

BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ
İNÖNÜ MAH. YILDIRIMLAR SAN. SİT. 1738. SOK.
1/10 KAT:6 BATIKENT ANKARA



HAVA KALİTESİ ÖLÇÜMLERİ SONUÇ RAPORU

Müşterinin Adı/Adresi: Customer Name/Address	BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ Bandırma-Bursa-Yenişehir-Osmaneli
Müşterinin Telefonu/Faksı: Customer Phone/Fax	Telefon: - Fax: -
Talep Numarası: Order No.	TP-21-045
Numunenin Adı ve Tarifi: Name And Identity Of The Test Item	Hava Kalitesi Ölçümleri
Ölçümün Yapıldığı Tarih: Date Of Test	13-14.03.2021
Raporun Numarası ve Tarihi: Number And Date Of The Report	R-21-045 02.04.2021





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İNÖNÜ MAH. YILDIRIMLAR SAN. SİT. 1738. SOK.

1/10 KAT:6 BATIKENT ANKARA

Tel: 0312 250 84 85, Fax:0312 278 48 86

E-Mail: info@batilaboratuvari.com.tr



Test
TS EN ISO/IEC 17025
AB-0946-T

AB-0946-T

R-21-045

04-21

Deney Raporu / Test Report

Müşterinin Adı/Adresi:
Customer Name/Address

BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ

Bandırma-Bursa-Yenişehir-Osmaneli

Müşterinin Telefonu/Faksı:
Customer Phone/Fax

Telefon: - / Fax: -

Talep Numarası:
Order No.

TP-21-045

Numunenin Adı ve Tarifi:
Name and Identity of the Test Item

Hava Kalitesi Ölçümleri

Numunenin Kabul Tarihi ve Numarası:
The Date and Number of Receipt of the Test Item

17.03.2021 / NK-21-045

Açıklamalar:
Remark

-

Ölçümün Yapıldığı Tarih:
Date of Test

13-14.03.2021

Raporun Sayfa Sayısı:
Number of Pages of the Report

17 (Kapak Sayfaları Hariç)

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BATI LABORATUVARI accredited by TÜRKAK under registration number AB-0946-T for TS-EN ISO/IEC 17025 as test laboratory.

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The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report. S

Tarih/Mühür
Date/Seal



02.04.2021

Deneyi Yapan
Test Done by

B.Barbaros YÜCE
Deney Sorumlusu

Raporu Hazırlayan
Report Prepared by

Melek ERCAN
Rapor Sorumlusu

Onay
Approved by



Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürlü raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



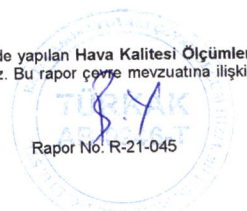
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ŞTİ

A. İÇİNDEKİLER

A. İÇİNDEKİLER.....	2
B. GİRİŞ.....	3
C. ÖLÇÜM RAPORLARI	4
1. HAVA KALİTESİ ÖLÇÜM RAPORU	4
i. Giriş.....	5
ii. Ölçüm Metotları.....	5
iii. İlgili Yönetmelik Maddeleri	5
iv. Kullanılan Cihazlar, Ölçüm Ve Analiz İşlemi.....	7
v. Ölçüm Sonuçları	8
vi. Değerlendirme ve Sonuç.....	8
D. EKLER	10
EK-1 LABORATUVAR BELGELERİ.....	13
EK-2 ÖLÇÜM CİHAZINA AİT BELGELER.....	22

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilgişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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B. GİRİŞ

Bu rapor aşağıda açık adresi belirtilen tesiste gerçekleştirilen hava kalitesi ölçümleri sonucunda hazırlanmıştır.

Ölçüm Tarihi : 13-14.03.2021
Ölçüm Yeri : BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ
Tesis Adresi : Bandırma-Bursa-Yenişehir-Osmaneli

Tablo 1: Ölçüm Nokası Bilgileri

ÖLÇÜM NOKTASI NUMARASI	LOKASYON BİLGİSİ
1.NOKTA	35 T 583110.00 d D 4465773.00 m K
2.NOKTA	35 T 593583.00 d D 4451507.00 m K
3.NOKTA	35T 612487.00 d D 4455395.00 m K
4.NOKTA	35T 629969.00 d D 4464207.00 m K
5.NOKTA	35T 647525.00 d D 4460580.00 m K
6.NOKTA	35T 666839.00 d D 4460822.00 m K
7.NOKTA	35T 686054.00 d D 4458769.00 m K
8.NOKTA	35T 705454.00 d D 4455720.00 m K
9.NOKTA	35 T 736555.00 d D 4462585.00 m K
10.NOKTA	36T 249027.00 d D 4471540.00 m K

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C. ÖLÇÜM RAPORLARI

1. HAVA KALİTESİ ÖLÇÜM RAPORU

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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i. Giriş

2872 sayılı Çevre Kanunu'nun ilgili hükümleri gereğince 03.07.2009 tarih ve 27277 sayılı Resmi Gazete'de yayınlanan "Sanayi Kaynaklı Hava Kirliliğinin Kontrolü Yönetmeliği" ve değişiklik yapılmasına dair yönetmelikler (S.K.H.K.K.Y.), her türlü sanayi ve enerji üretim tesislerinden kaynaklanan hava kirliliği seviyelerine sınırlamalar getirmekte ve bu kirlenici kaynakları "Tesis" olarak tanımlayarak çevresindeki hava kirliliğinin ölçüm ve denetimini zorunlu kılmaktadır. Bu yönetmelik gereğince yukarıda verilen tarihler arasında belirlenen noktalarda PM10 ve PM2,5 ölçümleri yapılmış ve "Sanayi Kaynaklı Hava Kirliliğinin Kontrolü Yönetmeliği" esas alınarak bu rapor hazırlanmıştır.

ii. Ölçüm Metotları

Ölçümler aşağıda verilen standartlar çerçevesinde gerçekleştirilmiştir.

TS EN 12341	NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS
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iii. İlgili Yönetmelik Maddeleri

S.K.H.K.K.Y. Ek-2 gereğince, mevcut tesislerin etki alanında Hava Kirlenmesine Katkı Değeri (H.K.K.D.)'nin dağılım modellemesi kullanılarak hesaplanması, tesis etki alanında hava kalitesinin ölçülmesi ve ölçüm metotları aşağıdaki esaslara göre yapılır:

Hava kalitesi ölçümleri kural olarak yer seviyesinden, 1,5 - 4,0 metre arasındaki yüksekliklerde, binadan (veya ekili alandan) en az 1,5 metre yan mesafe tutularak yapılır.

A - Uzun Vadeli Sınır Değerleri (UVS) : Aşılması gereken, bütün ölçüm sonuçlarının aritmetik ortalaması olan değerlerdir.

B - Kısa Vadeli Sınır Değerleri (KVS) : Maksimum günlük ortalama değerler veya istatistik olarak bütün ölçüm sonuçları sayısal değerlerinin büyüklüğüne göre dizildiğinde, ölçüm sonuçlarının % 95'ini aşmaması gereken değerlerdir.

Hava kirlenitçileri (PM 10) için uyulması gereken sınır değerler aşağıda verilmiştir.





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S.K.H.K.K.Y Tablo 2.2 Tesis Etki Alanında Hava Kalitesi Sınır Değerleri

Parametre	Süre	Birimi	YIL						2024 ve sonrası
			2014	2015	2016	2017	2018	2019-2023	
SO ₂	Saatlik (Bir Yılda 24 Defadan Fazla Aşılmaz)	µg/m ³	500	470	440	410	380	350	350
	24 Saatlik		250	225	200	175	150	125	125
	UVS		60	60	60	60	60	60	60
	**Yıllık ve kış dönemi (1 Ekim-31 Mart)		20	20	20	20	20	20	20
NO ₂	Saatlik (bir yılda 18 defadan fazla aşılmaz)	µg/m ³	300	290	280	270	260	250	200*
	yıllık		60	56	52	48	44	40*	40
Havada Asılı Partikül Madde (PM 10)	24 saatlik (bir yılda 35 defadan fazla aşılmaz)	µg/m ³	100	90	80	70	60	50	50
	Yıllık		60	56	52	48	44	40	40
Pb	Yıllık	µg/m ³	1	0,9	0,8	0,7	0,6	0,5	0,5
CO	maksimum günlük 8 saatlik ortalama	mg/m ³	16	14	12	10	10	10	10
Cd	UVS	µg/m ³	0.02	0.02	0.02	0.02	0.02	0.02	0,02
HCl	KVS	µg/m ³	150	150	150	150	150	150	150
	UVS		60	60	60	60	60	60	60
HF	Saatlik	µg/m ³	30	30	30	30	30	30	30
	KVS		5	5	5	5	5	5	5
H ₂ S	Saatlik	µg/m ³	100	100	100	100	100	100	100
	KVS		20	20	20	20	20	20	20
Toplam Organik Bileşikler (karbon cinsinden)	Saatlik	µg/m ³	280	280	280	280	280	280	280
	KVS		70	70	70	70	70	70	70
Çöken toz	KVS	mg/m ² gün	390	390	390	390	390	390	390
	UVS		210	210	210	210	210	210	210
Çöken tozda	Pb ve Bileşikleri	mg/m ² gün	250	250	250	250	250	250	250
	Cd e Bileşikleri		3,75	3,75	3,75	3,75	3,75	3,75	3,75
	Tl Ve Bileşikleri		5	5	5	5	5	5	5

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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iv. Kullanılan Cihazlar, Ölçüm Ve Analiz İşlemi

Tesiste ortam tozu (PM10) ölçümü yapılmıştır. Ölçümlerde MCZ Toz Örneklemeye Cihazı kullanılmıştır. Cihaz ortam havasında solunabilir havadaki partikül maddelerin (PM10) örneklemeye işleminin gerçekleştirilmesi için tasarlanmıştır. PM10 miktarının tayini TS EN 12341 standardına uygun olarak gerçekleştirilmiştir. Örneklemeye işleminde toz filtrede toplanır ve laboratuvar şartlarında gravimetrik olarak tayin edilir. 2,3 m³/sn akış debisi ile cihazlar örneklemeye yapabilmektedir. Filtre tutucuda toplanan partikül maddeler, belirli sürenin sonunda cihazdan alınarak laboratuvara getirilmektedir. Burada, etüvde kurutulan filtreler terazide tartılarak meydana gelen ağırlık farkı hesaplanmaktadır. Tartımdan elde edilen fark numune alma süresi hesaba katılarak değerlendirilmektedir.

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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v. Ölçüm Sonuçları

Belirlenen lokasyonlarda yapılan ölçümler sonucunda elde edilen günlük değerler aşağıda verilmiştir.

Tablo 1: Hava Kalitesi (PM10) Ölçüm Sonuçları

ÖLÇÜM TARİHİ	ÖLÇÜM NUMARASI	KOORDİNATLAR	KONSANTRASYON $\mu\text{g}/\text{m}^3$	SKHKKYSINIR DEĞER KVD $\mu\text{g}/\text{m}^3$
13-14.03.2021	1.NOKTA	35 T 583110.00 d D 4465773.00 m K	24,3	50
13-14.03.2021	2.NOKTA	35 T 593583.00 d D 4451507.00 m K	22,5	50
13-14.03.2021	3.NOKTA	35T 612487.00 d D 4455395.00 m K	23,2	50
13-14.03.2021	4.NOKTA	35T 629969.00 d D 4464207.00 m K	21,8	50
13-14.03.2021	5.NOKTA	35T 647525.00 d D 4460580.00 m K	20,3	50
13-14.03.2021	6.NOKTA	35T 666839.00 d D 4460822.00 m K	21,2	50
13-14.03.2021	7.NOKTA	35T 686054.00 d D 4458769.00 m K	28,7	50
13-14.03.2021	8.NOKTA	35T 705454.00 d D 4455720.00 m K	26,8	50
13-14.03.2021	9.NOKTA	35 T 736555.00 d D 4462585.00 m K	19,2	50
13-14.03.2021	10.NOKTA	36T 249027.00 d D 4471540.00 m K	18,8	50

vi. Değerlendirme ve Sonuç

Proje alanı çevresinde gerçekleştirilen hava kalitesi (PM10) ölçümleri neticesinde elde edilen sonuçlara göre; Havada Asılı Partikül Madde (PM10) konsantrasyonları sınır değerlerin altında kalmaktadır.

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Tablo 2: Hava Kalitesi (PM 2,5) Ölçüm Sonuçları

ÖLÇÜM TARİHİ	ÖLÇÜM NUMARASI	KOORDİNATLAR	KONSANTRASYON $\mu\text{g} / \text{m}^3$	SKHKKYSINIR DEĞER KVD $\mu\text{g} / \text{m}^3$
13-14.03.2021	1.NOKTA	35 T 583110.00 d D 4465773.00 m K	12,3	-
13-14.03.2021	2.NOKTA	35 T 593583.00 d D 4451507.00 m K	10,8	-
13-14.03.2021	3.NOKTA	35T 612487.00 d D 4455395.00 m K	11,1	-
13-14.03.2021	4.NOKTA	35T 629969.00 d D 4464207.00 m K	9,2	-
13-14.03.2021	5.NOKTA	35T 647525.00 d D 4460580.00 m K	8,5	-
13-14.03.2021	6.NOKTA	35T 666839.00 d D 4460822.00 m K	9,6	-
13-14.03.2021	7.NOKTA	35T 686054.00 d D 4458769.00 m K	15,2	-
13-14.03.2021	8.NOKTA	35T 705454.00 d D 4455720.00 m K	13,7	-
13-14.03.2021	9.NOKTA	35 T 736555.00 d D 4462585.00 m K	8,8	-
13-14.03.2021	10.NOKTA	36T 249027.00 d D 4471540.00 m K	7,9	-

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürlü raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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D. EKLER

- EK-1 : LABORATUVAR BELGELERİ
EK-2 : ÖLÇÜM CİHAZINA AİT BELGELER

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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EK-1 LABORATUVAR BELGELERİ

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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TÜRK AKREDİTASYON KURUMU

AKREDİTASYON SERTİFİKASI

Deney Laboratuvarı olarak faaliyet gösteren,

**BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH.
MÜŞ. SAN. VE TİC. LTD. ŞTİ.**

Inönü Mahallesi Yıldırımilar Sanayi Sitesi Batı Bulvarı 1738 Sokak 1-10 Kat:6 Yenimahalle 06370
ANKARA / TÜRKİYE

TÜRKAK tarafından yapılan denetim sonucunda TS EN ISO/IEC 17025:2017 Standardına göre Ek'te yer alan kapsamlarda akredite edilmiştir.

Akreditasyon No : AB-0946-T
Akreditasyon Tarihi : 31 Ekim 2015
Revizyon Tarihi / No : 26 Şubat 2020 / 04

Bu Sertifika, yukarıda açık adı ve adresi yazılı Kuruluşun TS EN ISO/IEC 17025:2017 Standardına, ilgili Yönetmelik ve Tebliğlere uygunluğunu sürdürmesi halinde, **25 Şubat 2024** tarihine kadar geçerlidir.



Banuyül
G. Banu MÜDERRİSOĞLU
Genel Sekreter

Türk Akreditasyon Kurumu (TÜRKAK) ISO/IEC 17025 alanında Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile çok taraflı anlaşma (MLA/MRA) imzalamıştır.

