest (cm) 2,5
Cap area (cm²) 56,0
Cap thickness (cm) 3,2

Color sediment layer 1 Sort
Color sediment layer 2 Mørkgrå

Biogen. stucture Børstmarkrør

OH363 SPI NGI Malmøykalven Oslo Havn

Visit ID	1761	Date	2009-01-07	Station	OH363	Cap class	D
Latitude	59,86178	Longitude	10,72808	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4101
OH363_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	17,5	Cap crest (cm)	1,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	85,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,9

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

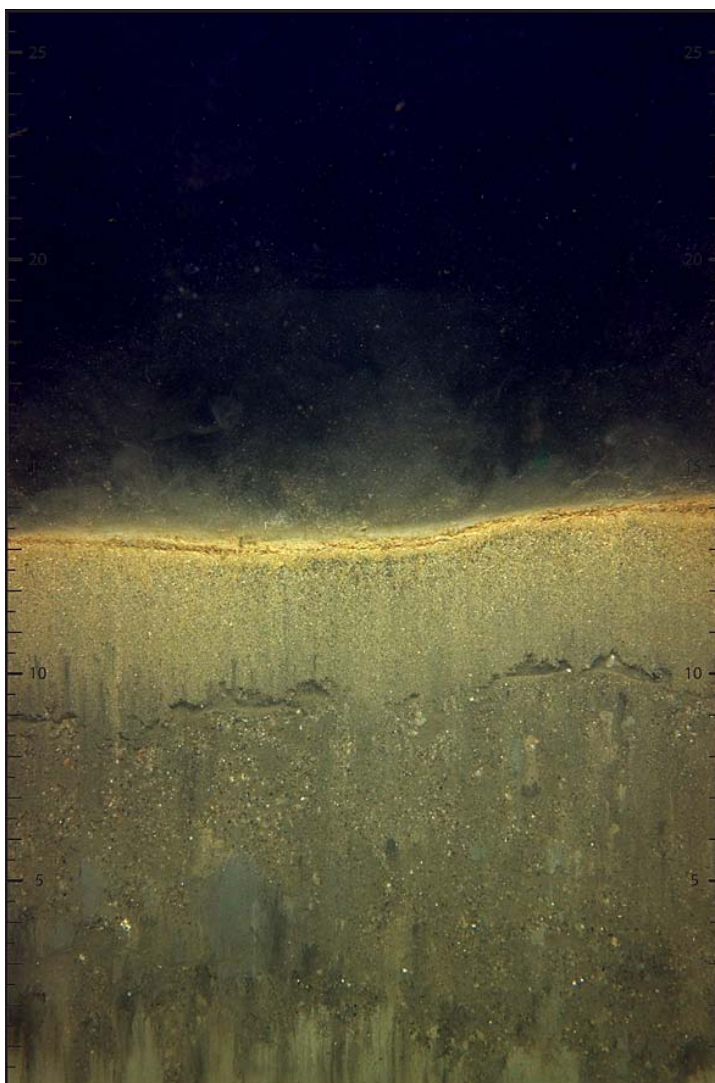
OH366 SPI NGI Malmøykalven Oslo Havn

Visit ID	1752	Date	2009-01-07	Station	OH366	Cap class	D
Latitude	59,86345	Longitude	10,72808	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4102
OH366_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	13,5	Cap crest (cm)	3,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	123,0
SPI weight	SPI 26 kg	Cap thickness (cm)	7,1

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH367 SPI NGI Malmøykalven Oslo Havn

Visit ID	1747	Date	2009-01-07	Station	OH367	Cap class	D
Latitude	59,86395	Longitude	10,72815	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4103
OH367_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

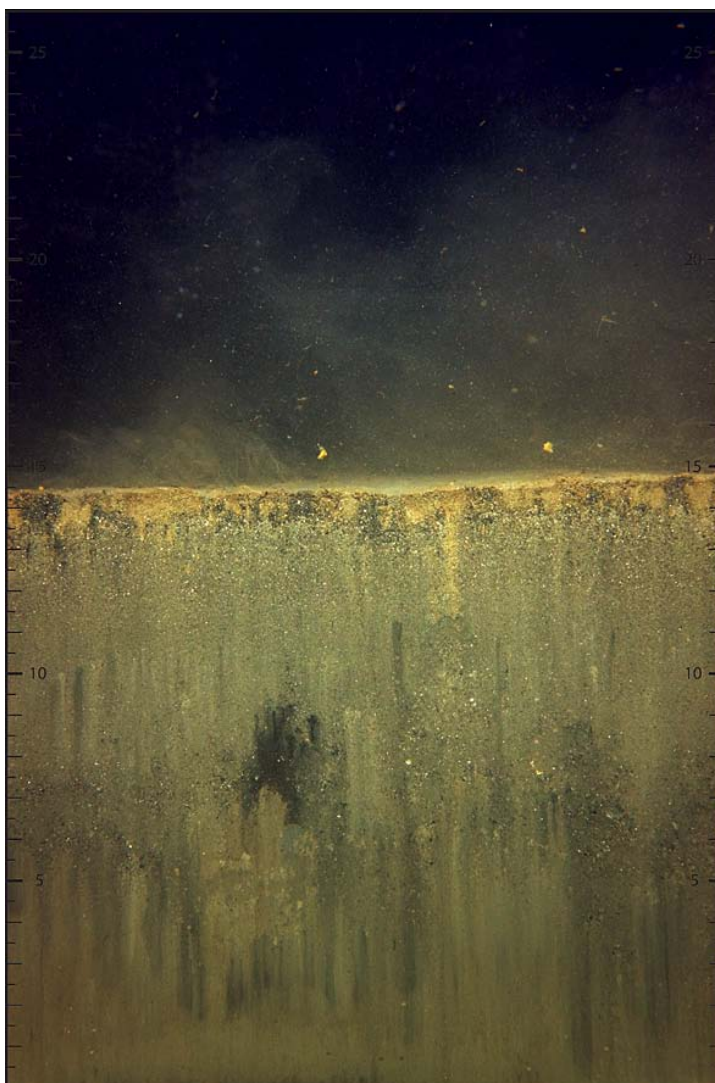
aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm) 14,5
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 1,0
Cap area (cm²) 126,0
Cap thickness (cm) 7,3

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

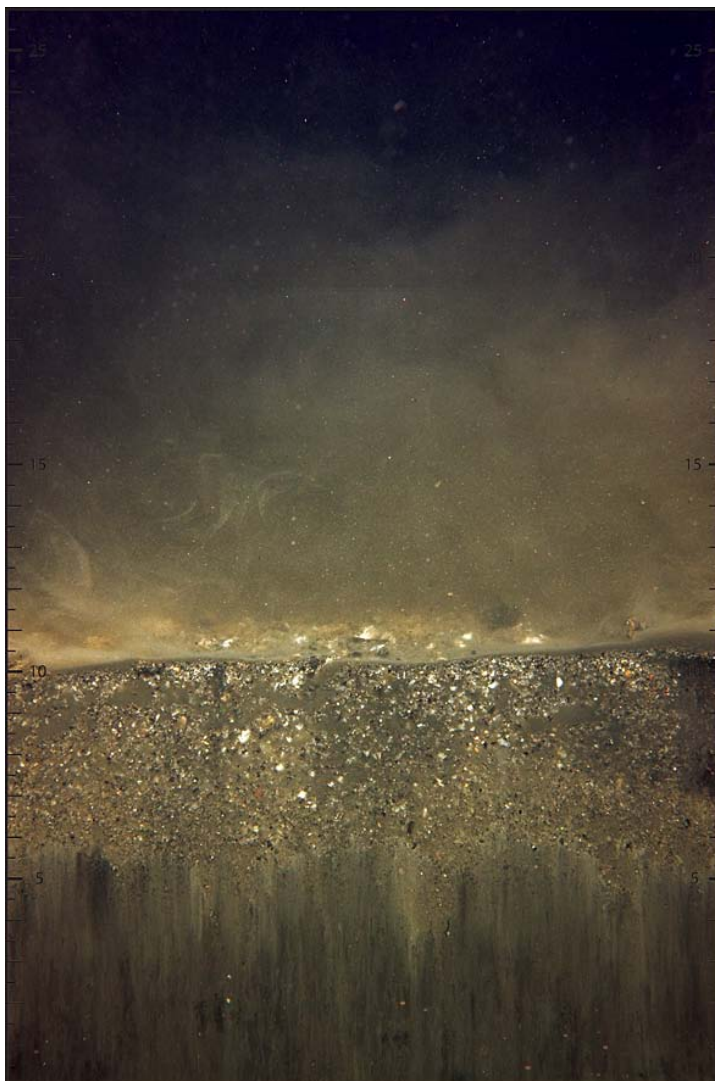
OH369b SPI NGI Malmøykalven Oslo Havn

Visit ID	1799	Date	2009-01-08	Station	OH369b	Cap class	A
Latitude	59,86508	Longitude	10,72817	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4132
OH369b_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	10,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	84,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,9