F701-040

+90 312 410 82 00 - www.turkak.org.tr




BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

Akreditasyon Sertifikası Eki (Sayfa 1/3)

Akreditasyon Kapsamı

 Test TS EN ISO 15025 AB-0946-T	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ.	
	Akreditasyon No: AB-0946-T Revizyon No: 04 Tarih: 26.02.2020	
Deney Laboratuvarı		
Adresi : İnönü Mahallesi Yıldırım Sanayi Sitesi Batı Bulvarı 1738 Sokak 1-10 Kat 6 Yenimahalle 06370 ANKARA/TURKIYE		Tel : 0 312 250 84 85 Faks : 0 312 278 48 86 E-Posta : barbarosyuce@yahoo.com Website : www.batilaboratuvarı.com
Deneyi Yapılan Malzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
İş Hijyeni Gürültü	Kişilerin Maruz Kaldığı Gürültü Düzeyinin Ölçülmesi ve İşitme Kayıplarının Tespiti	TS 2607 ISO 1999
İş Hijyeni Titreşim	Kişilerin Maruz Kaldığı, Elle İletilen Titreşimin Ölçülmesi ve Değerlendirilmesi	TS EN ISO 5349-1 TS EN ISO 5349-2
İş Hijyeni Titreşim	Hareketli Makinaların Deneye Tabi Tutulması ile Titreşim Emisyon Değerinin Tespiti	TS EN 1032+A1
İş Hijyeni Titreşim	Tüm Vücudun Titreşime Maruz Kalmasının Ölçülmesi ve Değerlendirilmesi	TS ISO 2631-1 (TS EN 1032+A1 ile birlikte)
İş Hijyeni Termal Konfor	Termal Çevrenin Ergonomisi - WBGT (Islak ampul küresel sıcaklık) Endeksi (ISO 7243: 2017) Kullanılarak Isı Stresinin Değerlendirilmesi Isıl Çevrenin Ergonomisi - PMV ve PPD İndislerinin Hesabını Ve Bölgesel Isıl Konfor Kriterlerini Kullanarak Isıl Konforun Analitik Olarak Belirlenmesi Ve Yorumu	TS EN ISO 7243 TS EN ISO 7730
İş Hijyeni Aydınlatma	İş Yerlerindeki Aydınlatma/Işık Şiddeti Düzeyinin Ölçümü	COHSR-928-1-IPG-039
İş Hijyeni Toz Ölçümü	Toplam ve Solunabilir Tozun Tayini Örnekleme: Pompa ile Filtreye Numune Alma Analiz: Gravimetrik	HSE-MDHS 14/3
İş Hijyeni Dedektör Tüpü Anlık Gaz Ölçümü	Zehirli Gaz veya Buhar Konsantrasyonlarının Tayini Örnekleme ve Ölçüm: Dedektör Tüpü Anlık Ölçüm (Benzen, Oksijen, Etanol, Karbondioksit, Karbonmonoksit)	ASTM D 4490-96
İş Hijyeni Manyetik Alan	Elektrik Alan [E] (10 MHz - 8 GHz) Manyetik Alan [H] (10 MHz - 8 GHz) Eşdeğer Düzlem Dalga Güç Yoğunluğu (10 MHz- 8 GHz) Manyetik Akı Yoğunluğu [B] (30 Hz- 2 GHz)	TS EN 50413
Akustik-Gürültü	Çevresel Gürültü Düzeyinin (Leq, Lmax, L10, L5, L1, L0.5, Lmin, LAeq, LAmax, LA10, LA5, LA1, LA0.5, LAmin, LAmin, LAmin) Tespiti	TS 9315 ISO 1996-1 ve TS 9315 ISO 1996-1/T1
Akustik-Gürültü	Çevresel Gürültü Düzeyinin (Leq, Lmax, L10, L5, L1, L0.5, Lmin, LAeq, LAmax, LA10, LA5, LA1, LA0.5, LAmin, LAmin, LAmin) Tespiti	TS ISO 1996-2 ve TS ISO 1996-2/T1
Akustik-Gürültü	Çoklu Gürültü Kaynağına Sahip Sanayi Tesislerinde Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (ΔL, ΔL, ΔL, ΔL, L _{eq} , L _{eq}) Tespiti	TS ISO 8297

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.




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Akreditasyon Sertifikası Eki (Sayfa 2/3)

Akreditasyon Kapsamı

	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ.
	Akreditasyon No: AB-0946-T Revizyon No: 04 Tarih: 26.02.2020

Deneyi Yapılan Malzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
Akustik-Gürültü	Hava Ulaşım Araçlarından Kaynaklanan Gürültünün Alanasal Dağılımının (L_{w} , $L_{p}(x,y)$, $L_{z}(d)$, L_{w} , L_{p} , A_{w} , A_{p} , A_{z}) Hesaplanması	ECAC CEAC Doc 29
Akustik-Gürültü	Demiryolu Ulaşım Araçlarının Ses Gücü Düzeyinin (E_{w} , E_{p} , L_{w} , L_{p} , E_{z}) ve Demiryolu Gürültüsünün Alanasal Dağılımının (L_{w} , C_{w} , D_{w} , D_{p} , D_{z} , $D_{w,m}$) Hesaplanması	Hollanda ulusal hesaplama yöntemi RMR SRM II
Akustik-Gürültü	Karayolu Ulaşım Araçlarının Ses Gücü Düzeyinin (E_{w} , L_{w}) ve Karayolu Gürültüsünün Alanasal Dağılımının Hesaplanması (L_{w} , L_{p} , A_{w} , A_{p} , A_{z})	Fransız ulusal hesaplama yöntemi NMPB-96 ve Fransız standardı XPS 31-133
Akustik-Gürültü	Mühendislik Metodu Kullanılarak Gürültü Kaynaklarından Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (L_{w} , L_{p}) Tespiti	TS EN ISO 3744
Akustik-Gürültü	Gözlem Yöntemi Kullanılarak Gürültü Kaynaklarından Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (L_{w} , L_{p} , K_{1} , K_{2} , L_{w} , L_{p}) Tespiti	TS EN ISO 3746
Akustik-Gürültü	Sesin Dışarıya Yayılırken Azalması Bölüm 1: Sesin Atmosfer Tarafından Soğurulmasının Hesaplanması	TS ISO 9613-1
Akustik-Gürültü	Sesin Dışarıya Yayılırken Azalması Bölüm 2: Genel Hesaplama Yöntemi	TS ISO 9613-2
Akustik-Gürültü	Yapılarda İçerideki Sesin Dışarıya İletilmesinde Yapı Akustik Performansının Değerlendirilmesi (L_{w} , R_{w})	TS EN 12354-4
Akustik-Gürültü	Yapı Elemanlarında ve Yapılarda Ses Yalıtımının Alan Ölçümü-Bölüm 1:Hava ile Yayılan Sesin Yalıtımı Akustik - Binalarda ve Yapı Elemanlarında Ses Yalıtımının Saha Ölçümü - Bölüm 1: Hava Kaynaklı Ses Yalıtımı - Değişiklik 1	TS EN ISO 16283-1 ve TS EN ISO 16283-1/A1
Titreşim	Binalarda Titreşimin Ölçülmesi ve Yapı Hasarının Tespiti (tr , a , v)	TS ISO 4866
Titreşim	Akışkan Film Yataklı Gaz Türbin Setlerinin Dönmeyen Parçalarında Titreşimin Ölçülmesi ve Değerlendirilmesi (V_{rms})	ISO 10816-4
Titreşim	Hidrolik Güç Kaynakları ve Pompa Tesisatlarındaki Makine Setlerinin Dönmeyen Parçalarında Titreşimin Ölçülmesi ve Değerlendirilmesi (V_{rms})	ISO 10816-5
Titreşim	Madencilik Faaliyetleri Sonucunda Oluşan Hava Şoku ve Yer Titreşiminin Ölçülmesi (a , v)	TS 10354

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilışim Müh. Müş. San. ve Tic. Ltd. Şti'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.




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Akreditasyon Sertifikası Eki (Sayfa 3/3)

Akreditasyon Kapsamı

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Deneyi Yapılan Malzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
İmisyon (Çevre Havası)	Askıdaki Tanecikli Maddenin PM10 veya PM2,5 Kütle Derişimlerinin Tayini Gravimetrik Metot	TS EN 12341
İmisyon (Çevre Havası)	Çöken Toz Tayini Gravimetrik Metot	TS 2342
Baca Gazı (TSE CEN/TS 15675 ve TS EN 15259 Şartlarına Uygun)	Sabit Kaynak Emisyonları- Bacalarda Gaz Akışlarının Hiz ve Debisinin Ölçülmesi Gaz Akışlarının Hiz ve Debisinin Tayini L Pitot Tüpu ile	TS ISO 10780

KAPSAM SONU

Banuyul
G. Banu MÜDERRİSOĞLU
Genel Sekreter



Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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EK-2 ÖLÇÜM CİHAZINA AİT BELGELER

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Bati Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürlü raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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TÜRKAK
TÜRK AKREDİTASYON KURUMU
TURKISH ACCREDITATION AGENCY



AVL Kalibrasyon Laboratuvarı
İvedik O.S.B. Denciler Sit. 1385. Sok. No: 10 Ostim / Ankara
T : +90 (312) 394 15 50 F : +90 (312) 394 15 53 E : bilgi@avl.com.tr

AB-0089-K
195160
11-20

Kalibrasyon Sertifikası
Calibration Certificate

Cihazın Sahibi Customer Name	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. TIC. LTD. ŞTİ İnönü Mh. Yıldırımlar San. Sit. 1738 Sk. 1/10 Batıkent / ANKARA
İstek Numarası Order No	T-1119-045
Makine / Cihaz Instrument / Device	PM10 Toz Örnekleme Cihazı - Akış Ölçer PM10 Dust Sampling Device - Flow Meter
İmalatçı Manufacturer	MCZ
Tip Type	µPNS-LVS1
Seri Numarası Serial number	1710-210
Kalibrasyon Tarihi Date of calibration	25.11.2020
Sertifika Sayfa Sayısı Number of pages	4

Bu kalibrasyon sertifikası, Uluslararası Birimler Sisteminde (SI) tanımlanmış birimden realize eden ulusal ölçüm standartlarına ulanabilirliği belgeler.
This calibration certificate documents the traceability to national standards, which realize the unit of measurement according to the International System of Units (SI).

Kalibrasyon laboratuvarı olarak faaliyet gösteren AVL Kalibrasyon Laboratuvarı, TÜRKAK'tan AB-0089-K doneyi numarası ile TS EN ISO/IEC 17025:2017 standartlarına göre akredite edilmiştir.

AVL Kalibrasyon Laboratuvarı is accredited by TÜRKAK under registration number AB-0089-K for TS EN ISO/IEC 17025:2017 as test laboratory.
Türk Akreditasyon Kurumu (TÜRKAK) doneyi raporlarının tanınması konusunda Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma anlaşmalarını imzalamıştır.
The Turkish Accreditation Agency (TÜRKAK) is signatory to the multilateral agreements of the European co-operation for the Accreditation (EA) and of the International Laboratory Accreditation (ILAC) for the Mutual recognition of test reports.

Ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri ve kalibrasyon metodları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.
The measurements, the uncertainties with confidence probability and calibration methods are given on the following pages which are part of this certificate.

Mühür / Kase Seal	Tarih Date	Kalibrasyon Personeli Calibrated By	Onaylayan Approval
	25.11.2020	Vali BAYDIR Dijital İmzalı	Younes NEVAYESHIRAZI Dijital İmzalı

Bu sertifika 5070 sayılı kanununa göre güvenli elektronik imza ile imzalanmıştır. Belge feydi için sayfalarda yer alan QR kodunu okutabilirsiniz.
This certificate is signed using secure digital signature according to article of law number 5070. For confirmation, read the QR Code using QR Code reader.



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TURKISH ACCREDITATION AGENCY



AVL Kalibrasyon Laboratuvarı
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AB-0089-K
195183
11-20

Kalibrasyon Sertifikası
Calibration Certificate

Cihazın Sahibi Customer Name	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. TIC. LTD. ŞTİ İnönü Mh. Yıldırımlar San. Sit. 1738 Sk. 1/10 Batıkent / ANKARA
İstek Numarası Order No	T-1119-045
Makine / Cihaz Instrument / Device	PM10 Toz Örnekleme Cihazı - Akış Ölçer PM10 Dust Sampling Device - Flow Meter
İmalatçı Manufacturer	MCZ
Tip Type	µPNS-LVS1
Seri Numarası Serial number	1412-007
Kalibrasyon Tarihi Date of calibration	29.11.2020
Sertifika Sayfa Sayısı Number of pages	4

Bu kalibrasyon sertifikası, Uluslararası Birimler Sisteminde (SI) tanımlanmış birimden realize eden ulusal ölçüm standartlarına ulanabilirliği belgeler.
This calibration certificate documents the traceability to national standards, which realize the unit of measurement according to the International System of Units (SI).

Kalibrasyon laboratuvarı olarak faaliyet gösteren AVL Kalibrasyon Laboratuvarı, TÜRKAK'tan AB-0089-K doneyi numarası ile TS EN ISO/IEC 17025:2017 standartlarına göre akredite edilmiştir.

AVL Kalibrasyon Laboratuvarı is accredited by TÜRKAK under registration number AB-0089-K for TS EN ISO/IEC 17025:2017 as test laboratory.
Türk Akreditasyon Kurumu (TÜRKAK) doneyi raporlarının tanınması konusunda Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma anlaşmalarını imzalamıştır.
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The measurements, the uncertainties with confidence probability and calibration methods are given on the following pages which are part of this certificate.

Mühür / Kase Seal	Tarih Date	Kalibrasyon Personeli Calibrated By	Onaylayan Approval
	29.11.2020	Vali BAYDIR Dijital İmzalı	Younes NEVAYESHIRAZI Dijital İmzalı

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This certificate is signed using secure digital signature according to article of law number 5070. For confirmation, read the QR Code using QR Code reader.

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 tarihlerinde yapılan Hava Kalitesi Ölçümleri için geçerli olup **Bati Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti'** nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mührsüz raporlar geçersizdir. Deneysel sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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İnönü Mahallesi Batı Bulvarı 1738 Sokak No:1/10 Batıkent /ANKARA

Tel: 0 312 250 84 85 Fax: 0 312 278 48 86



GÜRÜLTÜ ÖLÇÜMLERİ SONUÇ RAPORU

Müşterinin Adı/Adresi: Customer Name/Address	BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ Bandırma-Bursa-Yenişehir-Osmaneli
Müşterinin Telefonu/Faksı: Customer Phone/Fax	-
Talep Numarası: Order No.	TP-21-045
Numunenin Adı ve Tarifi: Name And Identity Of The Test Item	Gürültü Ölçümleri
Deneyin Yapıldığı Tarih: Date Of Test	13-14.03.2021 / 14-15.03.2021
Raporun Numarası ve Tarihi: NumberAndDate Of The Report	R-21-045/2 02.04.2021



NİSAN 2021



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İNÖNÜ MAH. YILDIRIMLAR SAN. SİT. 1738. SOK.
1/10 KAT:6 BATIKENT ANKARA
Tel: 0312 250 84 85, Fax:0312 278 48 86
E-Mail: info@batilaboratuvari.com.tr



AB-0946-T
R-21-045/2
04-21

Deney Raporu / Test Report

Müşterinin Adı/Adresi: Customer Name/Address	BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ Bandırma-Bursa-Yenişehir-Osmaneli
Müşterinin Telefonu/Faksı: Customer Phone/Fax	Telefon: - / Fax: -
Talep Numarası: Order No.	TP-21-045
Numunenin Adı ve Tarihi: Name and Identity of the Test Item	Gürültü Ölçümleri
Numunenin Kabul Tarihi ve Numarası: The Date and Number of Receipt of the Test Item	17.03.2021 / NK-21-045
Açıklamalar: Remark	-
Ölçümün Yapıldığı Tarih: Date of Test	13-14.03.2021 / 14-15.03.2021
Raporun Sayfa Sayısı: Number of Pages of the Report	34 (Kapak Sayfaları Hariç)

Deney Laboratuvarı olarak faaliyet gösteren BATI LABORATUVARI, TÜRKAK'tan AB-0946-T ile TS-EN ISO/IEC 17025 standardına göre akredite edilmiştir.

BATI LABORATUVARI accredited by TÜRKAK under registration number AB-0946-T for TS-EN ISO/IEC 17025 as test laboratory.

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Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report. S



Deneyi Yapan
Test Done by

B.Barbaros YÜCE
Deney Sorumlusu

Raporu Hazırlayan
Report Prepared by

Melek ERCAN
Rapor Sorumlusu



Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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İÇİNDEKİLER

Sayfa No

A. GİRİŞ	3
B. ÖLÇÜM RAPORLARI.....	4
1. Gürültü Ölçüm Sonuç Raporu.....	4
i ÖLÇÜM RAPORLARI	5
ii ÖLÇÜM METOTLARI.....	5
iii ÖLÇÜM SONUÇLARI VE LOKASYONLAR	5
EK-1 AKREDİTASYON BELGESİ.....	30

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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A. GİRİŞ

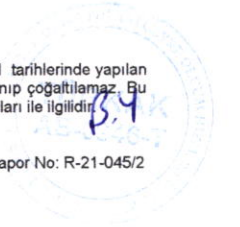
Bu rapor aşağıda açık adresi belirtilen tesiste gerçekleştirilen gürültü ölçümleri sonucunda hazırlanmıştır.

Ölçüm Tarihi : 13-14.03.2021 / 14-15.03.2021

Ölçüm Yeri : BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI
DEMİRYOLU PROJESİ

Tesis Adresi : Bandırma-Bursa-Yenişehir-Osmaneli

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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B. ÖLÇÜM RAPORLARI

1. Gürültü Ölçüm Sonuç Raporu

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan **Gürültü Ölçümleri** için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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i ÖLÇÜM RAPORLARI

1. Kullanılan Cihazlar

- ii Gürültü ölçümlerinde Cesva SC310 Tip 1 Model gürültü ölçüm cihazı ve Cesva CB006 Tip 1 gürültü kalibratörü kullanılmıştır.

iii ÖLÇÜM METOTLARI

Ölçümler aşağıda verilen standartlar çerçevesinde gerçekleştirilmiştir.

Parametre	Test / Analiz Metodunun Adı	Deney Metodu ve Kabul Tarihi
Gürültü Ölçümü	Akustik-Çevre Gürültüsünün Tarifi Ölçülmesi ve Değerlendirilmesi – Bölüm 2: Çevre Gürültü Seviyelerinin Tayini	TS ISO 1996-2:26.03.2009 TS ISO 1996-2 / T1:29.06.2009

iv ÖLÇÜM SONUÇLARI VE LOKASYONLAR

Belirlenen 10 ayrı ölçüm istasyonunda yapılan ölçümler sonucunda elde edilen günlük değerler aşağıdaki grafiklerde verilmiştir.

Tablo 2: Gürültü Ölçüm Noktaları

ÖLÇÜM NOKTASI NUMARASI	LOKASYON BİLGİSİ
1.NOKTA	35 T 583110.00 d D 4465773.00 m K
2.NOKTA	35 T 593583.00 d D 4451507.00 m K
3.NOKTA	35T 612487.00 d D 4455395.00 m K
4.NOKTA	35T 629969.00 d D 4464207.00 m K
5.NOKTA	35T 647525.00 d D 4460580.00 m K
6.NOKTA	35T 666839.00 d D 4460822.00 m K
7.NOKTA	35T 686054.00 d D 4458769.00 m K
8.NOKTA	35T 705454.00 d D 4455720.00 m K
9.NOKTA	35 T 736555.00 d D 4462585.00 m K
10.NOKTA	36T 249027.00 d D 4471540.00 m K

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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Data number	Start Time	Leq	Lmax				
				41	10:30	51,5	59,5
				42	10:45	52,2	60,5
				43	11:00	51,9	59,2
				44	11:15	53,5	59,6
				45	11:30	53,1	61,5
				46	11:45	54,3	58,3
				47	12:00	52,5	59,7
				48	12:15	53,0	60,5
				49	12:30	53,1	58,1
				50	12:45	53,3	58,8
				51	13:00	52,8	60,4
				52	13:15	54,7	59,2
				53	13:30	53,6	57,7
				54	13:45	53,2	60,0
				55	14:00	53,4	56,7
				56	14:15	52,6	59,3
				57	14:30	49,8	56,1
				58	14:45	51,4	57,7
				59	15:00	52,0	59,6
				60	15:15	51,9	59,2
				61	15:30	52,1	56,4
				62	15:45	51,6	54,8
				63	16:00	52,3	59,2
				64	16:15	51,9	56,8
				65	16:30	50,2	56,7
				66	16:45	50,9	55,7
				67	17:00	51,6	56,6
				68	17:15	51,2	58,2
				69	17:30	51,4	59,7
				70	17:45	51,6	59,5
				71	18:00	52,1	60,7
				72	18:15	51,8	60,1
				73	18:30	52,2	62,7
				74	18:45	53,3	63,5
				75	19:00	52,8	61,4
				76	19:15	48,9	59,7
				77	19:30	50,9	61,0
				78	19:45	52,8	65,0
				79	20:00	54,1	59,5
				80	20:15	46,9	57,6
				81	20:30	43,9	56,2
				82	20:45	41,6	59,2
				83	21:00	40,8	53,3
				84	21:15	40,4	53,6

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürlü raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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85	21:30	40,8	55,7	28	07:15	38,1	51,0
86	21:45	40,1	55,1	29	07:30	41,0	52,9
87	22:00	40,2	53,5	30	07:45	44,2	53,4
88	22:15	41,6	55,8	31	08:00	44,5	50,1
89	22:30	41,7	57,7	32	08:15	46,0	52,4
90	22:45	39,0	58,4	33	08:30	46,3	50,0
91	23:00	39,7	56,2	34	08:45	45,6	52,5
92	23:15	41,0	56,7	35	09:00	48,7	53,7
93	23:30	38,8	59,4	36	09:15	47,7	55,6
94	23:45	38,0	56,6	37	09:30	48,1	57,1
95	00:00	39,2	60,0	38	09:45	48,5	53,7
96	00:15	37,7	54,6	39	10:00	47,8	54,0

2.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	36,2	50,6	40	10:15	47,6	55,2
2	00:45	38,2	49,3	41	10:30	48,0	53,6
3	01:00	38,9	52,7	42	10:45	48,5	54,3
4	01:15	39,8	57,3	43	11:00	50,2	55,8
5	01:30	40,1	54,1	44	11:15	49,8	56,4
6	01:45	40,6	52,8	45	11:30	48,6	58,1
7	02:00	42,3	50,1	46	11:45	50,5	54,8
8	02:15	39,8	56,9	47	12:00	48,9	52,7
9	02:30	39,1	50,4	48	12:15	49,4	53,4
10	02:45	40,5	52,6	49	12:30	49,5	54,8
11	03:00	40,1	47,5	50	12:45	49,6	55,4
12	03:15	40,4	49,9	51	13:00	49,2	57,0
13	03:30	40,8	52,8	52	13:15	50,0	55,8
14	03:45	40,4	54,6	53	13:30	49,8	54,3
15	04:00	40,6	51,0	54	13:45	49,5	56,7
16	04:15	40,8	52,7	55	14:00	49,6	53,4
17	04:30	40,3	54,2	56	14:15	49,1	55,9
18	04:45	39,6	54,9	57	14:30	47,8	52,8
19	05:00	38,8	53,0	58	14:45	48,1	54,3
20	05:15	40,2	52,7	59	15:00	48,5	56,4
21	05:30	39,9	50,7	60	15:15	49,8	55,8
22	05:45	38,3	50,3	61	15:30	48,6	53,1
23	06:00	35,9	50,2	62	15:45	48,3	51,7
24	06:15	35,4	47,0	63	16:00	48,8	55,8
25	06:30	37,2	48,0	64	16:15	48,0	53,5
26	06:45	36,9	45,2	65	16:30	47,0	53,3
27	07:00	38,6	54,5	66	16:45	44,7	52,4
				67	17:00	46,6	53,2
				68	17:15	47,9	50,7
				69	17:30	48,1	55,0
				70	17:45	47,8	56,3
				71	18:00	48,6	57,3

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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72	18:15	48,4	56,8	15	04:00	42,4	53,2
73	18:30	48,7	57,2	16	04:15	42,6	55,0
74	18:45	46,2	55,4	17	04:30	42,1	56,5
75	19:00	49,3	58,8	18	04:45	40,8	54,4
76	19:15	47,1	52,0	19	05:00	39,9	52,1
77	19:30	44,8	57,6	20	05:15	39,6	51,8
78	19:45	43,2	55,4	21	05:30	39,3	49,9
79	20:00	44,6	56,3	22	05:45	37,6	49,5
80	20:15	42,6	52,1	23	06:00	37,1	51,9
81	20:30	40,8	50,4	24	06:15	36,6	48,5
82	20:45	38,8	49,1	25	06:30	38,4	49,5
83	21:00	38,2	49,0	26	06:45	38,1	46,7
84	21:15	37,8	50,5	27	07:00	38,3	54,1
85	21:30	38,2	52,4	28	07:15	37,8	50,6
86	21:45	37,6	51,9	29	07:30	40,7	52,5
87	22:00	37,6	50,4	30	07:45	43,9	53,0
88	22:15	38,8	52,6	31	08:00	44,6	50,2
89	22:30	38,9	54,3	32	08:15	46,1	52,5
90	22:45	36,5	53,5	33	08:30	46,4	50,1
91	23:00	37,2	51,5	34	08:45	45,2	52,1
92	23:15	38,4	51,9	35	09:00	48,3	53,3
93	23:30	36,2	54,5	36	09:15	47,3	55,1
94	23:45	35,4	51,8	37	09:30	47,7	56,6
95	00:00	36,6	55,0	38	09:45	48,1	53,3
96	00:15	35,0	51,7	39	10:00	49,3	55,8

3.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	37,4	52,3	40	10:15	49,1	52,3
2	00:45	39,4	50,9	41	10:30	49,5	55,4
3	01:00	40,2	54,4	42	10:45	50,1	53,1
4	01:15	42,0	56,4	43	11:00	49,9	55,3
5	01:30	42,5	53,2	44	11:15	49,5	55,9
6	01:45	42,2	51,8	45	11:30	49,1	57,6
7	02:00	41,6	49,3	46	11:45	50,1	54,4
8	02:15	41,0	55,9	47	12:00	49,9	52,6
9	02:30	40,4	52,0	48	12:15	50,5	54,6
10	02:45	41,9	54,3	49	12:30	50,6	56,0
11	03:00	42,1	49,2	50	12:45	50,8	56,6
12	03:15	42,2	52,1	51	13:00	50,3	58,2
13	03:30	42,6	55,1	52	13:15	49,7	55,3
14	03:45	42,2	56,9	53	13:30	49,5	53,9
				54	13:45	49,2	56,2
				55	14:00	50,4	53,0
				56	14:15	48,7	55,4
				57	14:30	47,4	52,4
				58	14:45	47,7	53,9

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

				4.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)			
				Data number	Start Time	Leq	Lmax
59	15:00	48,1	55,9				
60	15:15	49,5	55,3				
61	15:30	48,2	52,7				
62	15:45	47,9	51,3				
63	16:00	48,4	55,3	1	00:30	40,7	55,8
64	16:15	47,6	53,1	2	00:45	41,5	55,3
65	16:30	48,0	54,5	3	01:00	43,2	57,9
66	16:45	48,6	53,6	4	01:15	43,4	60,1
67	17:00	49,2	54,4	5	01:30	43,9	56,7
68	17:15	48,9	51,9	6	01:45	43,6	60,3
69	17:30	47,7	54,6	7	02:00	43,0	52,6
70	17:45	49,5	55,8	8	02:15	42,4	59,5
71	18:00	48,2	56,8	9	02:30	43,0	55,4
72	18:15	48,0	56,3	10	02:45	43,3	57,8
73	18:30	48,3	60,8	11	03:00	43,5	52,4
74	18:45	49,3	60,2	12	03:15	43,6	55,5
75	19:00	48,9	58,3	13	03:30	44,0	58,7
76	19:15	48,6	53,7	14	03:45	43,6	60,8
77	19:30	49,0	59,4	15	04:00	43,8	56,6
78	19:45	48,9	60,8	16	04:15	44,0	58,6
79	20:00	49,9	55,8	17	04:30	43,5	60,3
80	20:15	43,3	57,2	18	04:45	42,2	58,0
81	20:30	40,5	58,9	19	05:00	41,3	55,6
82	20:45	38,5	55,3	20	05:15	40,9	55,2
83	21:00	37,9	49,8	21	05:30	40,6	56,1
84	21:15	38,6	51,7	22	05:45	38,8	55,7
85	21:30	39,0	53,6	23	06:00	38,3	58,4
86	21:45	38,4	53,1	24	06:15	37,8	54,4
87	22:00	38,4	51,6	25	06:30	39,6	55,6
88	22:15	38,5	52,2	26	06:45	39,3	52,4
89	22:30	38,6	53,9	27	07:00	39,5	55,3
90	22:45	37,7	55,3	28	07:15	39,0	51,7
91	23:00	38,4	53,2	29	07:30	42,1	53,6
92	23:15	38,1	51,5	30	07:45	44,7	54,1
93	23:30	35,9	54,1	31	08:00	46,1	51,3
94	23:45	35,1	51,4	32	08:15	47,6	53,6
95	00:00	36,3	54,6	33	08:30	47,5	51,2
96	00:15	34,8	51,9	34	08:45	48,2	53,2
				35	09:00	48,6	54,4
				36	09:15	48,8	56,3
				37	09:30	49,2	57,8
				38	09:45	49,6	54,4
				39	10:00	50,9	57,0
				40	10:15	50,7	53,4

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

41	10:30	51,2	56,6	85	21:30	40,2	52,0
42	10:45	51,8	54,2	86	21:45	39,6	51,4
43	11:00	49,5	56,5	87	22:00	39,6	50,0
44	11:15	51,1	57,1	88	22:15	39,7	50,6
45	11:30	50,7	58,8	89	22:30	39,8	52,3
46	11:45	51,8	55,6	90	22:45	38,9	53,6
47	12:00	51,6	53,7	91	23:00	39,6	51,5
48	12:15	52,2	55,8	92	23:15	39,3	49,9
49	12:30	52,3	57,2	93	23:30	37,1	52,5
50	12:45	52,5	57,8	94	23:45	36,3	49,8
51	13:00	52,0	59,4	95	00:00	37,5	53,0
52	13:15	52,3	56,5	96	00:15	36,0	50,3
53	13:30	51,2	55,1				
54	13:45	50,8	57,4				
55	14:00	51,0	54,1				
56	14:15	50,2	56,6				
57	14:30	47,7	53,5				
58	14:45	49,2	55,1				
59	15:00	49,6	57,1				
60	15:15	49,5	56,5				
61	15:30	49,7	53,8				
62	15:45	49,4	52,4				
63	16:00	49,9	56,5				
64	16:15	49,5	54,2				
65	16:30	49,5	55,7				
66	16:45	50,1	54,8				
67	17:00	50,8	55,6				
68	17:15	50,4	53,0				
69	17:30	49,2	55,8				
70	17:45	49,4	57,0				
71	18:00	49,7	58,0				
72	18:15	49,5	57,5				
73	18:30	49,8	62,1				
74	18:45	50,9	61,5				
75	19:00	50,4	59,5				
76	19:15	48,7	54,9				
77	19:30	50,6	60,6				
78	19:45	50,4	62,1				
79	20:00	51,6	57,0				
80	20:15	44,8	58,4				
81	20:30	41,9	57,0				
82	20:45	39,7	53,6				
83	21:00	39,1	48,3				
84	21:15	39,8	50,1				

5.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)