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Sort

Biogen. stucture

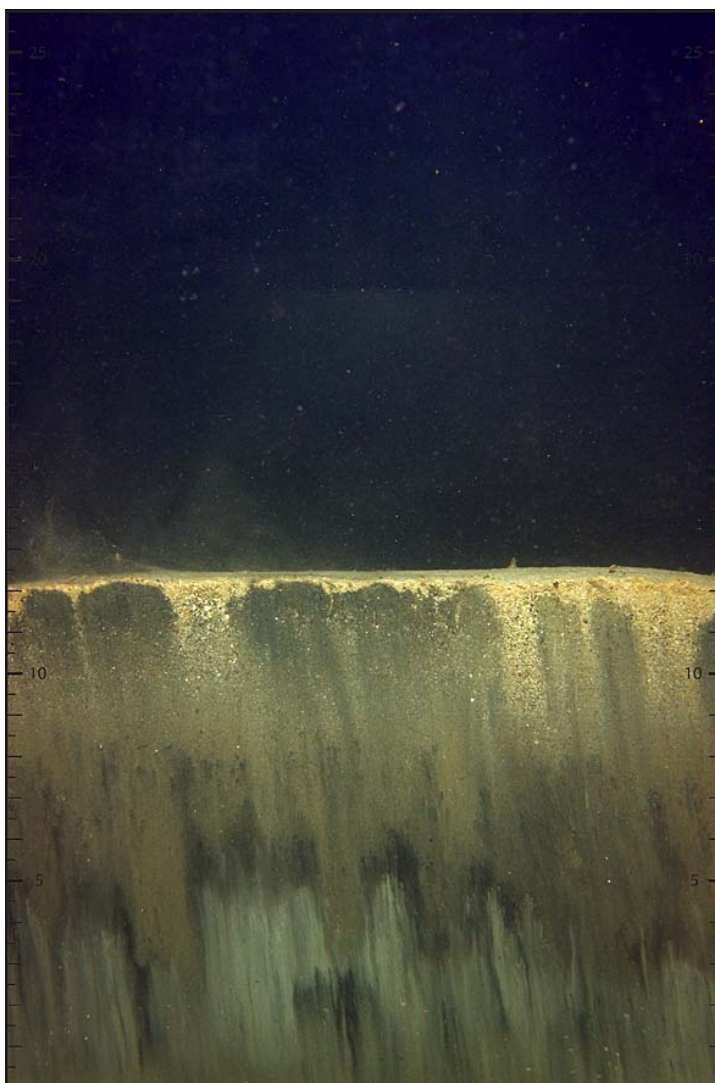
OH370 SPI NGI Malmøykalven Oslo Havn

Visit ID	1732	Date	2009-01-07	Station	OH370	Cap class	0
Latitude	59,86553	Longitude	10,72812	Depth (m)	60,2		

Detailed BHQ analyse of shown Image

Image ID 4104
OH370_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 12,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm)
Cap area (cm²) 0,0
Cap thickness (cm) 0,0

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture Børstmarkrør

OH384 SPI NGI Malmøykalven Oslo Havn

Visit ID	1758	Date	2009-01-07	Station	OH384	Cap class	D
Latitude	59,86237	Longitude	10,72880	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4105
OH384_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,0	Cap crest (cm)	2,5
Sediment roughness (cm)	1,0	Cap area (cm ²)	94,0
SPI weight	SPI 26 kg	Cap thickness (cm)	5,4

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH385 SPI NGI Malmøykalven Oslo Havn

Visit ID	1754	Date	2009-01-07	Station	OH385	Cap class	D
Latitude	59,86286	Longitude	10,72917	Depth (m)	67,5		

Detailed BHQ analyse of shown Image

Image ID 4106
OH385_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

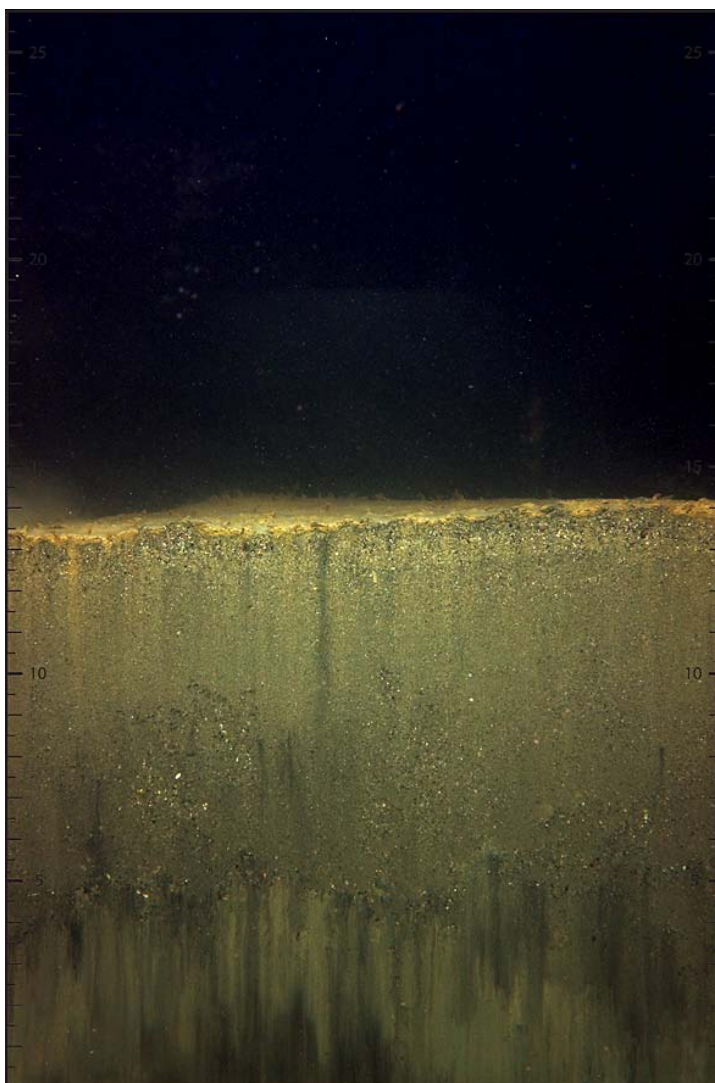
aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	14,0
Sediment roughness (cm)	0,0
SPI weight	SPI 26 kg