Data number	Start Time	Leq	Lmax
1	00:30	37,9	52,0
2	00:45	39,5	50,6
3	01:00	38,6	54,1
4	01:15	41,6	59,0
5	01:30	40,1	55,7
6	01:45	41,6	54,2
7	02:00	40,8	51,6
8	02:15	43,4	58,5
9	02:30	40,6	51,7
10	02:45	42,2	54,0
11	03:00	42,4	49,0
12	03:15	42,0	51,3
13	03:30	42,4	54,3
14	03:45	42,0	56,1
15	04:00	42,2	52,4
16	04:15	42,4	54,2
17	04:30	41,9	55,8
18	04:45	42,7	56,3
19	05:00	39,9	54,6
20	05:15	41,9	54,2
21	05:30	41,6	52,3
22	05:45	39,6	51,9
23	06:00	37,3	51,7
24	06:15	36,8	48,3
25	06:30	38,6	49,3
26	06:45	38,3	46,5
27	07:00	39,9	56,1

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

28	07:15	39,5	52,4	72	18:15	50,1	58,4
29	07:30	42,6	54,4	73	18:30	50,5	63,0
30	07:45	46,0	54,9	74	18:45	51,7	62,4
31	08:00	46,2	51,6	75	19:00	51,1	60,3
32	08:15	47,8	53,9	76	19:15	48,8	53,4
33	08:30	48,1	51,5	77	19:30	49,4	59,2
34	08:45	47,4	54,0	78	19:45	51,1	63,0
35	09:00	50,5	55,2	79	20:00	52,3	57,9
36	09:15	49,5	57,1	80	20:15	45,5	59,2
37	09:30	49,8	58,7	81	20:30	42,4	61,0
38	09:45	50,2	59,7	82	20:45	40,1	57,3
39	10:00	49,6	59,4	83	21:00	39,6	51,7
40	10:15	49,5	56,5	84	21:15	39,2	52,0
41	10:30	49,9	57,8	85	21:30	39,5	51,2
42	10:45	50,4	56,5	86	21:45	39,0	50,7
43	11:00	52,3	59,1	87	22:00	39,0	49,3
44	11:15	51,9	59,5	88	22:15	40,1	51,3
45	11:30	51,5	59,6	89	22:30	40,3	53,1
46	11:45	52,5	59,0	90	22:45	38,9	53,7
47	12:00	50,7	58,6	91	23:00	39,6	51,7
48	12:15	51,3	57,2	92	23:15	41,0	52,1
49	12:30	53,6	58,8	93	23:30	38,7	54,8
50	12:45	51,7	57,0	94	23:45	37,8	52,0
51	13:00	52,8	58,6	95	00:00	39,1	55,3
52	13:15	52,1	57,3	96	00:15	37,5	51,8
53	13:30	52,0	58,9				
54	13:45	51,6	59,7				
55	14:00	52,8	58,1				
56	14:15	50,9	57,5	Data			
57	14:30	49,5	54,3	number	Start Time	Leq	Lmax
58	14:45	49,8	55,9	1	00:30	39,9	54,9
59	15:00	50,2	58,0	2	00:45	41,6	53,4
60	15:15	51,9	61,8	3	01:00	42,7	57,0
61	15:30	50,4	61,9	4	01:15	44,6	59,1
62	15:45	50,0	55,8	5	01:30	45,1	55,8
63	16:00	50,6	60,0	6	01:45	44,8	54,4
64	16:15	49,7	57,8	7	02:00	44,2	51,7
65	16:30	48,8	57,5	8	02:15	43,6	58,6
66	16:45	49,3	56,7	9	02:30	42,9	54,6
67	17:00	50,0	57,4	10	02:45	44,5	56,9
68	17:15	49,5	54,8	11	03:00	44,7	51,6
69	17:30	49,8	59,3	12	03:15	44,8	54,7
70	17:45	51,9	60,7	13	03:30	45,2	57,7
71	18:00	50,4	58,8	14	03:45	44,8	59,7

6.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.

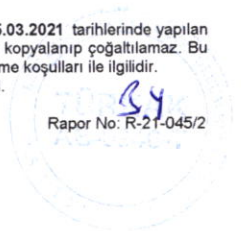


BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

15	04:00	45,0	55,8	59	15:00	50,9	58,7
16	04:15	45,2	57,6	60	15:15	52,5	62,5
17	04:30	44,7	59,3	61	15:30	51,0	62,6
18	04:45	43,3	57,0	62	15:45	50,7	56,5
19	05:00	42,4	54,7	63	16:00	51,2	60,8
20	05:15	42,0	54,4	64	16:15	50,4	58,5
21	05:30	41,7	52,4	65	16:30	50,8	59,9
22	05:45	39,8	52,0	66	16:45	51,4	59,1
23	06:00	39,3	54,5	67	17:00	52,2	59,8
24	06:15	38,8	50,8	68	17:15	51,7	57,2
25	06:30	40,6	51,9	69	17:30	50,5	60,0
26	06:45	40,3	49,0	70	17:45	52,5	61,4
27	07:00	40,5	56,8	71	18:00	51,0	59,5
28	07:15	40,0	53,1	72	18:15	50,8	59,1
29	07:30	43,2	55,1	73	18:30	51,1	63,8
30	07:45	46,6	55,6	74	18:45	52,3	63,2
31	08:00	47,3	52,7	75	19:00	51,7	61,1
32	08:15	48,9	55,1	76	19:15	51,4	56,4
33	08:30	49,2	52,6	77	19:30	52,0	62,3
34	08:45	48,0	54,7	78	19:45	51,7	63,8
35	09:00	51,1	55,9	79	20:00	53,0	58,6
36	09:15	50,1	57,8	80	20:15	46,0	59,9
37	09:30	50,5	59,4	81	20:30	43,0	61,7
38	09:45	50,9	60,5	82	20:45	40,7	58,0
39	10:00	52,3	62,7	83	21:00	40,1	52,3
40	10:15	52,1	59,5	84	21:15	40,8	54,3
41	10:30	52,6	60,8	85	21:30	41,2	56,3
42	10:45	53,2	59,5	86	21:45	40,6	55,7
43	11:00	53,0	59,8	87	22:00	40,6	54,2
44	11:15	52,5	60,3	88	22:15	40,7	54,8
45	11:30	52,1	60,4	89	22:30	40,8	56,6
46	11:45	53,2	59,7	90	22:45	41,0	59,6
47	12:00	53,0	61,0	91	23:00	41,8	57,5
48	12:15	53,6	59,6	92	23:15	41,5	55,6
49	12:30	53,7	58,8	93	23:30	39,2	58,4
50	12:45	54,0	59,4	94	23:45	38,3	55,5
51	13:00	53,4	61,0	95	00:00	39,6	59,0
52	13:15	52,8	58,0	96	00:15	38,0	56,1
53	13:30	52,6	59,6				
54	13:45	52,2	60,5				
55	14:00	53,5	58,8				
56	14:15	51,5	58,2				
57	14:30	50,2	55,0				
58	14:45	50,5	56,6				

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.





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ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

7.NOKTA							
Gürültü Ölçüm Sonuçları							
(24 saatlik Değerler)							
Data number	Start Time	Leq	Lmax				
1	00:30	38,1	55,2	41	10:30	54,0	63,8
2	00:45	39,6	54,8	42	10:45	54,7	58,9
3	01:00	40,6	57,3	43	11:00	54,5	61,2
4	01:15	42,5	59,5	44	11:15	53,8	61,9
5	01:30	42,9	56,2	45	11:30	53,4	63,7
6	01:45	42,7	54,7	46	11:45	54,7	60,3
7	02:00	42,1	52,1	47	12:00	54,5	58,3
8	02:15	41,6	58,9	48	12:15	55,1	60,4
9	02:30	40,8	54,9	49	12:30	55,2	62,0
10	02:45	42,4	57,2	50	12:45	55,4	62,7
11	03:00	42,6	52,0	51	13:00	54,9	64,5
12	03:15	42,7	55,0	52	13:15	54,2	61,2
13	03:30	43,0	58,1	53	13:30	54,0	59,7
14	03:45	42,7	60,1	54	13:45	53,5	62,3
15	04:00	42,8	56,2	55	14:00	53,7	58,7
16	04:15	43,0	58,0	56	14:15	53,0	61,3
17	04:30	42,6	59,6	57	14:30	51,5	58,0
18	04:45	41,3	57,3	58	14:45	51,9	59,7
19	05:00	40,4	55,0	59	15:00	52,4	61,9
20	05:15	40,0	54,8	60	15:15	52,3	61,2
21	05:30	39,7	52,7	61	15:30	52,5	58,4
22	05:45	38,0	52,3	62	15:45	52,1	56,9
23	06:00	37,5	54,9	63	16:00	52,7	61,2
24	06:15	37,0	51,1	64	16:15	52,3	58,9
25	06:30	38,7	52,3	65	16:30	52,3	60,3
26	06:45	38,4	49,3	66	16:45	52,9	59,4
27	07:00	41,7	57,2	67	17:00	53,5	60,3
28	07:15	41,0	56,2	68	17:15	53,2	57,6
29	07:30	44,4	55,4	69	17:30	51,9	60,4
30	07:45	48,0	55,9	70	17:45	52,1	61,8
31	08:00	48,6	54,7	71	18:00	52,5	59,9
32	08:15	50,2	55,4	72	18:15	52,3	59,4
33	08:30	50,5	57,3	73	18:30	52,6	64,2
34	08:45	50,8	55,0	74	18:45	53,6	63,6
35	09:00	51,2	63,8	75	19:00	53,2	61,5
36	09:15	51,4	61,4	76	19:15	52,9	56,8
37	09:30	51,9	59,7	77	19:30	53,3	62,7
38	09:45	52,4	61,8	78	19:45	53,2	64,2
39	10:00	53,6	59,4	79	20:00	50,8	59,0
40	10:15	53,4	60,5	80	20:15	47,2	60,3
				81	20:30	44,2	62,1
				82	20:45	41,9	58,4
				83	21:00	41,1	52,6
				84	21:15	42,0	54,7

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürlü raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

85	21:30	42,4	56,7	28	07:15	40,8	54,3
86	21:45	41,8	56,1	29	07:30	44,2	56,3
87	22:00	41,8	54,6	30	07:45	46,9	56,8
88	22:15	41,9	55,1	31	08:00	48,4	53,8
89	22:30	42,0	57,0	32	08:15	49,9	56,3
90	22:45	43,4	61,7	33	08:30	49,8	53,7
91	23:00	44,2	59,4	34	08:45	50,5	55,8
92	23:15	43,8	57,7	35	09:00	50,9	57,1
93	23:30	41,2	60,5	36	09:15	51,1	59,1
94	23:45	40,4	57,5	37	09:30	51,5	60,6
95	00:00	39,6	60,9	38	09:45	52,1	57,1
96	00:15	40,0	58,1	39	10:00	53,4	59,7

8.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	44,4	61,7	40	10:15	53,2	56,1
2	00:45	44,8	61,2	41	10:30	53,7	59,4
3	01:00	45,3	64,1	42	10:45	54,4	56,9
4	01:15	45,5	66,4	43	11:00	52,0	59,3
5	01:30	46,1	62,7	44	11:15	53,6	59,8
6	01:45	45,8	66,5	45	11:30	53,2	61,6
7	02:00	45,1	58,1	46	11:45	54,4	58,4
8	02:15	44,5	65,8	47	12:00	54,2	56,4
9	02:30	45,1	61,3	48	12:15	54,8	58,6
10	02:45	45,4	64,0	49	12:30	54,9	59,9
11	03:00	45,7	57,9	50	12:45	55,1	60,6
12	03:15	45,8	61,4	51	13:00	54,6	62,4
13	03:30	46,2	64,8	52	13:15	54,9	59,3
14	03:45	45,8	67,1	53	13:30	53,7	57,8
15	04:00	46,0	62,6	54	13:45	53,3	60,2
16	04:15	46,2	64,7	55	14:00	53,5	56,8
17	04:30	45,7	66,5	56	14:15	52,7	59,4
18	04:45	44,3	64,2	57	14:30	50,0	56,2
19	05:00	43,3	58,3	58	14:45	51,5	57,8
20	05:15	42,9	57,9	59	15:00	52,1	59,8
21	05:30	42,6	50,0	60	15:15	52,0	59,3
22	05:45	40,6	49,7	61	15:30	52,2	56,5
23	06:00	40,1	52,0	62	15:45	51,7	55,0
24	06:15	39,6	48,5	63	16:00	52,4	59,3
25	06:30	41,6	49,6	64	16:15	52,0	56,9
26	06:45	41,1	55,0	65	16:30	51,9	58,5
27	07:00	41,3	58,0	66	16:45	52,6	57,5
				67	17:00	53,3	58,4
				68	17:15	52,9	55,6
				69	17:30	51,5	58,6
				70	17:45	51,7	59,7
				71	18:00	52,2	60,8

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

72	18:15	51,9	60,3	15	04:00	38,4	47,5
73	18:30	52,3	65,2	16	04:15	38,5	49,1
74	18:45	53,4	64,6	17	04:30	38,1	50,6
75	19:00	52,9	62,5	18	04:45	41,1	51,3
76	19:15	51,0	57,6	19	05:00	40,7	49,5
77	19:30	53,1	63,6	20	05:15	40,1	49,3
78	19:45	52,9	65,2	21	05:30	39,8	47,4
79	20:00	54,2	59,7	22	05:45	38,2	47,0
80	20:15	47,0	61,2	23	06:00	35,9	47,0
81	20:30	44,0	63,1	24	06:15	35,3	43,8
82	20:45	41,7	59,3	25	06:30	37,1	44,7
83	21:00	40,9	53,4	26	06:45	36,9	42,2
84	21:15	41,8	55,4	27	07:00	38,5	50,9
85	21:30	42,2	57,5	28	07:15	38,0	47,7
86	21:45	41,5	56,9	29	07:30	41,0	49,4
87	22:00	41,6	55,3	30	07:45	44,3	49,8
88	22:15	41,7	55,9	31	08:00	44,4	46,8
89	22:30	41,8	57,8	32	08:15	43,4	48,9
90	22:45	40,7	60,9	33	08:30	43,7	46,7
91	23:00	41,5	58,6	34	08:45	44,4	49,1
92	23:15	41,1	56,8	35	09:00	44,6	50,1
93	23:30	38,9	59,6	36	09:15	44,8	51,9
94	23:45	38,1	56,7	37	09:30	45,2	53,2
95	00:00	39,3	60,2	38	09:45	45,7	54,3
96	00:15	37,8	57,2	39	10:00	45,0	54,0
				40	10:15	44,8	53,2
				41	10:30	45,3	54,6
				42	10:45	45,9	53,9
				43	11:00	47,5	52,1
				44	11:15	47,1	52,6
				45	11:30	46,7	54,2
				46	11:45	47,8	51,2
				47	12:00	46,1	54,3
				48	12:15	46,8	50,9
				49	12:30	46,9	51,1
				50	12:45	47,1	51,6
				51	13:00	46,6	53,1
				52	13:15	47,4	52,1
				53	13:30	47,2	50,7
				54	13:45	46,8	52,9
				55	14:00	47,0	49,8
				56	14:15	46,3	52,2
				57	14:30	44,9	49,4
				58	14:45	45,2	50,7

9.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax
1	00:30	39,3	47,3
2	00:45	38,5	46,9
3	01:00	39,1	49,3
4	01:15	40,3	53,6
5	01:30	40,8	50,5
6	01:45	40,4	49,2
7	02:00	39,9	46,9
8	02:15	39,5	53,1
9	02:30	37,0	47,0
10	02:45	38,4	49,2
11	03:00	38,5	44,5
12	03:15	38,2	46,6
13	03:30	38,5	49,2
14	03:45	38,2	51,0

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

				10.NOKTA			
				Gürültü Ölçüm Sonuçları			
				(24 saatlik Değerler)			
				Data number	Start Time	Leq	Lmax
59	15:00	45,7	52,6				
60	15:15	45,7	52,1				
61	15:30	45,8	49,5				
62	15:45	45,6	48,4				
63	16:00	46,0	52,1	1	00:30	39,6	47,7
64	16:15	45,7	49,9	2	00:45	38,1	46,4
65	16:30	44,3	49,6	3	01:00	38,8	48,7
66	16:45	44,8	49,0	4	01:15	39,9	53,1
67	17:00	45,4	49,6	5	01:30	40,3	49,9
68	17:15	45,1	47,5	6	01:45	40,0	48,7
69	17:30	45,2	51,3	7	02:00	39,6	46,4
70	17:45	45,6	52,5	8	02:15	39,1	52,6
71	18:00	45,8	53,4	9	02:30	36,6	46,5
72	18:15	45,7	53,0	10	02:45	38,0	48,6
73	18:30	45,9	57,3	11	03:00	38,1	44,0
74	18:45	46,9	56,8	12	03:15	37,8	46,1
75	19:00	46,5	54,8	13	03:30	38,2	48,7
76	19:15	44,3	48,5	14	03:45	37,8	50,4
77	19:30	44,7	53,7	15	04:00	38,0	47,0
78	19:45	46,5	57,3	16	04:15	38,2	48,6
79	20:00	47,5	52,5	17	04:30	37,7	50,0
80	20:15	41,1	53,9	18	04:45	40,7	50,7
81	20:30	40,8	55,3	19	05:00	40,2	49,1
82	20:45	39,9	52,1	20	05:15	39,7	48,8
83	21:00	41,0	46,9	21	05:30	39,5	46,9
84	21:15	40,2	47,3	22	05:45	37,8	46,5
85	21:30	38,7	49,0	23	06:00	35,5	46,5
86	21:45	39,5	48,6	24	06:15	34,9	43,5
87	22:00	38,7	47,2	25	06:30	36,7	44,2
88	22:15	40,1	49,2	26	06:45	36,5	41,7
89	22:30	39,9	50,7	27	07:00	38,1	50,4
90	22:45	37,5	51,5	28	07:15	37,6	47,2
91	23:00	38,1	49,5	29	07:30	40,6	48,9
92	23:15	39,5	49,7	30	07:45	43,8	49,4
93	23:30	37,2	52,4	31	08:00	44,0	46,3
94	23:45	38,7	49,7	32	08:15	42,9	48,4
95	00:00	40,3	52,8	33	08:30	43,2	46,2
96	00:15	38,5	49,6	34	08:45	42,7	48,6
				35	09:00	42,5	49,6
				36	09:15	44,4	51,4
				37	09:30	44,8	52,6
				38	09:45	43,8	52,0
				39	10:00	44,5	52,3
				40	10:15	44,3	49,2

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

41	10:30	44,8	52,0	85	21:30	38,3	48,5
42	10:45	45,4	49,9	86	21:45	39,2	48,1
43	11:00	47,0	54,1	87	22:00	38,3	46,7
44	11:15	45,5	54,7	88	22:15	41,6	48,7
45	11:30	46,2	56,2	89	22:30	39,6	50,1
46	11:45	47,3	53,2	90	22:45	37,1	50,9
47	12:00	45,6	49,8	91	23:00	37,7	49,0
48	12:15	46,3	51,7	92	23:15	39,1	49,3
49	12:30	46,4	53,0	93	23:30	36,8	51,9
50	12:45	46,6	51,0	94	23:45	36,8	49,3
51	13:00	46,1	52,6	95	00:00	37,7	52,2
52	13:15	45,2	51,6	96	00:15	37,8	53,0
53	13:30	44,9	50,1				
54	13:45	46,3	52,3				
55	14:00	44,8	49,4				
56	14:15	45,8	51,7				
57	14:30	44,5	48,9				
58	14:45	44,8	50,1				
59	15:00	45,2	52,1				
60	15:15	45,2	51,6				
61	15:30	45,4	49,0				
62	15:45	45,1	47,9				
63	16:00	45,6	51,6				
64	16:15	45,2	49,5				
65	16:30	43,9	49,2				
66	16:45	44,3	48,5				
67	17:00	44,9	49,2				
68	17:15	44,6	47,0				
69	17:30	44,8	50,8				
70	17:45	45,1	52,0				
71	18:00	45,4	52,8				
72	18:15	45,2	52,4				
73	18:30	45,5	56,7				
74	18:45	46,4	56,2				
75	19:00	46,0	54,3				
76	19:15	43,8	48,1				
77	19:30	44,2	53,2				
78	19:45	46,0	56,7				
79	20:00	47,0	52,0				
80	20:15	40,7	53,3				
81	20:30	40,4	54,8				
82	20:45	41,4	51,6				
83	21:00	40,6	46,4				
84	21:15	39,8	46,8				

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

14-15.03.2021				41	10:30	52,6	58,2
1.NOKTA				42	10:45	53,3	55,7
Gürültü Ölçüm Sonuçları				43	11:00	50,9	58,1
(24 saatlik Değerler)				44	11:15	52,5	58,6
Data number	Start Time	Leq	Lmax	45	11:30	52,1	60,3
1	00:30	43,5	54,0	46	11:45	53,3	57,2
2	00:45	43,8	53,6	47	12:00	53,1	55,2
3	01:00	44,3	56,1	48	12:15	53,6	57,4
4	01:15	44,5	58,2	49	12:30	53,7	58,7
5	01:30	45,1	54,9	50	12:45	53,9	59,4
6	01:45	44,8	58,3	51	13:00	53,4	61,1
7	02:00	44,1	50,9	52	13:15	53,7	58,1
8	02:15	43,6	57,7	53	13:30	52,6	56,6
9	02:30	44,1	53,7	54	13:45	52,2	59,0
10	02:45	44,4	56,1	55	14:00	52,4	55,6
11	03:00	44,7	50,7	56	14:15	51,6	58,2
12	03:15	44,8	53,8	57	14:30	49,0	55,0
13	03:30	45,2	56,8	58	14:45	50,4	56,6
14	03:45	44,8	58,9	59	15:00	51,0	58,6
15	04:00	45,0	54,8	60	15:15	50,9	58,1
16	04:15	45,2	56,7	61	15:30	51,1	55,3
17	04:30	44,7	58,3	62	15:45	50,6	53,8
18	04:45	43,4	56,2	63	16:00	51,3	58,1
19	05:00	42,4	51,0	64	16:15	50,9	55,7
20	05:15	42,0	50,7	65	16:30	50,8	57,3
21	05:30	41,7	49,0	66	16:45	51,5	56,3
22	05:45	39,7	48,7	67	17:00	52,2	57,2
23	06:00	39,3	50,9	68	17:15	51,8	54,4
24	06:15	38,8	55,9	69	17:30	50,4	57,4
25	06:30	40,7	57,2	70	17:45	50,6	58,5
26	06:45	40,2	53,8	71	18:00	51,1	59,5
27	07:00	40,4	56,8	72	18:15	50,8	59,1
28	07:15	39,9	53,2	73	18:30	51,2	63,8
29	07:30	43,3	55,1	74	18:45	52,3	63,2
30	07:45	45,9	55,6	75	19:00	51,8	61,2
31	08:00	47,4	52,7	76	19:15	49,9	56,4
32	08:15	48,9	55,1	77	19:30	52,0	62,3
33	08:30	48,8	52,6	78	19:45	51,8	63,8
34	08:45	49,5	54,6	79	20:00	53,1	58,5
35	09:00	49,8	55,9	80	20:15	46,0	59,9
36	09:15	50,0	57,9	81	20:30	43,1	61,8
37	09:30	50,4	59,4	82	20:45	40,8	58,1
38	09:45	51,0	55,9	83	21:00	40,0	52,3
39	10:00	52,3	58,5	84	21:15	40,9	54,2
40	10:15	52,1	54,9				

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

85	21:30	41,3	56,3	28	07:15	37,4	50,0
86	21:45	40,6	55,7	29	07:30	40,2	51,9
87	22:00	40,7	54,1	30	07:45	43,4	52,4
88	22:15	40,8	54,7	31	08:00	44,1	49,6
89	22:30	40,9	56,6	32	08:15	45,6	51,9
90	22:45	39,8	59,6	33	08:30	45,9	49,5
91	23:00	40,6	57,4	34	08:45	44,7	51,5
92	23:15	40,2	55,6	35	09:00	47,8	52,7
93	23:30	38,1	58,4	36	09:15	46,8	54,5
94	23:45	37,3	55,5	37	09:30	47,2	56,0
95	00:00	38,5	59,0	38	09:45	47,6	52,7
96	00:15	37,0	56,0	39	10:00	48,8	55,2

2.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	37,0	54,5	40	10:15	48,6	51,7
2	00:45	39,0	53,0	41	10:30	49,0	54,8
3	01:00	39,7	56,7	42	10:45	49,5	52,5
4	01:15	41,5	58,8	43	11:00	49,4	54,7
5	01:30	42,0	55,4	44	11:15	49,0	55,3
6	01:45	41,7	54,0	45	11:30	48,6	57,0
7	02:00	41,1	51,3	46	11:45	49,5	53,8
8	02:15	40,5	58,3	47	12:00	49,4	52,0
9	02:30	39,9	54,2	48	12:15	49,9	54,0
10	02:45	41,4	56,6	49	12:30	50,0	55,4
11	03:00	41,6	51,2	50	12:45	50,2	56,0
12	03:15	41,7	54,3	51	13:00	49,7	57,6
13	03:30	42,1	57,4	52	13:15	49,2	54,7
14	03:45	41,7	59,3	53	13:30	49,0	53,3
15	04:00	41,9	55,4	54	13:45	48,7	55,6
16	04:15	42,1	57,3	55	14:00	49,8	52,4
17	04:30	41,6	58,9	56	14:15	48,2	54,8
18	04:45	40,3	56,7	57	14:30	46,9	51,8
19	05:00	39,5	51,5	58	14:45	47,2	53,3
20	05:15	39,2	51,2	59	15:00	47,6	55,3
21	05:30	38,9	49,4	60	15:15	49,0	54,7
22	05:45	37,2	49,0	61	15:30	47,7	52,1
23	06:00	36,7	51,3	62	15:45	47,4	50,7
24	06:15	36,2	48,0	63	16:00	47,9	54,7
25	06:30	38,0	49,0	64	16:15	47,1	52,5
26	06:45	37,7	46,2	65	16:30	47,5	53,9
27	07:00	37,9	53,5	66	16:45	48,1	53,0
				67	17:00	48,7	53,8
				68	17:15	48,4	51,3
				69	17:30	47,2	54,0
				70	17:45	49,0	55,2
				71	18:00	47,7	56,2

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

72	18:15	47,5	55,7	15	04:00	41,1	54,3
73	18:30	47,8	60,1	16	04:15	41,3	56,1
74	18:45	48,8	59,5	17	04:30	40,8	57,7
75	19:00	48,4	57,7	18	04:45	41,6	58,4
76	19:15	48,1	53,1	19	05:00	41,1	53,6
77	19:30	48,5	55,8	20	05:15	40,7	53,3
78	19:45	48,4	57,0	21	05:30	40,3	51,4
79	20:00	49,4	52,4	22	05:45	38,7	51,0
80	20:15	42,8	53,7	23	06:00	36,3	50,8
81	20:30	40,0	55,3	24	06:15	35,8	47,5
82	20:45	38,1	51,9	25	06:30	37,6	48,5
83	21:00	37,5	46,8	26	06:45	37,3	45,7
84	21:15	38,2	48,5	27	07:00	39,0	55,1
85	21:30	38,6	50,3	28	07:15	38,5	51,6
86	21:45	38,0	49,8	29	07:30	41,5	53,5
87	22:00	38,0	48,4	30	07:45	44,7	54,0
88	22:15	38,1	49,0	31	08:00	45,0	50,7
89	22:30	38,2	50,6	32	08:15	46,5	53,0
90	22:45	37,3	51,9	33	08:30	46,8	50,6
91	23:00	38,0	49,9	34	08:45	46,1	53,1
92	23:15	37,7	48,3	35	09:00	49,2	54,3
93	23:30	35,5	50,8	36	09:15	48,2	56,2
94	23:45	34,7	48,2	37	09:30	48,6	57,7
95	00:00	35,9	51,3	38	09:45	49,0	54,3
96	00:15	34,4	48,7	39	10:00	48,3	54,6

3.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	36,6	53,9	40	10:15	48,1	51,2
2	00:45	38,6	52,5	41	10:30	48,5	54,2
3	01:00	40,3	56,1	42	10:45	49,1	52,0
4	01:15	43,2	54,6	43	11:00	50,9	57,2
5	01:30	43,7	57,6	44	11:15	50,4	57,0
6	01:45	43,4	56,2	45	11:30	49,9	58,7
7	02:00	42,8	53,4	46	11:45	51,1	55,5
8	02:15	42,2	56,1	47	12:00	49,4	54,3
9	02:30	39,6	53,6	48	12:15	49,9	54,0
10	02:45	41,0	56,0	49	12:30	50,0	55,4
11	03:00	41,2	50,7	50	12:45	50,2	56,0
12	03:15	40,9	53,2	51	13:00	49,7	57,6
13	03:30	41,3	56,2	52	13:15	50,7	56,4
14	03:45	40,9	58,1	53	13:30	50,5	54,9
				54	13:45	50,0	57,3
				55	14:00	51,4	54,0
				56	14:15	49,5	56,5
				57	14:30	48,3	53,4
				58	14:45	48,6	54,9

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

59	15:00	49,0	57,0
60	15:15	50,4	56,4
61	15:30	49,1	53,7
62	15:45	48,8	52,3
63	16:00	49,3	56,4
64	16:15	48,5	54,1
65	16:30	47,5	53,9
66	16:45	48,1	53,0
67	17:00	48,7	53,8
68	17:15	48,4	51,3
69	17:30	48,6	55,7
70	17:45	50,4	56,9
71	18:00	49,1	57,9
72	18:15	48,9	57,4
73	18:30	49,2	55,6
74	18:45	50,1	57,8
75	19:00	49,7	57,0
76	19:15	47,6	52,6
77	19:30	48,0	58,2
78	19:45	49,7	56,4
79	20:00	50,9	54,0
80	20:15	44,1	55,3
81	20:30	41,3	56,9
82	20:45	39,2	53,5
83	21:00	40,9	48,2
84	21:15	42,3	48,5
85	21:30	40,1	50,3
86	21:45	38,0	49,8
87	22:00	38,0	48,4
88	22:15	39,2	50,5
89	22:30	39,3	52,1
90	22:45	36,9	51,3
91	23:00	37,6	49,4
92	23:15	38,8	49,8
93	23:30	36,6	52,3
94	23:45	35,8	49,7
95	00:00	37,4	52,9
96	00:15	37,5	50,9

4.NOKTA Gürültü Ölçüm Sonuçları (24 saatlik Değerler)

Data number	Start Time	Leq	Lmax
1	00:30	39,8	54,7
2	00:45	40,6	54,1
3	01:00	42,3	56,8
4	01:15	44,7	58,1
5	01:30	45,2	52,2
6	01:45	44,9	52,7
7	02:00	44,3	48,4
8	02:15	43,6	48,1
9	02:30	42,1	48,5
10	02:45	42,4	48,7
11	03:00	42,6	45,9
12	03:15	42,2	48,1
13	03:30	42,6	50,9
14	03:45	42,2	52,7
15	04:00	42,4	49,0
16	04:15	42,6	50,8
17	04:30	42,1	49,7
18	04:45	43,0	51,1
19	05:00	42,5	48,5
20	05:15	42,1	50,8
21	05:30	41,8	49,1
22	05:45	39,8	48,7
23	06:00	37,5	48,6
24	06:15	37,0	53,3
25	06:30	38,8	54,4
26	06:45	38,5	51,3
27	07:00	40,1	56,4
28	07:15	39,6	52,7
29	07:30	42,9	54,6
30	07:45	45,6	55,1
31	08:00	46,5	51,8
32	08:15	48,0	54,1
33	08:30	47,9	51,7
34	08:45	49,1	54,2
35	09:00	49,5	55,5
36	09:15	49,6	57,4
37	09:30	50,0	58,9
38	09:45	50,6	55,5
39	10:00	49,8	55,8
40	10:15	49,6	57,6