Cap crest (cm)	3,5
Cap area (cm ²)	74,0
Cap thickness (cm)	4,3

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. structure

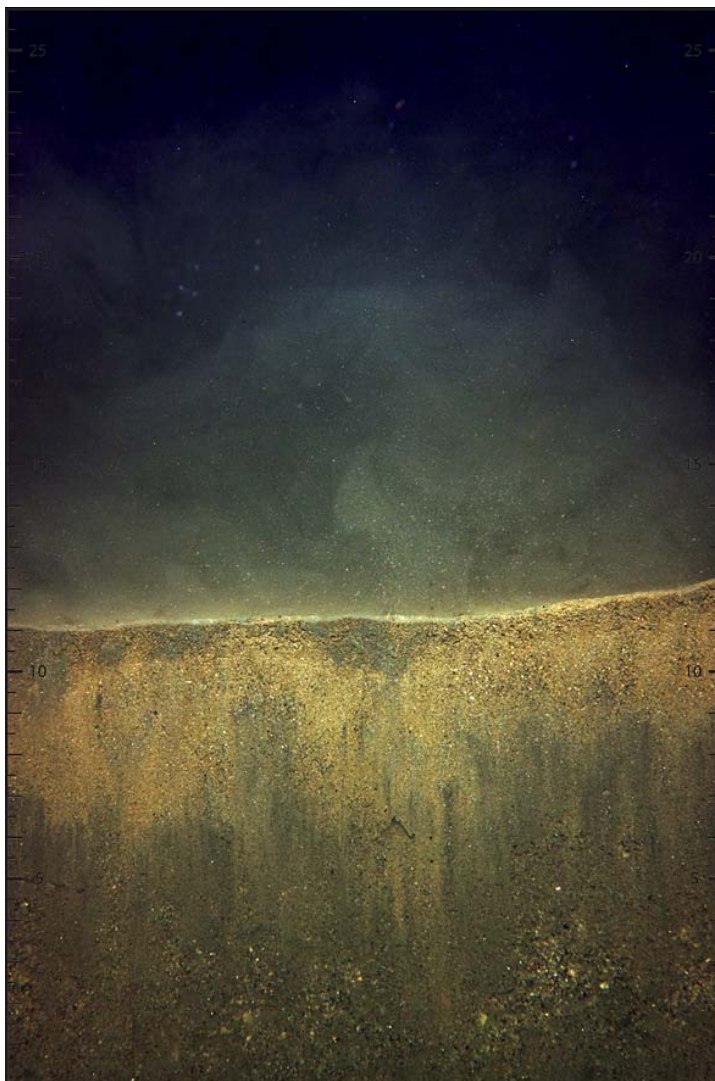
OH388 SPI NGI Malmøykalven Oslo Havn

Visit ID	1746	Date	2009-01-07	Station	OH388	Cap class	D
Latitude	59,86440	Longitude	10,72923	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4107
OH388_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	5,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	85,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,9

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH389b SPI NGI Malmøykalven Oslo Havn

Visit ID	1800	Date	2009-01-08	Station	OH389b	Cap class	A
Latitude	59,86507	Longitude	10,72917	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4133
OH389b_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	100,0
SPI weight	SPI 26 kg	Cap thickness (cm)	5,8

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

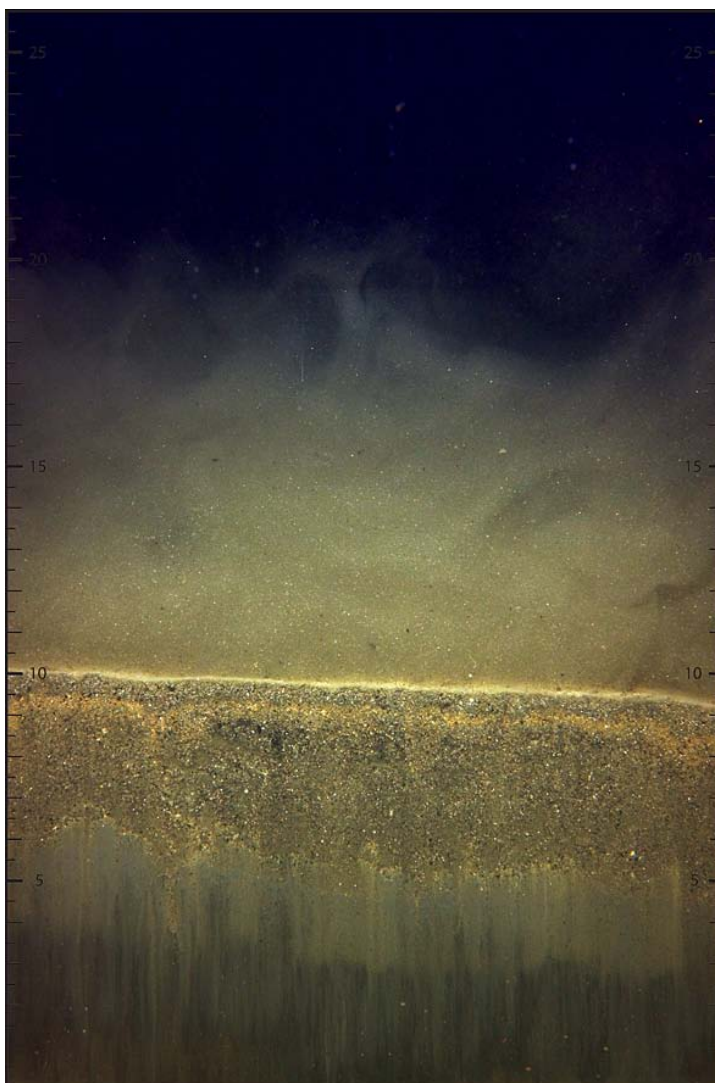
OH390 SPI NGI Malmøykalven Oslo Havn

Visit ID	1731	Date	2009-01-07	Station	OH390	Cap class	A
Latitude	59,86552	Longitude	10,72932	Depth (m)	67,3		

Detailed BHQ analyse of shown Image

Image ID 4109
OH390_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	9,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	74,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,3

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Sort

Biogen. stucture

OH392 SPI NGI Malmøykalven Oslo Havn

Visit ID	1771	Date	2009-01-08	Station	OH392	Cap class	0
Latitude	59,86660	Longitude	10,72942	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4134
OH392_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	25,0	Cap crest (cm)	
Sediment roughness (cm)	0,0	Cap area (cm ²)	0,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	0,0

Color sediment layer 1 Sort
Color sediment layer 2 Sort

Biogen. stucture

OH394 SPI NGI Malmøykalven Oslo Havn

Visit ID	1787	Date	2009-01-08	Station	OH394	Cap class	0
Latitude	59,86782	Longitude	10,72958	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4135
OH394_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	20,5	Cap crest (cm)	
Sediment roughness (cm)	1,0	Cap area (cm ²)	0,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	0,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH395 SPI NGI Malmøykalven Oslo Havn

Visit ID	1777	Date	2009-01-08	Station	OH395	Cap class	B
Latitude	59,86822	Longitude	10,72945	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4136
OH395_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	19,5	Cap crest (cm)	0,0
Sediment roughness (cm)	5,0	Cap area (cm ²)	15,0
SPI weight	SPI 26 kg	Cap thickness (cm)	0,9

Color sediment layer 1
Color sediment layer 2

Biogen. stucture

OH396 SPI NGI Malmøykalven Oslo Havn

Visit ID	1792	Date	2009-01-08	Station	OH396	Cap class	0
Latitude	59,86875	Longitude	10,72957	Depth (m)	65		

Detailed BHQ analyse of shown Image

Image ID 4137
OH396_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	18,0	Cap crest (cm)	
Sediment roughness (cm)	0,0	Cap area (cm ²)	0,0
SPI weight	SPI 26 kg	Cap thickness (cm)	0,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH404 SPI NGI Malmøykalven Oslo Havn

Visit ID	1757	Date	2009-01-07	Station	OH404	Cap class	A
Latitude	59,86228	Longitude	10,73022	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4110
OH404_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	12,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	132,0
SPI weight	SPI 26 kg	Cap thickness (cm)	7,6