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilışim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

41	10:30	50,1	57,0	85	21:30	39,7	54,2
42	10:45	50,7	57,9	86	21:45	39,2	53,6
43	11:00	50,5	57,6	87	22:00	39,2	52,1
44	11:15	52,1	58,2	88	22:15	40,5	54,3
45	11:30	51,7	59,8	89	22:30	40,6	56,2
46	11:45	52,8	56,7	90	22:45	40,9	52,8
47	12:00	51,0	57,6	91	23:00	40,4	52,5
48	12:15	51,6	55,2	92	23:15	39,9	53,6
49	12:30	51,7	56,6	93	23:30	37,8	54,0
50	12:45	51,9	57,2	94	23:45	37,0	53,5
51	13:00	51,4	58,8	95	00:00	38,2	55,2
52	13:15	53,3	57,6	96	00:15	40,3	52,7
53	13:30	52,2	56,2				
54	13:45	51,8	58,5				
55	14:00	52,0	55,6				
56	14:15	51,2	57,7				
57	14:30	48,6	54,5				
58	14:45	50,0	56,2				
59	15:00	50,6	58,2				
60	15:15	50,5	57,6				
61	15:30	50,7	54,8				
62	15:45	50,2	53,4				
63	16:00	50,9	57,6				
64	16:15	50,5	55,2				
65	16:30	49,0	55,1				
66	16:45	49,5	54,2				
67	17:00	50,2	55,0				
68	17:15	49,8	52,4				
69	17:30	50,0	56,9				
70	17:45	50,2	58,1				
71	18:00	50,7	59,1				
72	18:15	50,4	58,6				
73	18:30	50,8	61,7				
74	18:45	51,9	61,5				
75	19:00	51,4	60,7				
76	19:15	47,7	54,6				
77	19:30	49,5	59,4				
78	19:45	51,4	58,1				
79	20:00	52,6	59,4				
80	20:15	45,7	59,6				
81	20:30	42,7	55,1				
82	20:45	40,5	57,6				
83	21:00	39,7	51,9				
84	21:15	39,4	52,2				

5.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax
1	00:30	38,7	53,2
2	00:45	40,3	51,7
3	01:00	41,4	55,2
4	01:15	43,2	57,3
5	01:30	43,7	54,1
6	01:45	43,4	52,7
7	02:00	42,8	50,1
8	02:15	42,2	56,8
9	02:30	41,5	52,1
10	02:45	43,1	49,3
11	03:00	43,3	50,1
12	03:15	43,4	50,7
13	03:30	43,8	50,1
14	03:45	43,4	51,7
15	04:00	43,6	51,6
16	04:15	43,8	50,0
17	04:30	43,3	51,5
18	04:45	41,9	49,4
19	05:00	41,1	45,0
20	05:15	40,7	52,7
21	05:30	40,4	50,8
22	05:45	38,6	50,4
23	06:00	38,1	52,8
24	06:15	37,6	49,3
25	06:30	39,4	50,3
26	06:45	39,1	47,5
27	07:00	39,3	55,0

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

28	07:15	38,8	51,4	72	18:15	49,3	57,3
29	07:30	41,8	53,4	73	18:30	49,5	61,8
30	07:45	45,1	53,9	74	18:45	50,7	61,2
31	08:00	45,8	51,1	75	19:00	50,1	59,3
32	08:15	47,4	53,4	76	19:15	49,8	54,6
33	08:30	47,7	51,0	77	19:30	50,4	57,3
34	08:45	46,5	53,0	78	19:45	50,1	58,7
35	09:00	49,5	54,2	79	20:00	51,3	53,9
36	09:15	48,6	56,0	80	20:15	44,6	55,1
37	09:30	49,0	57,6	81	20:30	41,6	56,8
38	09:45	49,4	58,7	82	20:45	39,5	53,3
39	10:00	50,7	60,7	83	21:00	38,9	48,1
40	10:15	50,5	57,7	84	21:15	39,6	49,9
41	10:30	51,0	59,0	85	21:30	39,9	51,7
42	10:45	51,5	57,7	86	21:45	39,4	51,3
43	11:00	51,3	58,0	87	22:00	39,4	49,8
44	11:15	50,9	58,5	88	22:15	39,5	50,4
45	11:30	50,5	58,6	89	22:30	39,6	52,0
46	11:45	51,5	57,9	90	22:45	39,7	54,9
47	12:00	51,3	59,2	91	23:00	40,5	52,9
48	12:15	51,9	57,8	92	23:15	40,2	51,2
49	12:30	52,0	57,0	93	23:30	38,0	53,7
50	12:45	52,3	57,6	94	23:45	37,1	51,1
51	13:00	51,7	59,2	95	00:00	38,4	54,3
52	13:15	51,1	56,2	96	00:15	36,8	51,5
53	13:30	51,0	57,8				
54	13:45	50,6	58,7				
55	14:00	51,8	57,0				
56	14:15	49,9	56,4				
57	14:30	48,7	53,3				
58	14:45	49,0	54,8				
59	15:00	49,4	56,9				
60	15:15	50,9	60,6				
61	15:30	49,5	60,7				
62	15:45	49,2	54,7				
63	16:00	49,6	59,0				
64	16:15	48,9	56,7				
65	16:30	49,3	58,1				
66	16:45	49,8	57,3				
67	17:00	50,6	58,0				
68	17:15	50,1	55,4				
69	17:30	49,0	58,2				
70	17:45	50,9	59,5				
71	18:00	49,5	57,7				

6.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax
1	00:30	39,1	56,6
2	00:45	40,7	55,1
3	01:00	39,9	58,8
4	01:15	42,6	64,1
5	01:30	43,7	60,4
6	01:45	46,1	59,0
7	02:00	45,5	56,1
8	02:15	43,7	63,5
9	02:30	42,0	56,3
10	02:45	43,6	58,7
11	03:00	43,7	53,3
12	03:15	43,4	55,8
13	03:30	43,8	59,0
14	03:45	43,4	60,9

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti'** nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

15	04:00	43,6	57,0	59	15:00	51,9	59,7
16	04:15	43,8	58,9	60	15:15	53,5	63,7
17	04:30	43,3	60,6	61	15:30	52,0	63,8
18	04:45	41,6	61,2	62	15:45	51,7	57,6
19	05:00	43,6	56,3	63	16:00	52,2	62,0
20	05:15	43,2	56,0	64	16:15	51,4	59,5
21	05:30	42,9	53,9	65	16:30	50,2	59,3
22	05:45	41,0	53,5	66	16:45	50,8	58,5
23	06:00	38,5	53,3	67	17:00	51,6	59,2
24	06:15	38,0	49,7	68	17:15	51,1	56,6
25	06:30	39,7	50,8	69	17:30	51,5	61,2
26	06:45	39,5	48,0	70	17:45	53,5	62,6
27	07:00	41,3	57,9	71	18:00	52,0	60,7
28	07:15	40,8	54,1	72	18:15	51,8	60,1
29	07:30	44,0	56,2	73	18:30	52,1	65,0
30	07:45	47,5	56,7	74	18:45	53,3	64,4
31	08:00	47,7	53,2	75	19:00	52,7	62,3
32	08:15	49,3	55,6	76	19:15	50,3	55,2
33	08:30	49,5	53,1	77	19:30	50,9	61,0
34	08:45	48,9	55,8	78	19:45	52,7	65,0
35	09:00	52,1	57,0	79	20:00	54,0	59,6
36	09:15	51,1	58,9	80	20:15	46,9	58,1
37	09:30	51,5	60,5	81	20:30	43,8	55,3
38	09:45	51,9	61,7	82	20:45	41,5	56,1
39	10:00	51,2	61,4	83	21:00	40,9	50,6
40	10:15	51,0	58,3	84	21:15	40,3	51,0
41	10:30	51,5	59,5	85	21:30	40,7	52,9
42	10:45	52,1	58,3	86	21:45	40,1	52,3
43	11:00	54,0	61,0	87	22:00	40,1	50,9
44	11:15	53,5	61,5	88	22:15	41,5	53,1
45	11:30	53,1	61,6	89	22:30	41,6	54,8
46	11:45	54,2	60,9	90	22:45	40,1	55,4
47	12:00	52,4	60,3	91	23:00	40,9	53,4
48	12:15	53,0	59,0	92	23:15	42,3	53,8
49	12:30	53,1	58,2	93	23:30	39,8	56,4
50	12:45	53,4	58,8	94	23:45	39,0	53,7
51	13:00	52,8	60,3	95	00:00	40,3	57,0
52	13:15	53,8	59,1	96	00:15	38,7	54,3
53	13:30	53,6	60,8				
54	13:45	53,2	61,7				
55	14:00	54,5	59,8				
56	14:15	52,5	59,3				
57	14:30	51,2	56,1				
58	14:45	51,5	57,7				

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup **Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti'** nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

7.NOKTA							
Gürültü Ölçüm Sonuçları							
(24 saatlik Değerler)							
Data number	Start Time	Leq	Lmax				
1	00:30	37,3	57,0	41	10:30	52,9	62,5
2	00:45	38,8	56,5	42	10:45	53,5	57,7
3	01:00	39,7	59,2	43	11:00	55,6	62,4
4	01:15	43,7	64,6	44	11:15	54,8	63,1
5	01:30	44,2	60,8	45	11:30	54,4	64,9
6	01:45	43,9	59,3	46	11:45	55,8	61,5
7	02:00	43,3	56,5	47	12:00	53,9	57,7
8	02:15	42,8	63,9	48	12:15	54,5	59,7
9	02:30	39,9	56,6	49	12:30	54,6	61,3
10	02:45	41,5	59,1	50	12:45	54,8	62,0
11	03:00	43,8	53,6	51	13:00	54,3	63,8
12	03:15	41,4	56,1	52	13:15	55,2	62,4
13	03:30	41,6	59,4	53	13:30	55,0	60,9
14	03:45	41,4	61,3	54	13:45	54,5	63,5
15	04:00	41,5	57,4	55	14:00	54,7	59,7
16	04:15	41,6	59,3	56	14:15	54,0	62,5
17	04:30	42,0	60,8	57	14:30	52,5	59,1
18	04:45	42,1	61,6	58	14:45	52,9	60,9
19	05:00	41,6	56,6	59	15:00	53,4	63,1
20	05:15	41,2	56,4	60	15:15	53,3	62,4
21	05:30	40,9	54,2	61	15:30	53,5	59,4
22	05:45	39,1	53,8	62	15:45	53,1	58,0
23	06:00	36,7	53,7	63	16:00	53,7	62,4
24	06:15	36,2	50,0	64	16:15	53,3	59,9
25	06:30	37,9	51,2	65	16:30	51,7	59,6
26	06:45	37,6	48,3	66	16:45	52,3	58,8
27	07:00	42,5	58,3	67	17:00	52,9	59,6
28	07:15	41,8	57,3	68	17:15	52,6	57,0
29	07:30	45,2	56,5	69	17:30	52,9	61,6
30	07:45	48,9	57,0	70	17:45	53,1	63,0
31	08:00	49,0	55,2	71	18:00	53,5	61,1
32	08:15	50,7	55,9	72	18:15	53,3	60,6
33	08:30	51,0	57,8	73	18:30	53,6	65,4
34	08:45	51,8	56,1	74	18:45	54,6	64,8
35	09:00	52,2	65,0	75	19:00	54,2	62,7
36	09:15	52,4	62,6	76	19:15	51,8	60,4
37	09:30	52,9	60,9	77	19:30	52,2	61,3
38	09:45	53,4	63,0	78	19:45	54,2	63,8
39	10:00	52,5	58,2	79	20:00	51,8	61,3
40	10:15	52,3	59,3	80	20:15	48,1	58,3
				81	20:30	45,0	56,8
				82	20:45	42,7	56,4
				83	21:00	41,9	50,9
				84	21:15	41,5	51,3

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI
ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

85	21:30	41,9	53,2	28	07:15	41,6	54,3
86	21:45	41,3	52,7	29	07:30	45,0	56,3
87	22:00	41,3	51,3	30	07:45	47,8	56,8
88	22:15	42,7	53,3	31	08:00	48,8	53,8
89	22:30	42,8	55,1	32	08:15	50,4	56,3
90	22:45	42,5	57,3	33	08:30	50,3	53,7
91	23:00	43,3	55,2	34	08:45	51,5	55,8
92	23:15	44,6	55,8	35	09:00	51,9	57,1
93	23:30	42,0	58,6	36	09:15	52,1	59,1
94	23:45	42,7	55,6	37	09:30	52,5	60,6
95	00:00	41,9	58,9	38	09:45	53,1	57,1
96	00:15	40,8	56,2	39	10:00	52,3	59,7

8.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	43,5	65,0	40	10:15	52,1	56,1
2	00:45	43,8	64,5	41	10:30	52,6	59,4
3	01:00	44,3	67,5	42	10:45	53,3	56,9
4	01:15	46,8	64,5	43	11:00	53,0	59,3
5	01:30	47,4	66,0	44	11:15	54,6	59,8
6	01:45	47,1	70,1	45	11:30	54,2	61,6
7	02:00	46,4	61,2	46	11:45	55,5	58,4
8	02:15	45,8	69,3	47	12:00	53,6	56,4
9	02:30	44,1	64,6	48	12:15	54,2	58,6
10	02:45	44,4	67,4	49	12:30	54,3	59,9
11	03:00	44,7	61,0	50	12:45	54,5	60,6
12	03:15	44,4	64,7	51	13:00	54,0	62,4
13	03:30	44,7	63,5	52	13:15	56,0	59,3
14	03:45	44,4	65,4	53	13:30	54,7	57,8
15	04:00	44,6	65,9	54	13:45	54,3	60,2
16	04:15	44,7	66,5	55	14:00	54,5	56,8
17	04:30	44,3	65,7	56	14:15	53,7	59,4
18	04:45	45,1	67,6	57	14:30	53,6	56,2
19	05:00	44,6	61,4	58	14:45	52,5	57,8
20	05:15	44,2	61,0	59	15:00	54,0	59,8
21	05:30	43,8	58,9	60	15:15	53,0	59,3
22	05:45	41,8	58,5	61	15:30	53,2	56,5
23	06:00	39,3	61,2	62	15:45	52,7	55,0
24	06:15	38,8	57,1	63	16:00	53,4	59,3
25	06:30	40,7	58,4	64	16:15	53,0	56,9
26	06:45	40,2	55,0	65	16:30	54,0	58,5
27	07:00	42,1	58,0	66	16:45	52,0	57,5
				67	17:00	52,7	58,4
				68	17:15	52,3	55,6
				69	17:30	52,5	58,6
				70	17:45	52,7	59,7
				71	18:00	53,2	60,8

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

72	18:15	52,9	60,3	15	04:00	39,6	51,7
73	18:30	53,3	65,2	16	04:15	39,7	53,4
74	18:45	54,4	64,6	17	04:30	39,3	55,0
75	19:00	53,9	62,5	18	04:45	40,3	53,0
76	19:15	49,9	57,6	19	05:00	39,6	48,2
77	19:30	52,0	63,6	20	05:15	39,1	47,9
78	19:45	53,9	64,1	21	05:30	38,8	46,1
79	20:00	55,2	65,8	22	05:45	37,1	45,7
80	20:15	50,4	63,1	23	06:00	36,7	48,0
81	20:30	44,8	56,4	24	06:15	36,1	44,8
82	20:45	42,5	52,8	25	06:30	37,9	45,7
83	21:00	41,7	53,2	26	06:45	37,7	43,1
84	21:15	41,3	55,2	27	07:00	37,8	49,9
85	21:30	41,7	57,3	28	07:15	37,3	46,8
86	21:45	41,0	56,7	29	07:30	40,2	48,5
87	22:00	41,1	55,1	30	07:45	43,5	49,0
88	22:15	42,5	55,7	31	08:00	44,0	46,4
89	22:30	42,6	57,6	32	08:15	43,0	48,5
90	22:45	39,8	60,6	33	08:30	43,3	46,3
91	23:00	40,6	58,3	34	08:45	43,6	48,2
92	23:15	41,9	56,5	35	09:00	43,8	49,3
93	23:30	39,6	59,4	36	09:15	44,0	50,9
94	23:45	38,8	56,4	37	09:30	44,4	52,2
95	00:00	39,9	59,9	38	09:45	44,8	49,3
96	00:15	38,5	57,3	39	10:00	46,0	51,5

9.NOKTA
Gürültü Ölçüm Sonuçları
(24 saatlik Değerler)

Data number	Start Time	Leq	Lmax				
1	00:30	40,1	50,9	40	10:15	45,8	48,4
2	00:45	39,3	50,4	41	10:30	46,3	51,2
3	01:00	39,9	53,0	42	10:45	46,9	49,1
4	01:15	39,3	54,9	43	11:00	46,6	51,1
5	01:30	39,6	51,7	44	11:15	46,2	51,6
6	01:45	39,4	50,3	45	11:30	45,8	53,2
7	02:00	38,9	48,0	46	11:45	46,9	50,2
8	02:15	38,4	54,3	47	12:00	46,6	48,5
9	02:30	37,8	50,5	48	12:15	47,3	50,3
10	02:45	39,2	52,9	49	12:30	47,4	51,7
11	03:00	39,3	47,9	50	12:45	47,6	52,2
12	03:15	39,4	50,6	51	13:00	47,1	53,7
13	03:30	39,7	53,5	52	13:15	46,5	51,1
14	03:45	39,4	55,4	53	13:30	46,3	49,7
				54	13:45	45,9	51,9
				55	14:00	46,1	49,0
				56	14:15	45,4	51,2
				57	14:30	44,1	48,5
				58	14:45	44,4	49,7

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



BATI LABORATUVARI

ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

				10.NOKTA			
				Gürültü Ölçüm Sonuçları			
				(24 saatlik Değerler)			
				Data	Start Time	Leq	Lmax
				number			
59	15:00	44,8	51,6				
60	15:15	44,8	51,1				
61	15:30	44,9	48,6				
62	15:45	44,7	47,5				
63	16:00	45,1	51,1	1	00:30	40,5	51,4
64	16:15	44,8	49,1	2	00:45	38,9	49,9
65	16:30	44,8	50,2	3	01:00	39,6	52,4
66	16:45	45,3	49,5	4	01:15	38,9	54,3
67	17:00	45,9	50,2	5	01:30	39,3	51,1
68	17:15	45,6	48,0	6	01:45	39,0	49,8
69	17:30	44,4	50,3	7	02:00	38,5	47,5
70	17:45	44,7	51,5	8	02:15	38,0	53,8
71	18:00	44,9	52,4	9	02:30	37,4	50,0
72	18:15	44,8	52,0	10	02:45	38,8	52,3
73	18:30	45,0	56,2	11	03:00	38,9	47,4
74	18:45	46,0	55,7	12	03:15	39,0	50,1
75	19:00	45,6	53,8	13	03:30	39,4	53,0
76	19:15	45,3	49,5	14	03:45	39,0	54,8
77	19:30	45,7	54,9	15	04:00	39,2	51,1
78	19:45	45,6	56,2	16	04:15	39,4	52,9
79	20:00	46,6	51,5	17	04:30	38,9	54,4
80	20:15	40,3	52,9	18	04:45	39,9	52,4
81	20:30	40,0	54,3	19	05:00	39,2	47,7
82	20:45	41,0	51,1	20	05:15	38,7	47,4
83	21:00	40,2	46,0	21	05:30	38,4	45,6
84	21:15	40,7	47,8	22	05:45	36,7	45,2
85	21:30	39,1	49,5	23	06:00	36,3	47,5
86	21:45	39,9	49,1	24	06:15	35,7	44,4
87	22:00	39,1	47,7	25	06:30	37,5	45,2
88	22:15	41,2	48,3	26	06:45	37,3	42,6
89	22:30	39,3	49,7	27	07:00	37,4	49,5
90	22:45	38,3	52,6	28	07:15	36,9	46,3
91	23:00	38,9	50,5	29	07:30	39,8	48,0
92	23:15	38,8	48,9	30	07:45	43,0	48,5
93	23:30	36,5	51,4	31	08:00	43,6	45,9
94	23:45	40,0	48,9	32	08:15	42,5	48,0
95	00:00	39,6	51,8	33	08:30	42,8	45,8
96	00:15	37,8	49,3	34	08:45	43,1	47,7
				35	09:00	43,4	48,8
				36	09:15	43,6	50,4
				37	09:30	44,0	51,6
				38	09:45	44,4	48,8
				39	10:00	45,5	51,0
				40	10:15	45,3	47,9

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



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ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ

41	10:30	45,8	50,7	85	21:30	38,7	49,0
42	10:45	46,4	48,6	86	21:45	39,6	48,6
43	11:00	46,1	50,6	87	22:00	38,7	47,2
44	11:15	45,7	51,1	88	22:15	40,8	47,8
45	11:30	45,3	52,6	89	22:30	38,9	49,3
46	11:45	46,4	49,7	90	22:45	37,9	52,0
47	12:00	46,1	48,0	91	23:00	38,5	50,0
48	12:15	46,8	49,8	92	23:15	38,4	48,4
49	12:30	46,9	51,1	93	23:30	36,1	50,9
50	12:45	47,1	51,6	94	23:45	39,6	48,4
51	13:00	46,6	53,2	95	00:00	39,2	51,2
52	13:15	46,0	50,6	96	00:15	40,8	48,8
53	13:30	45,8	49,3				
54	13:45	45,4	51,3				
55	14:00	45,6	48,5				
56	14:15	44,9	50,7				
57	14:30	43,7	48,0				
58	14:45	44,0	49,3				
59	15:00	44,4	51,1				
60	15:15	44,4	50,6				
61	15:30	44,5	48,1				
62	15:45	44,3	47,0				
63	16:00	44,7	50,6				
64	16:15	44,4	48,6				
65	16:30	44,4	49,7				
66	16:45	44,8	49,0				
67	17:00	45,4	49,7				
68	17:15	45,1	47,5				
69	17:30	44,0	49,8				
70	17:45	44,3	51,0				
71	18:00	44,5	51,8				
72	18:15	44,4	51,4				
73	18:30	44,6	55,6				
74	18:45	45,5	55,1				
75	19:00	45,1	53,3				
76	19:15	44,8	49,1				
77	19:30	45,2	54,3				
78	19:45	45,1	55,6				
79	20:00	46,1	51,0				
80	20:15	39,9	52,3				
81	20:30	39,6	53,8				
82	20:45	40,6	50,6				
83	21:00	39,8	45,5				
84	21:15	40,3	47,3				

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.



EK-1 AKREDİTASYON BELGESİ

Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan **Gürültü Ölçümleri** için geçerli olup **Bati Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti**'nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir.
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TÜRK AKREDİTASYON KURUMU

AKREDİTASYON SERTİFİKASI

Deney Laboratuvarı olarak faaliyet gösteren.

**BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH.
MÜŞ. SAN. VE TİC. LTD. ŞTİ.**

İnönü Mahallesi Yıldırımilar Sanayi Sitesi Batı Bulvarı 1738 Sokak 1-10 Kat.6 Yenimahalle 06370
ANKARA / TÜRKİYE

TÜRKAK tarafından yapılan denetim sonucunda TS EN ISO/IEC 17025:2017 Standardına göre Ek'te yer alan kapsamlarda akredite edilmiştir.

Akreditasyon No : AB-0946-T
Akreditasyon Tarihi : 31 Ekim 2015
Revizyon Tarihi / No : 26 Şubat 2020 / 04

Bu Sertifika, yukarıda açık adı ve adresi yazılı Kuruluşun TS EN ISO/IEC 17025:2017 Standardına, ilgili Yönetmelik ve Tebliğlere uygunluğunu sürdürmesi halinde, **25 Şubat 2024** tarihine kadar geçerlidir.



Banuyıl
G. Banu MÜDERRİSOĞLU
Genel Sekreter

Türk Akreditasyon Kurumu (TÜRKAK) ISO/IEC 17025 alanında Avrupa Akreditasyon Birliği (EA) ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile çok taraflı anlaşma (MLA/MRA) imzalamıştır.

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Bu rapor yalnızca **BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ** mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup **Bati Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti'** nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.




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Akreditasyon Sertifikası Eki (Sayfa 1/3)

Akreditasyon Kapsamı

 TÜRKAK Tıf TS EN ISO/IEC 17025 AB-0946-T	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ.	
	Akreditasyon No: AB-0946-T Revizyon No: 04 Tarih: 26.02.2020	
Deney Laboratuvarı		
Adresi : İnönü Mahallesi Yıldırımın Sanayi Sitesi Batı Bulvarı 1738 Sokak 1-10 Kat 6 Yenimahalle 06370 ANKARA/TURKIYE		Tel : 0 312 250 84 85 Faks : 0 312 278 48 86 E-Posta : barbarosyuce@yahoo.com Website : www.batilaboratuvari.com
Deneyi Yapılan Matzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
İş Hijyeni Gürültü	Kişilerin Maruz Kaldığı Gürültü Düzeyinin Ölçülmesi ve İşitme Kayıplarının Tespiti	TS 2607 ISO 1999
İş Hijyeni Titreşim	Kişilerin Maruz Kaldığı, Elle İletilen Titreşimin Ölçülmesi ve Değerlendirilmesi	TS EN ISO 5349-1 TS EN ISO 5349-2
İş Hijyeni Titreşim	Hareketli Makinaların Deneye Tabi Tutulması ile Titreşim Emisyon Değerlerinin Tespiti	TS EN 1032+A1
İş Hijyeni Titreşim	Tüm Vücudun Titreşime Maruz Kalmasının Ölçülmesi ve Değerlendirilmesi	TS ISO 2631-1 (TS EN 1032+A1 ile birlikte)
İş Hijyeni Termal Konfor	Termal Çevrenin Ergonomisi - WBGT (islak ampul küresel sıcaklık) Endeksi (ISO 7243: 2017) Kullanılarak Isı Stresinin Değerlendirilmesi İsil Çevrenin Ergonomisi - PMV ve PPD İndislerinin Hesabını Ve Bölgesel İsil Konfor Kriterlerini Kullanarak İsil Konforun Analitik Olarak Belirlenmesi Ve Yorumu	TS EN ISO 7243 TS EN ISO 7730
İş Hijyeni Aydınlatma	İş Yerlerindeki Aydınlatma/İşik Şiddeti Düzeyinin Ölçümü	COHSR-928-1-IPG-039
İş Hijyeni Toz Ölçümü	Toplam ve Solunabilir Tozun Tayini Örnekleme: Pompa ile Filtreye Numune Alma Analiz: Gravimetrik	HSE-MDHS 14/3
İş Hijyeni Dedektör Tüpü Anlık Gaz Ölçümü	Zehirli Gaz veya Buhar Konsantrasyonlarının Tayini Örnekleme ve Ölçüm: Dedektör Tüpü Anlık Ölçüm (Benzen, Oksijen, Etanol, Karbondioksit, Karbonmonoksit)	ASTM D 4490-96
İş Hijyeni Manyetik Alan	Elektrik Alan [E] (10 MHz - 8 GHz) Manyetik Alan [H] (10 MHz - 8 GHz) Eşdeğer Düzlem Dalgı Güç Yoğunluğu (10 MHz - 8 GHz) Manyetik Akı Yoğunluğu [B] (30 Hz - 2 GHz)	TS EN 50413
Akustik-Gürültü	Çevresel Gürültü Düzeyinin (Leq, Lmax, L10, L5, L1, L0.5, Lmin, Lmax, L10, L5, L1, L0.5) Tespiti	TS 9315 ISO 1996-1 ve TS 9315 ISO 1996-1/T1
Akustik-Gürültü	Çevresel Gürültü Düzeyinin (Leq, Lmax, L10, L5, L1, L0.5, Lmin, Lmax, L10, L5, L1, L0.5) Tespiti	TS ISO 1996-2 ve TS ISO 1996-2/T1
Akustik-Gürültü	Çoklu Gürültü Kaynağına Sahip Sanayi Tesislerinde Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (ΔL _A , ΔL _A , ΔL _A , ΔL _A , L _A , L _A) Tespiti	TS ISO 8297

Bu rapor yalnızca BANDIRMA-BURSA-YENİŞEHİR-OSMANELİ YÜKSEK STANDARTLI DEMİRYOLU PROJESİ mahallerinde 13-14.03.2021 / 14-15.03.2021 tarihlerinde yapılan Gürültü Ölçümleri için geçerli olup Batı Laboratuvarı Çevre Ölçüm Hizmetleri Bilişim Müh. Müş. San. ve Tic. Ltd. Şti' nin yazılı onayı olmadan kopyalanıp çoğaltılamaz. Bu rapor çevre mevzuatına ilişkin resmi işlemlerde kullanılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Deney sonuçları, sadece ölçüm sırasındaki işletme koşulları ile ilgilidir. This report shall not be reproduced other than in full except with the permission of the laboratory. Testing reports without signature and seal are not valid.




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Akreditasyon Sertifikası Eki (Sayfa 2/3)

Akreditasyon Kapsamı

	BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ. Akreditasyon No: AB-0946-T Revizyon No: 04 Tarih: 26.02.2020
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Deneyi Yapılan Malzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
Akustik-Gürültü	Hava Ulaşım Araçlarından Kaynaklanan Gürültünün Alansal Dağılımının (L_{w} , $L_{p}(x,y)$, $L_{p}(d)$, L_{p} , L_{p}^A , L_{p}^B) ΔL , ΔL) Hesaplanması	ECAC, CEAC Doc 29
Akustik-Gürültü	Demiryolu Ulaşım Araçlarının Ses Gücü Düzeyinin (E_{w} , E_{p} , L_{p} , L_{p}^A , L_{p}^B) ve Demiryolu Gürültüsünün Alansal Dağılımının (L_{w} , C_{w} , D_{w} , D_{w}^A , D_{w}^B) Hesaplanması	Hollanda ulusal hesaplama yöntemi RMR SRM II
Akustik-Gürültü	Karayolu Ulaşım Araçlarının Ses Gücü Düzeyinin (E_{w} , L_{w}) ve Karayolu Gürültüsünün Alansal Dağılımının Hesaplanması (L_{w} , L_{p} , A_{w} , A_{p} , A_{p}^A , A_{p}^B)	Fransız ulusal hesaplama yöntemi NMPB-96 ve Fransız standardı XPS 31-133
Akustik-Gürültü	Mühendislik Metodu Kullanılarak Gürültü Kaynaklarından Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (L_{w} , L_{p}) Tespiti	TS EN ISO 3744
Akustik-Gürültü	Gözlem Yöntemi Kullanılarak Gürültü Kaynaklarından Yapılan Ses Basıncı Düzeyi Ölçümlerinden Ses Gücü Düzeyinin (L_{w} , K , K_{p} , L_{p} , L_{w}) Tespiti	TS EN ISO 3746
Akustik-Gürültü	Sesin Dışarıda Yayılırken Azalması Bölüm 1: Sesin Atmosfer Tarafından Soğurulmasının Hesaplanması	TS ISO 9613-1
Akustik-Gürültü	Sesin Dışarıda Yayılırken Azalması Bölüm 2: Genel Hesaplama Yöntemi	TS ISO 9613-2
Akustik-Gürültü	Yapılarda İçerideki Sesin Dışarıya İletilmesinde Yapı Akustik Performansının Değerlendirilmesi (L_{w} , R_{w})	TS EN 12354-4
Akustik-Gürültü	Yapı Elemanlarında ve Yapılarda Ses Yalıtımının Alan Ölçümü-Bölüm 1:Hava ile Yayılan Sesin Yalıtımı Akustik - Binalarda ve Yapı Elemanlarında Ses Yalıtımının Saha Ölçümü - Bölüm 1 - Hava Kaynaklı Ses Yalıtımı - Değişiklik 1	TS EN ISO 16283-1 ve TS EN ISO 16283-1/A1
Titreşim	Binalarda Titreşimin Ölçülmesi ve Yapı Hasarının Tespiti (tr , a , V)	TS ISO 4866
Titreşim	Akışkan Film Yataklı Gaz Türbini Setlerinin Dönmeyen Parçalarında Titreşimin Ölçülmesi ve Değerlendirilmesi (V_{rms})	ISO 10816-4
Titreşim	Hidrolik Güç Kaynaklı ve Pompa Tesisatlarındaki Makine Setlerinin Dönmeyen Parçalarında Titreşimin Ölçülmesi ve Değerlendirilmesi (V_{rms})	ISO 10816-5
Titreşim	Madencilik Faaliyetleri Sonucunda Oluşan Hava Şoku ve Yer Titreşiminin Ölçülmesi (a , v)	TS 10354