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

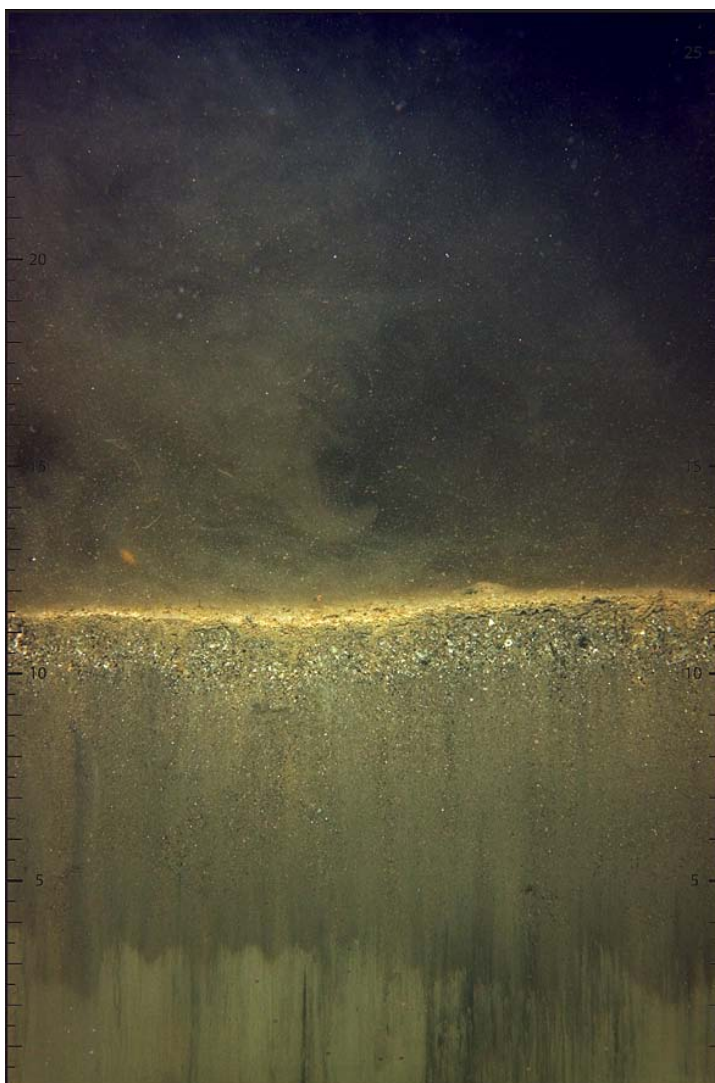
OH405 SPI NGI Malmøykalven Oslo Havn

Visit ID	1755	Date	2009-01-07	Station	OH405	Cap class	A
Latitude	59,86280	Longitude	10,73025	Depth (m)	67,5		

Detailed BHQ analyse of shown Image

Image ID 4111
OH405_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	53,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,1

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH406 SPI NGI Malmøykalven Oslo Havn

Visit ID 1751 Date 2009-01-07 Station OH406 Cap class
 Latitude 59,86332 Longitude 10,73018 Depth (m) 66 A

Detailed BHQ analyse of shown Image

Image ID 4112
 OH406_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound

Surface #

Infauna
 Sesil epifauna
 Shallow Burrow

Deep Burrow
 Oxidic void
 Anoxic void

Subsurface #

aRPD (cm)

RPD #

BHQ index Σ

Ecological status
 Mean
 Ecological status



Penetration depth (cm) 13,5
 Sediment roughness (cm) 1,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 80,0
 Cap thickness (cm) 4,6

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure Børstmarkrør

OH407 SPI NGI Malmøykalven Oslo Havn

Visit ID	1748	Date	2009-01-07	Station	OH407	Cap class	A
Latitude	59,86392	Longitude	10,73033	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4113
OH407_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	144,0
SPI weight	SPI 26 kg	Cap thickness (cm)	8,3

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH408b SPI NGI Malmøykalven Oslo Havn

Visit ID	1801	Date	2009-01-08	Station	OH408b	Cap class	A
Latitude	59,86445	Longitude	10,73020	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4138
OH408b_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 12,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 134,0
Cap thickness (cm) 7,7

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH409 SPI NGI Malmøykalven Oslo Havn

Visit ID	1742	Date	2009-01-07	Station	OH409	Cap class	A
Latitude	59,86500	Longitude	10,73030	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4115
OH409_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	113,0
SPI weight	SPI 26 kg	Cap thickness (cm)	6,5

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

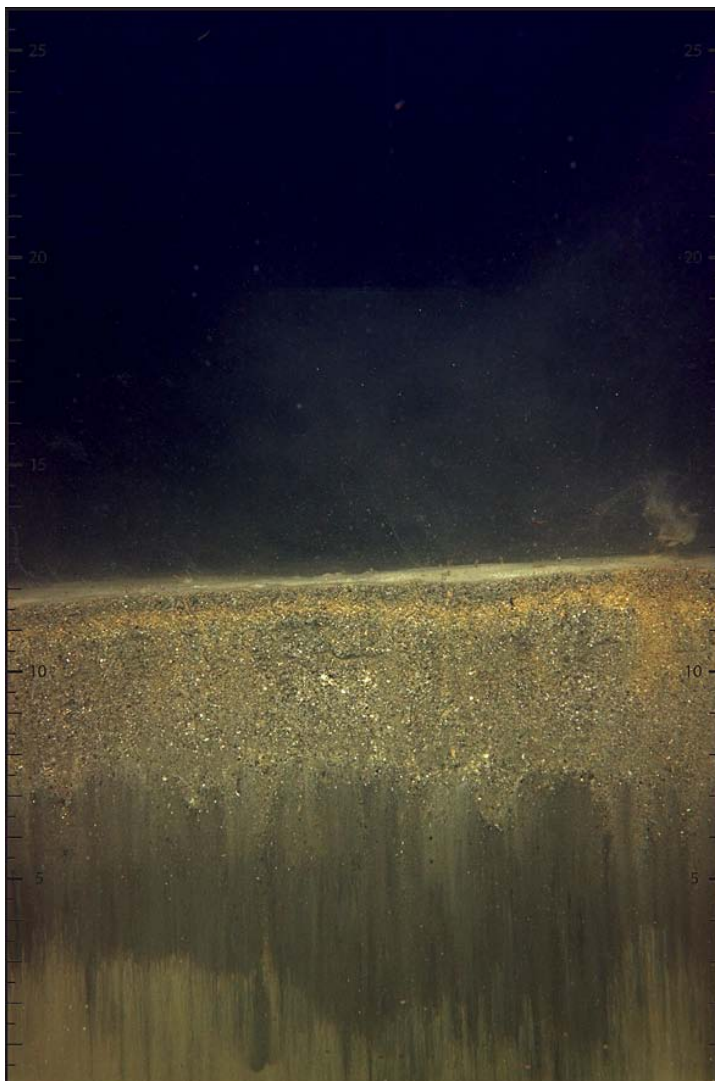
OH410 SPI NGI Malmøykalven Oslo Havn

Visit ID	1730	Date	2009-01-07	Station	OH410	Cap class	A
Latitude	59,86552	Longitude	10,73032	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4116
OH410_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 12,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 80,0
Cap thickness (cm) 4,6

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture Børstmarkrør

OH411 SPI NGI Malmøykalven Oslo Havn

Visit ID 1745 Date 2009-01-07 Station OH411 Cap class
 Latitude 59,86605 Longitude 10,73032 Depth (m) 68 A

Detailed BHQ analyse of shown Image

Image ID 4117
 OH411_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 14,0
 Sediment roughness (cm) 0,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 62,0
 Cap thickness (cm) 3,6

Color sediment layer 1 Mørkgrå
 Color sediment layer 2 Sort

Biogen. structure

OH412 SPI NGI Malmøykalven Oslo Havn

Visit ID	1772	Date	2009-01-08	Station	OH412	Cap class	A
Latitude	59,86657	Longitude	10,73038	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4139
OH412_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	16,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	222,0
SPI weight	SPI 26 kg	Cap thickness (cm)	12,8

Color sediment layer 1 Lysgrå
Color sediment layer 2 Mørkgrå

Biogen. stucture

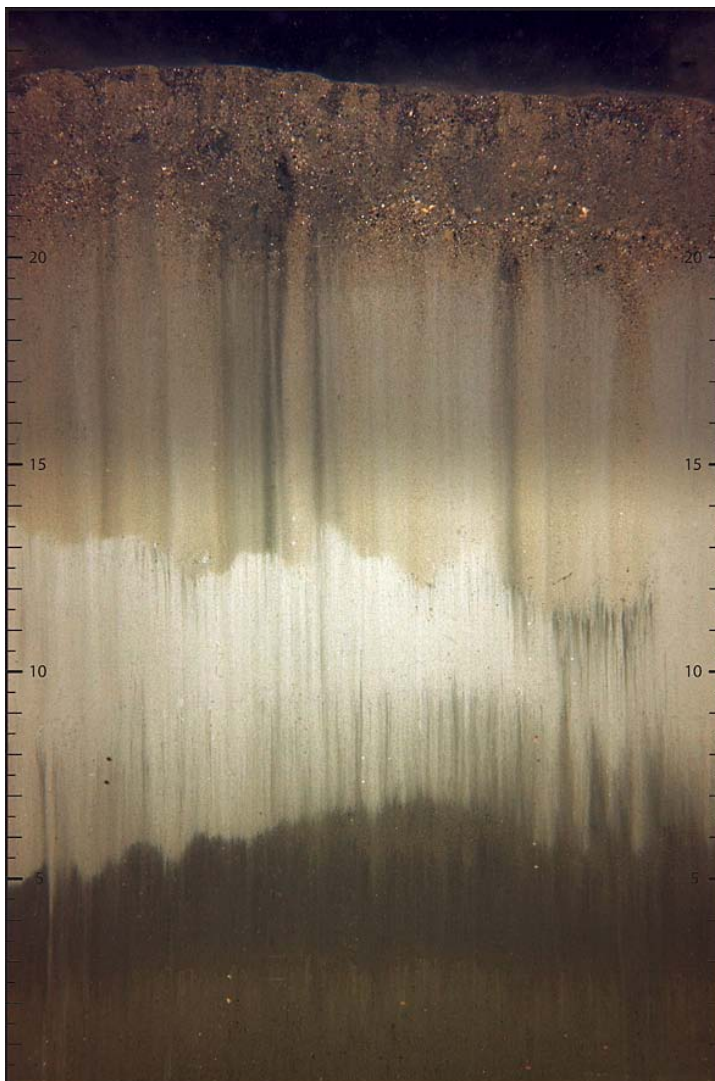
OH413b SPI NGI Malmøykalven Oslo Havn

Visit ID	1785	Date	2009-01-08	Station	OH413b	Cap class	A
Latitude	59,86705	Longitude	10,73053	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4140
OH413b_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	24,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	70,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	4,0

Color sediment layer 1 Lysgrå
Color sediment layer 2 Sort

Biogen. stucture

OH414 SPI NGI Malmøykalven Oslo Havn

Visit ID	1788	Date	2009-01-08	Station	OH414	Cap class	A
Latitude	59,86762	Longitude	10,73047	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4141
OH414_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	13,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	62,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	3,6

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH415 SPI NGI Malmøykalven Oslo Havn

Visit ID 1776 Date 2009-01-08 Station OH415 Cap class
 Latitude 59,86820 Longitude 10,73045 Depth (m) A

Detailed BHQ analyse of shown Image

Image ID 4142
 OH415_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesi epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 15,5 Cap crest (cm) 0,0
 Sediment roughness (cm) 0,5 Cap area (cm²) 60,0
 SPI weight SPI 26 kg Cap thickness (cm) 3,5

Color sediment layer 1 Sort
 Color sediment layer 2

Biogen. structure

OH416 SPI NGI Malmøykalven Oslo Havn

Visit ID	1793	Date	2009-01-08	Station	OH416	Cap class	A
Latitude	59,86877	Longitude	10,73063	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4143
OH416_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	10,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	54,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	3,1

Color sediment layer 1 Sort
Color sediment layer 2 Mørkgrå

Biogen. stucture

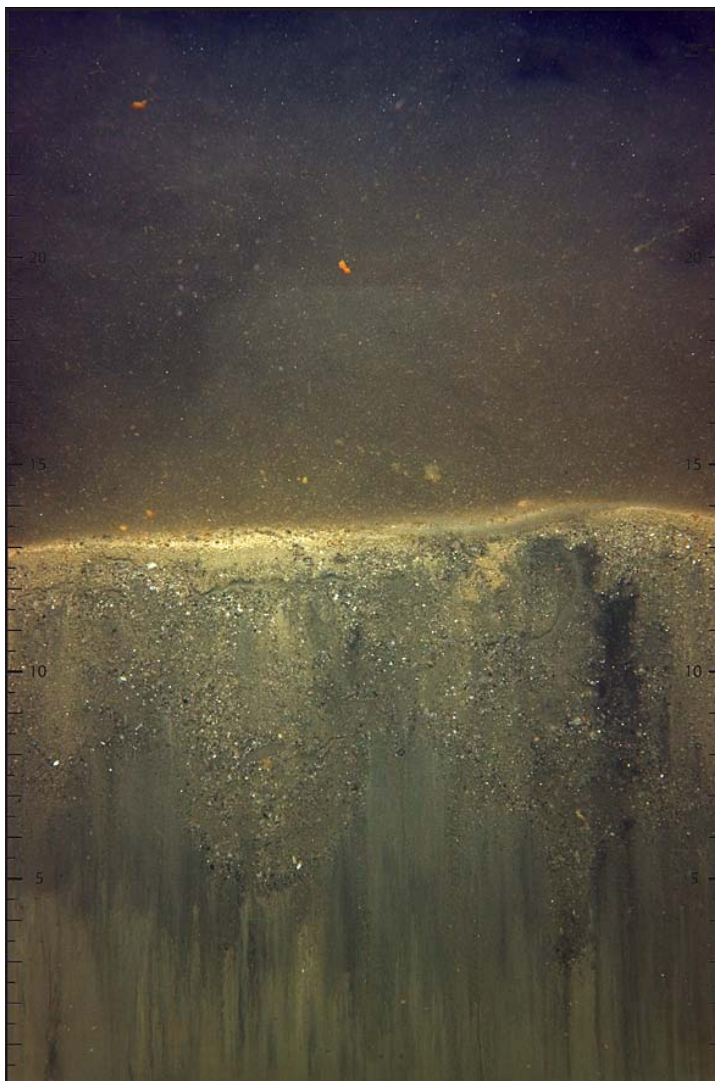
OH425 SPI NGI Malmøykalven Oslo Havn

Visit ID	1756	Date	2009-01-07	Station	OH425	Cap class	A
Latitude	59,86285	Longitude	10,73130	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4118
OH425_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	13,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	107,0
SPI weight	SPI 26 kg	Cap thickness (cm)	6,2

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH426 SPI NGI Malmøykalven Oslo Havn

Visit ID 1750 Date 2009-01-07 Station OH426 Cap class
 Latitude 59,86337 Longitude 10,73162 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4119
 OH426_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 15,5
 Sediment roughness (cm) 0,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 98,0
 Cap thickness (cm) 5,7

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure Børstmarkrør

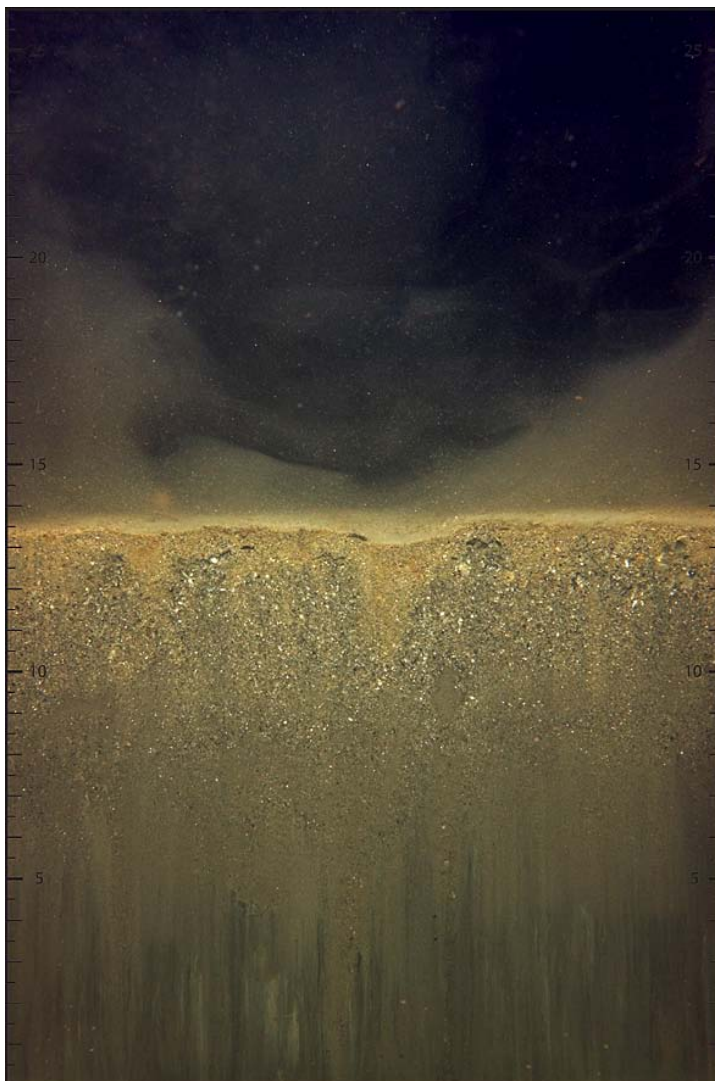
OH427 SPI NGI Malmøykalven Oslo Havn

Visit ID 1749 Date 2009-01-07 Station OH427 Cap class
 Latitude 59,86385 Longitude 10,73123 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4120
 OH427_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 13,5
 Sediment roughness (cm) 0,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 85,0
 Cap thickness (cm) 4,9

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure Børstmarkrør

OH428 SPI NGI Malmøykalven Oslo Havn

Visit ID	1736	Date	2009-01-07	Station	OH428	Cap class	A
Latitude	59,86440	Longitude	10,73128	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4121
OH428_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	7,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	76,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,4

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH429 SPI NGI Malmøykalven Oslo Havn

Visit ID	1741	Date	2009-01-07	Station	OH429	Cap class	A
Latitude	59,86490	Longitude	10,73132	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4122
OH429_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	179,0
SPI weight	SPI 26 kg	Cap thickness (cm)	10,3

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH430 SPI NGI Malmøykalven Oslo Havn

Visit ID	1729	Date	2009-01-07	Station	OH430	Cap class	A
Latitude	59,86550	Longitude	10,73140	Depth (m)	67,2		

Detailed BHQ analyse of shown Image

Image ID 4123
OH430_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	9,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	63,0
SPI weight	SPI 26 kg	Cap thickness (cm)	3,6

Color sediment layer 1 Lysgrå
Color sediment layer 2

Biogen. stucture

OH431 SPI NGI Malmøykalven Oslo Havn

Visit ID	1744	Date	2009-01-07	Station	OH431	Cap class	A
Latitude	59,86603	Longitude	10,73142	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4124
OH431_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	17,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	75,0
SPI weight	SPI 26 kg	Cap thickness (cm)	4,3

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Sort

Biogen. stucture

OH432 SPI NGI Malmøykalven Oslo Havn

Visit ID 1778 Date 2009-01-08 Station OH432 Cap class
 Latitude 59,86657 Longitude 10,73153 Depth (m) 66 A

Detailed BHQ analyse of shown Image

Image ID 4144
 OH432_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sésil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 21,0
 Sediment roughness (cm) 1,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 60,0
 Cap thickness (cm) 3,5

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure

OH433b SPI NGI Malmøykalven Oslo Havn

Visit ID	1786	Date	2009-01-08	Station	OH433b	Cap class	A
Latitude	59,86710	Longitude	10,73157	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4145
OH433b_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	25,5	Cap crest (cm)	0,0
Sediment roughness (cm)	2,0	Cap area (cm ²)	99,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	5,7

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

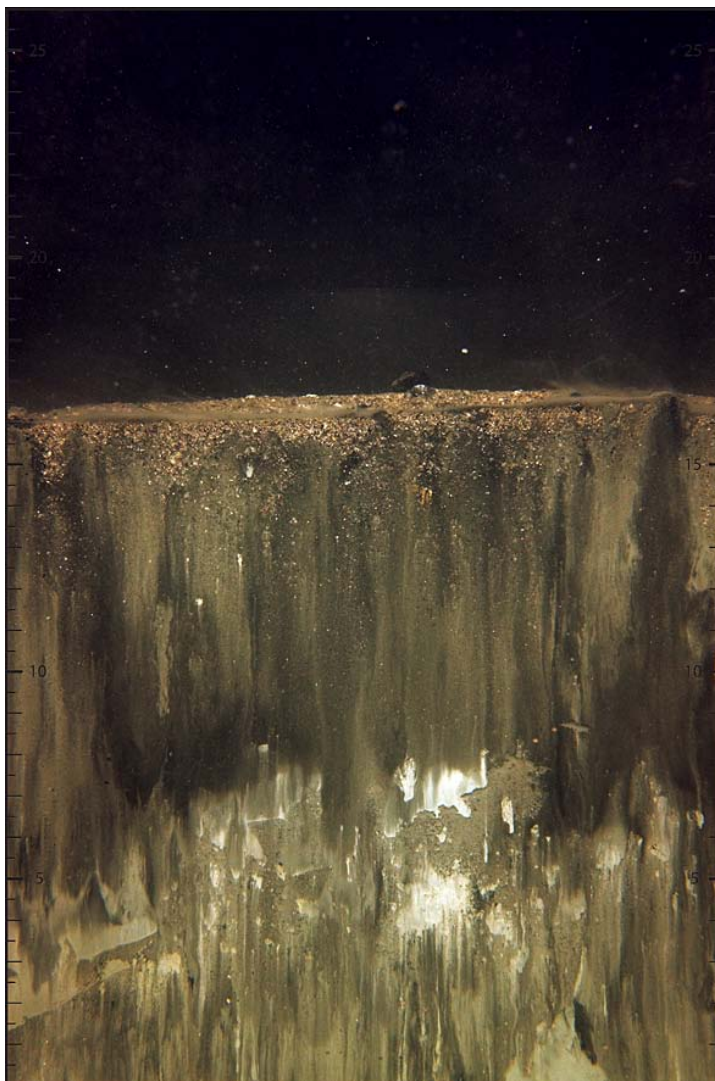
OH434 SPI NGI Malmøykalven Oslo Havn

Visit ID 1789 Date 2009-01-08 Station OH434 Cap class
 Latitude 59,86765 Longitude 10,73157 Depth (m) B

Detailed BHQ analyse of shown Image

Image ID 4146
 OH434_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 16,5 Cap crest (cm) 0,0
 Sediment roughness (cm) 0,0 Cap area (cm²) 15,0
 SPI weight SPI 16,8 kg Cap thickness (cm) 0,9

Color sediment layer 1 Sort
 Color sediment layer 2 Lysgrå

Biogen. structure

OH436 SPI NGI Malmøykalven Oslo Havn

Visit ID 1794 Date 2009-01-08 Station OH436 Cap class
 Latitude 59,86872 Longitude 10,73167 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4147
 OH436_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 12,0 Cap crest (cm) 0,0
 Sediment roughness (cm) 1,0 Cap area (cm²) 70,0
 SPI weight SPI 16,8 kg Cap thickness (cm) 4,0

Color sediment layer 1 Lysgrå
 Color sediment layer 2 Mørkgrå

Biogen. structure

OH448b SPI NGI Malmøykalven Oslo Havn

Visit ID 1798 Date 2009-01-08 Station OH448b Cap class
 Latitude 59,86445 Longitude 10,73242 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4148
 OH448b_2.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesi epifauna
 Shallow Burrow
 Deep Burrow
 Oxid void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 5,0 Cap crest (cm) 0,0
 Sediment roughness (cm) 2,0 Cap area (cm²) 85,0
 SPI weight SPI 16,8 kg Cap thickness (cm) 4,9

Color sediment layer 1 Lysgrå
 Color sediment layer 2

Biogen. structure Børstmarkrør

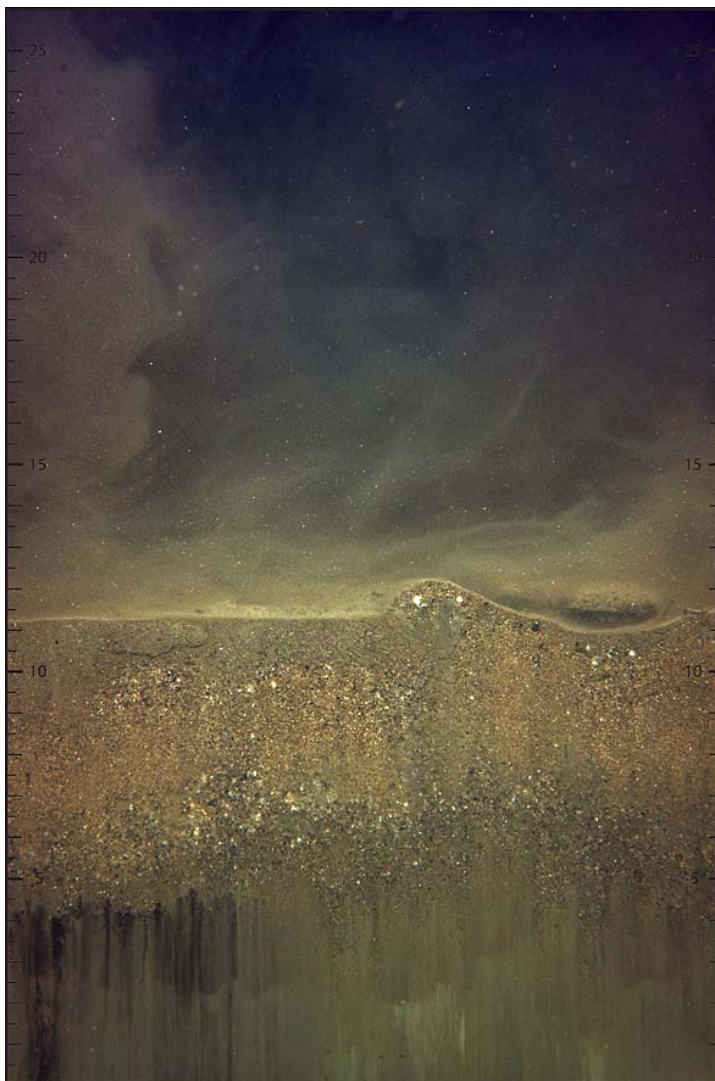
OH449 SPI NGI Malmøykalven Oslo Havn

Visit ID	1740	Date	2009-01-07	Station	OH449	Cap class	A
Latitude	59,86493	Longitude	10,73235	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4126
OH449_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,0	Cap area (cm ²)	107,0
SPI weight	SPI 26 kg	Cap thickness (cm)	6,2

Color sediment layer 1 Sort
Color sediment layer 2 Mørkgrå

Biogen. stucture

OH450 SPI NGI Malmøykalven Oslo Havn

Visit ID	1728	Date	2009-01-07	Station	OH450	Cap class	A
Latitude	59,86553	Longitude	10,73255	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4127
OH450_3.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	9,0	Cap crest (cm)	0,0
Sediment roughness (cm)	2,5	Cap area (cm ²)	123,0
SPI weight SPI 26 kg		Cap thickness (cm)	7,1

Color sediment layer 1 Lysgrå
Color sediment layer 2

Biogen. stucture

OH452 SPI NGI Malmøykalven Oslo Havn

Visit ID	1779	Date	2009-01-08	Station	OH452	Cap class	A
Latitude	59,86659	Longitude	10,73252	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4149
OH452_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	23,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	133,0
SPI weight SPI 26 kg		Cap thickness (cm)	7,7

Color sediment layer 1 Lysgrå
Color sediment layer 2

Biogen. stucture

OH453 SPI NGI Malmøykalven Oslo Havn

Visit ID 1783 Date 2009-01-08 Station OH453 Cap class
 Latitude 59,86711 Longitude 10,73268 Depth (m) 68 A

Detailed BHQ analyse of shown Image

Image ID 4150
 OH453_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesi epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 18,0 Cap crest (cm) 0,0
 Sediment roughness (cm) 0,0 Cap area (cm²) 102,0
 SPI weight SPI 16,8 kg Cap thickness (cm) 5,9

Color sediment layer 1 Sort
 Color sediment layer 2 Lysgrå

Biogen. structure

OH454 SPI NGI Malmøykalven Oslo Havn

Visit ID	1790	Date	2009-01-08	Station	OH454	Cap class	A
Latitude	59,86768	Longitude	10,73270	Depth (m)	68		

Detailed BHQ analyse of shown Image

Image ID 4151
OH454_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	13,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	96,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	5,5

Color sediment layer 1 Lysgrå
Color sediment layer 2

Biogen. stucture

OH455 SPI NGI Malmøykalven Oslo Havn

Visit ID	1775	Date	2009-01-08	Station	OH455	Cap class	B
Latitude	59,86822	Longitude	10,73273	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4152
OH455_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 15,0
Sediment roughness (cm) 1,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 50,0
Cap thickness (cm) 2,9

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OH468 SPI NGI Malmøykalven Oslo Havn

Visit ID 1738 Date 2009-01-07 Station OH468 Cap class
 Latitude 59,86438 Longitude 10,73343 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4128
 OH468_2.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface #

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface #

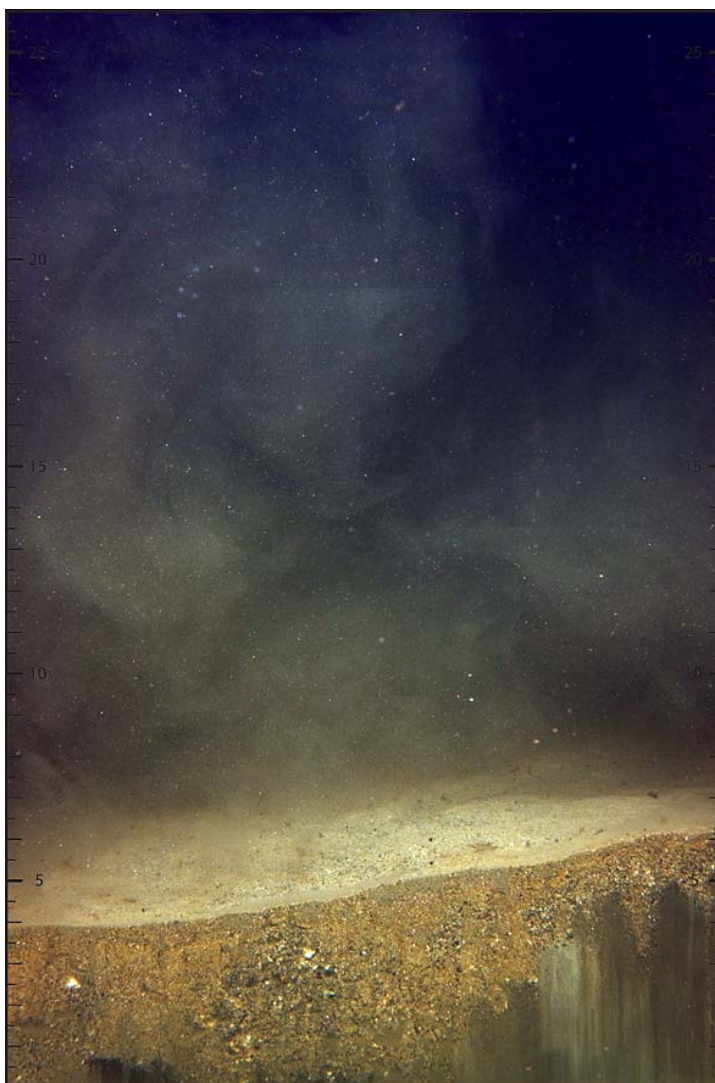
aRPD (cm)

RPD #

BHQ index Σ

Ecological status

Mean
 Ecological status



Penetration depth (cm)	5,0	Cap crest (cm)	0,0
Sediment roughness (cm)	2,0	Cap area (cm ²)	54,0
SPI weight SPI 26 kg		Cap thickness (cm)	3,1

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. stucture

OH469 SPI NGI Malmøykalven Oslo Havn

Visit ID 1739 Date 2009-01-07 Station OH469 Cap class
 Latitude 59,86490 Longitude 10,73352 Depth (m) 67 A

Detailed BHQ analyse of shown Image

Image ID 4129
 OH469_2.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface #

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface #

aRPD (cm)

RPD #

BHQ index Σ#

Ecological status

Mean
 Ecological status



Penetration depth (cm) 5,5
 Sediment roughness (cm) 0,0
 SPI weight SPI 26 kg

Cap crest (cm) 0,0
 Cap area (cm²) 90,0
 Cap thickness (cm) 5,2

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure Børstmarkrør

OH470 SPI NGI Malmøykalven Oslo Havn

Visit ID	1797	Date	2009-01-08	Station	OH470	Cap class	A
Latitude	59,86548	Longitude	10,73358	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4153
OH470_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	9,5	Cap crest (cm)	0,0
Sediment roughness (cm)	1,5	Cap area (cm ²)	153,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	8,8

Color sediment layer 1 Mørkgrå
Color sediment layer 2

Biogen. stucture

OH471 SPI NGI Malmøykalven Oslo Havn

Visit ID	1743	Date	2009-01-07	Station	OH471	Cap class	A
Latitude	59,86600	Longitude	10,73350	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4130
OH471_1.jpg

Fecal

Small tube

Large tube

Brittle star

Feeding pit

Mound

Surface # 

Infauna

Sesil epifauna

Shallow Burrow

Deep Burrow

Oxic void

Anoxic void

Subsurface # 

aRPD (cm)

RPD # 

BHQ index Σ# 

Ecological status 

Mean
Ecological status 



Penetration depth (cm)	10,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	173,0
SPI weight	SPI 26 kg	Cap thickness (cm)	10,0

Color sediment layer 1
Color sediment layer 2

Biogen. structure

OH472 SPI NGI Malmøykalven Oslo Havn

Visit ID	1780	Date	2009-01-08	Station	OH472	Cap class	A
Latitude	59,86655	Longitude	10,73365	Depth (m)	66		

Detailed BHQ analyse of shown Image

Image ID 4154
OH472_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm) 17,0
Sediment roughness (cm) 0,0
SPI weight SPI 26 kg

Cap crest (cm) 0,0
Cap area (cm²) 118,0
Cap thickness (cm) 6,8

Color sediment layer 1 Mørkgrå
Color sediment layer 2 Lysgrå

Biogen. stucture

OH473 SPI NGI Malmøykalven Oslo Havn

Visit ID	1784	Date	2009-01-08	Station	OH473	Cap class	A
Latitude	59,86702	Longitude	10,73373	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4155
OH473_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,5	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	124,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	7,2

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

OH474 SPI NGI Malmøykalven Oslo Havn

Visit ID	1791	Date	2009-01-08	Station	OH474	Cap class	
Latitude	59,86758	Longitude	10,73372	Depth (m)	68		ns

Image ID 4156
OH474_1.jpg

Detailed BHQ analyse of shown Image

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	Cap crest (cm)
Sediment roughness (cm)	Cap area (cm ²)
SPI weight SPI 16,8 kg	Cap thickness (cm)
Color sediment layer 1	Biogen. stucture
Color sediment layer 2	

OH475 SPI NGI Malmøykalven Oslo Havn

Visit ID 1774 Date 2009-01-08 Station OH475 Cap class
 Latitude 59,86817 Longitude 10,73377 Depth (m) 65 A

Detailed BHQ analyse of shown Image

Image ID 4157
 OH475_1.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sesil epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 13,5 Cap crest (cm) 0,0
 Sediment roughness (cm) 0,0 Cap area (cm²) 61,0
 SPI weight SPI 26 kg Cap thickness (cm) 3,5

Color sediment layer 1 Mørkgrå
 Color sediment layer 2 Lysgrå

Biogen. structure

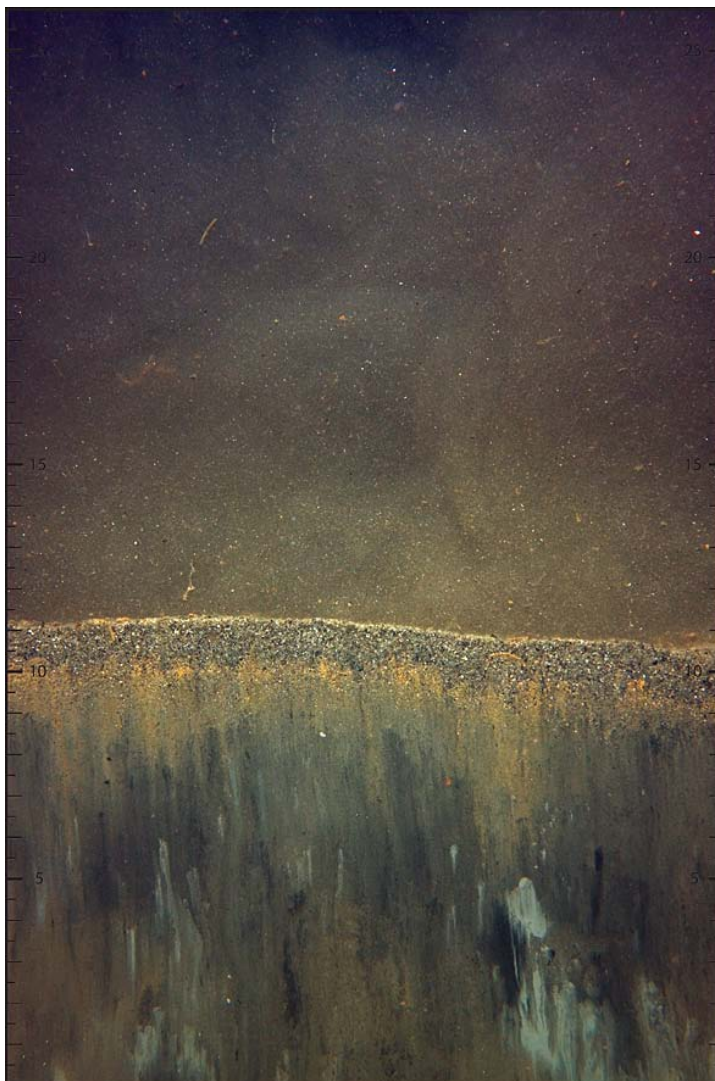
OH476 SPI NGI Malmøykalven Oslo Havn

Visit ID	1795	Date	2009-01-08	Station	OH476	Cap class	B
Latitude	59,86865	Longitude	10,73370	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4158
OH476_1.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	11,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,5	Cap area (cm ²)	17,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	1,0

Color sediment layer 1 Sort
Color sediment layer 2 Mørkgrå

Biogen. stucture

OH490 SPI NGI Malmøykalven Oslo Havn

Visit ID	1796	Date	2009-01-08	Station	OH490	Cap class	A
Latitude	59,86548	Longitude	10,73465	Depth (m)	67		

Detailed BHQ analyse of shown Image

Image ID 4159
OH490_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	12,0	Cap crest (cm)	0,0
Sediment roughness (cm)	0,0	Cap area (cm ²)	55,0
SPI weight SPI	16,8 kg	Cap thickness (cm)	3,2

Color sediment layer 1 Sort
Color sediment layer 2 Lysgrå

Biogen. stucture

OH495 SPI NGI Malmøykalven Oslo Havn

Visit ID 1773 Date 2009-01-08 Station OH495 Cap class
 Latitude 59,86818 Longitude 10,73498 Depth (m) 64 A

Detailed BHQ analyse of shown Image

Image ID 4160
 OH495_2.jpg

Fecal
 Small tube
 Large tube
 Brittle star
 Feeding pit
 Mound
 Surface #
 Infauna
 Sessile epifauna
 Shallow Burrow
 Deep Burrow
 Oxidic void
 Anoxic void
 Subsurface #
 aRPD (cm)
 RPD #
 BHQ index Σ#
 Ecological status
 Mean
 Ecological status



Penetration depth (cm) 15,5 Cap crest (cm) 0,0
 Sediment roughness (cm) 0,0 Cap area (cm²) 60,0
 SPI weight SPI 26 kg Cap thickness (cm) 3,5

Color sediment layer 1 Mørkgrå
 Color sediment layer 2

Biogen. structure

SPI138 SPI NGI Malmøykalven Oslo Havn

Visit ID	1770	Date	2009-01-07	Station	SPI138	Cap class	0
Latitude	59,85883	Longitude	10,72048	Depth (m)	61,5		

Detailed BHQ analyse of shown Image

Image ID 4131
SPI138_2.jpg

Fecal	
Small tube	
Large tube	
Brittle star	
Feeding pit	
Mound	
Surface #	
Infauna	
Sesil epifauna	
Shallow Burrow	
Deep Burrow	
Oxic void	
Anoxic void	
Subsurface #	
aRPD (cm)	
RPD #	
BHQ index Σ#	
Ecological status	
Mean	
Ecological status	



Penetration depth (cm)	26,0	Cap crest (cm)	
Sediment roughness (cm)	0,0	Cap area (cm ²)	0,0
SPI weight	SPI 26 kg	Cap thickness (cm)	0,0

Color sediment layer 1 Sort
Color sediment layer 2

Biogen. stucture

NIVA: Norges ledende kompetansesenter på vannmiljø

NIVA gir offentlig vannforvaltning, næringsliv og allmennheten grunnlag for god vannforvaltning gjennom oppdragsbasert forsknings-, utrednings- og utviklingsarbeid. NIVA kjennetegnes ved stor faglig bredde og godt kontaktnett til fagmiljøer i inn- og utland. Faglig tyngde, tverrfaglig arbeidsform og en helhetlig tilnærmingssmåte er vårt grunnlag for å være en god rådgiver for forvaltning og samfunnsliv.



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