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Akreditasyon Sertifikası Eki (Sayfa 3/3)

Akreditasyon Kapsamı

 <p>TÜRKAK Test TS EN ISO/IEC 17025 AB-0946-T</p>	<p>BATI LABORATUVARI ÇEVRE ÖLÇÜM HİZMETLERİ BİLİŞİM MÜH. MÜŞ. SAN. VE TİC. LTD. ŞTİ.</p> <p>Akreditasyon No: AB-0946-T Revizyon No: 04 Tarih: 26.02.2020</p>	
Deneyi Yapılan Malzemeler / Ürünler	Deney Adı	Deney Metodu (Ulusal, Uluslararası standartlar, işletme içi metodlar)
İmisyon (Çevre Havası)	Akıdaki Tanecikli Maddenin PM10 veya PM2,5 Kütle Derişimlerinin Tayini Gravimetrik Metot	TS EN 12341
İmisyon (Çevre Havası)	Çöken Toz Tayini Gravimetrik Metot	TS 2342
Baca Gazı (TSE CEN/TS 15675 ve TS EN 15259 Şartlarına Uygun)	Sabit Kaynak Emisyonları- Bacalarda Gaz Akışlarının Hız ve Debisinin Ölçülmesi Gaz Akışlarının Hız ve Debisinin Tayini L Pitot Tüpü ile	TS ISO 10780

KAPSAM SONU

Banuyul
G. Banu MÜDERRİSOĞLU
Genel Sekreter



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İnönü Mahallesi Batı Bulvarı 1738 Sokak No:1/10 Batıkent /ANKARA

Tel: 0 312 250 84 85 Fax: 0 312 278 48 86



CERTIFICATE OF ANALYSIS

Work Order	: PR2126983	Issue Date	: 06-Apr-2021
Customer	: ARTEK MUHENDISLIK CEVRE OLCUM VE DANISMANLIK HIZM. TIC. A.S.	Laboratory	: ALS Czech Republic, s.r.o.
Contact	: Evren Hakan Saka	Contact	: Client Service
Address	: Mehmet Akif Mah. Elalmis Cad. Tagrik Bugra Sok. No: 15 34 775 Umraniye/Istanbul Turkey	Address	: Na Harfe 336/9 Prague 9 - Vysocany 190 00 Czech Republic
E-mail	: evren.saka@alsglobal.com	E-mail	: customer.support@alsglobal.com
Telephone	: ----	Telephone	: +420 226 226 228
Project	: GOLDER	Page	: 1 of 6
Order number	: ARTEK BQ	Date Samples Received	: 30-Mar-2021
		Quote number	: PR2017ALSTR-TR0002 (TR-252-17-0383)
Site	: ----	Date of test	: 30-Mar-2021 - 06-Apr-2021
Sampled by	: client	QC Level	: ALS CR Standard Quality Control Schedule

General Comments

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The laboratory declares that the test results relate only to the listed samples. If the section "Sampled by" of the Certificate of analysis states: "Sampled by Customer" then the results relate to the sample as received.

Responsible for accuracy

Testing Laboratory No. 1163
Accredited by CAI according to
CSN EN ISO/IEC 17025:2018

Signatories

Zdeněk Jiráček

Position

Environmental Business Unit
Manager



The company is certified according to ČSN EN ISO 14001 (Environmental management systems) and ČSN ISO 45001 (Occupational health and safety management systems)



Analytical Results

Sub-Matrix: SOIL				Client sample ID		SO-1		SO-2		SO-3	
				Laboratory sample ID		PR2126983-001		PR2126983-002		PR2126983-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Dry matter @ 105°C	S-DRY-GRCI	0.10	%	72.3	± 6.0%	79.0	± 6.0%	84.5	± 6.0%		
BTEX											
Benzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Toluene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Ethylbenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
meta- & para-Xylene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
ortho-Xylene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Sum of TEX	S-VOCGMS01	0.08	mg/kg DW	<0.08	---	<0.08	---	<0.08	---		
Sum of BTEX	S-VOCGMS01	0.090	mg/kg DW	<0.090	---	<0.090	---	<0.090	---		
Sum of xylenes	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Halogenated Volatile Organic Compounds											
Vinyl chloride	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
trans-1,2-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Dichloromethane	S-VOCGMS01	0.800	mg/kg DW	<0.800	---	<0.800	---	<0.800	---		
1,1-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
cis-1,2-Dichloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,1-Dichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chloroform	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1,2-Dichloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1,1,1-Trichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Tetrachloromethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromodichloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Trichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
1,1,2-Trichloroethane	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Dibromochloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Tetrachloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,1,1,2-Tetrachloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chlorobenzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromoform	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
1,1,2,2-Tetrachloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1,2-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,4-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,3-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,2,4-Trichlorobenzene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1,2,3-Trichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,3,5-Trichlorobenzene	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
1,2-Dichloropropane	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 3 Dichlorobenzenes	S-VOCGMS01	0.060	mg/kg DW	<0.060	---	<0.060	---	<0.060	---		
Sum of 4 Trihalomethanes	S-VOCGMS01	0.110	mg/kg DW	<0.110	---	<0.110	---	<0.110	---		
Sum of 3 Trichlorobenzenes	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 5 Chlorinated Ethenes	S-VOCGMS01	0.070	mg/kg DW	<0.070	---	<0.070	---	<0.070	---		
Non-Halogenated Volatile Organic Compounds											
Styrene	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Methyl tert-Butyl Ether (MTBE)	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
tert-Butyl alcohol	S-VOCGMS01	0.80	mg/kg DW	<0.80	---	<0.80	---	<0.80	---		
Sum of BTEXS	S-VOCGMS01	0.130	mg/kg DW	<0.130	---	<0.130	---	<0.130	---		
Aliphatic Fractions of Petroleum Hydrocarbons											
C5 - C8 Aliphatic Fraction	S-TPHFID08	3.0	mg/kg DW	<3.0	---	<3.0	---	<3.0	---		
C8 - C16 Aliphatic Fraction	S-TPHFID08	17	mg/kg DW	<17	---	<17	---	<17	---		
C16 - C35 Aliphatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		
Aromatic Fractions of Petroleum Hydrocarbons											
C5 - C9 Aromatic Fraction	S-TPHFID08	4.0	mg/kg DW	<4.0	---	<4.0	---	<4.0	---		
C9 - C16 Aromatic Fraction	S-TPHFID08	16	mg/kg DW	<16	---	<16	---	<16	---		
C16 - C35 Aromatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		



Sub-Matrix: SOIL				Client sample ID		SO-4		SO-5		SO-6	
				Laboratory sample ID		PR2126983-004		PR2126983-005		PR2126983-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Dry matter @ 105°C	S-DRY-GRCI	0.10	%	78.5	± 6.0%	73.7	± 6.0%	80.1	± 6.0%		
BTEX											
Benzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Toluene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Ethylbenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
meta- & para-Xylene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
ortho-Xylene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Sum of TEX	S-VOCGMS01	0.08	mg/kg DW	<0.08	---	<0.08	---	<0.08	---		
Sum of BTEX	S-VOCGMS01	0.090	mg/kg DW	<0.090	---	<0.090	---	<0.090	---		
Sum of xylenes	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Halogenated Volatile Organic Compounds											
Vinyl chloride	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
trans-1,2-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Dichloromethane	S-VOCGMS01	0.800	mg/kg DW	<0.800	---	<0.800	---	<0.800	---		
1,1-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
cis-1,2-Dichloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,1-Dichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chloroform	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1,2-Dichloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1,1,1-Trichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Tetrachloromethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromodichloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Trichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
1,1,2-Trichloroethane	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Dibromochloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Tetrachloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,1,1,2-Tetrachloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chlorobenzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromoform	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
1,1,1,2,2-Tetrachloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1,2-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,4-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,3-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,2,4-Trichlorobenzene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1,2,3-Trichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1,3,5-Trichlorobenzene	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
1,2-Dichloropropane	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 3 Dichlorobenzenes	S-VOCGMS01	0.060	mg/kg DW	<0.060	---	<0.060	---	<0.060	---		
Sum of 4 Trihalomethanes	S-VOCGMS01	0.110	mg/kg DW	<0.110	---	<0.110	---	<0.110	---		
Sum of 3 Trichlorobenzenes	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 5 Chlorinated Ethenes	S-VOCGMS01	0.070	mg/kg DW	<0.070	---	<0.070	---	<0.070	---		
Non-Halogenated Volatile Organic Compounds											
Styrene	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Methyl tert-Butyl Ether (MTBE)	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
tert-Butyl alcohol	S-VOCGMS01	0.80	mg/kg DW	<0.80	---	<0.80	---	<0.80	---		
Sum of BTEXS	S-VOCGMS01	0.130	mg/kg DW	<0.130	---	<0.130	---	<0.130	---		
Aliphatic Fractions of Petroleum Hydrocarbons											
C5 - C8 Aliphatic Fraction	S-TPHFID08	3.0	mg/kg DW	<3.0	---	<3.0	---	<3.0	---		
C8 - C16 Aliphatic Fraction	S-TPHFID08	17	mg/kg DW	<17	---	<17	---	<17	---		
C16 - C35 Aliphatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		
Aromatic Fractions of Petroleum Hydrocarbons											
C5 - C9 Aromatic Fraction	S-TPHFID08	4.0	mg/kg DW	<4.0	---	<4.0	---	<4.0	---		
C9 - C16 Aromatic Fraction	S-TPHFID08	16	mg/kg DW	<16	---	<16	---	<16	---		
C16 - C35 Aromatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		

Sub-Matrix: SOIL				Client sample ID		SO-7		SO-8		SO-9	
				Laboratory sample ID		PR2126983-007		PR2126983-008		PR2126983-009	



Sub-Matrix: SOIL				Client sample ID		SO-7		SO-8		SO-9	
				Laboratory sample ID		PR2126983-007		PR2126983-008		PR2126983-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Dry matter @ 105°C	S-DRY-GRCI	0.10	%	80.6	± 6.0%	79.9	± 6.0%	79.2	± 6.0%		
BTEX											
Benzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Toluene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Ethylbenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
meta- & para-Xylene	S-VOCGMS01	0.020	mg/kg DW	0.024	± 40.0%	<0.020	---	<0.020	---		
ortho-Xylene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Sum of TEX	S-VOCGMS01	0.08	mg/kg DW	<0.08	---	<0.08	---	<0.08	---		
Sum of BTEX	S-VOCGMS01	0.090	mg/kg DW	<0.090	---	<0.090	---	<0.090	---		
Sum of xylenes	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
Halogenated Volatile Organic Compounds											
Vinyl chloride	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
trans-1.2-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Dichloromethane	S-VOCGMS01	0.800	mg/kg DW	<0.800	---	<0.800	---	<0.800	---		
1.1-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
cis-1.2-Dichloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.1-Dichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chloroform	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1.2-Dichloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1.1.1-Trichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Tetrachloromethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromodichloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Trichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
1.1.2-Trichloroethane	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Dibromochloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
Tetrachloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.1.1.2-Tetrachloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Chlorobenzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	<0.010	---	<0.010	---		
Bromoform	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
1.1.1.2.2-Tetrachloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	<0.100	---	<0.100	---		
1.2-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.4-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.3-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.2.4-Trichlorobenzene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	<0.030	---	<0.030	---		
1.2.3-Trichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	<0.020	---	<0.020	---		
1.3.5-Trichlorobenzene	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
1.2-Dichloropropane	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 3 Dichlorobenzenes	S-VOCGMS01	0.060	mg/kg DW	<0.060	---	<0.060	---	<0.060	---		
Sum of 4 Trihalomethanes	S-VOCGMS01	0.110	mg/kg DW	<0.110	---	<0.110	---	<0.110	---		
Sum of 3 Trichlorobenzenes	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	<0.10	---	<0.10	---		
Sum of 5 Chlorinated Ethenes	S-VOCGMS01	0.070	mg/kg DW	<0.070	---	<0.070	---	<0.070	---		
Non-Halogenated Volatile Organic Compounds											
Styrene	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	<0.040	---	<0.040	---		
Methyl tert-Butyl Ether (MTBE)	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	<0.050	---	<0.050	---		
tert-Butyl alcohol	S-VOCGMS01	0.80	mg/kg DW	<0.80	---	<0.80	---	<0.80	---		
Sum of BTEXS	S-VOCGMS01	0.130	mg/kg DW	<0.130	---	<0.130	---	<0.130	---		
Aliphatic Fractions of Petroleum Hydrocarbons											
C5 - C8 Aliphatic Fraction	S-TPHFID08	3.0	mg/kg DW	<3.0	---	<3.0	---	<3.0	---		
C8 - C16 Aliphatic Fraction	S-TPHFID08	17	mg/kg DW	<17	---	<17	---	<17	---		
C16 - C35 Aliphatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		
Aromatic Fractions of Petroleum Hydrocarbons											
C5 - C9 Aromatic Fraction	S-TPHFID08	4.0	mg/kg DW	<4.0	---	<4.0	---	<4.0	---		
C9 - C16 Aromatic Fraction	S-TPHFID08	16	mg/kg DW	<16	---	<16	---	<16	---		
C16 - C35 Aromatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	<30	---	<30	---		

Sub-Matrix: SOIL				Client sample ID		SO-10		----		----	
				Laboratory sample ID		PR2126983-010		----		----	



Sub-Matrix: SOIL				Client sample ID		SO-10			
				Laboratory sample ID		PR2126983-010			
				Client sampling date / time		30-Mar-2021			
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU
Physical Parameters									
Dry matter @ 105°C	S-DRY-GRCI	0.10	%	88.8	± 6.0%	----	----	----	----
BTEX									
Benzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Toluene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	----	----	----	----
Ethylbenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
meta- & para-Xylene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
ortho-Xylene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Sum of TEX	S-VOCGMS01	0.08	mg/kg DW	<0.08	---	----	----	----	----
Sum of BTEX	S-VOCGMS01	0.090	mg/kg DW	<0.090	---	----	----	----	----
Sum of xylenes	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	----	----	----	----
Halogenated Volatile Organic Compounds									
Vinyl chloride	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	----	----	----	----
trans-1.2-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Dichloromethane	S-VOCGMS01	0.800	mg/kg DW	<0.800	---	----	----	----	----
1.1-Dichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
cis-1.2-Dichloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.1-Dichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Chloroform	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	----	----	----	----
1.2-Dichloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	----	----	----	----
1.1.1-Trichloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Tetrachloromethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Bromodichloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
Trichloroethene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
1.1.2-Trichloroethane	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	----	----	----	----
Dibromochloromethane	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
Tetrachloroethene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.1.1.2-Tetrachloroethane	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Chlorobenzene	S-VOCGMS01	0.010	mg/kg DW	<0.010	---	----	----	----	----
Bromoform	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	----	----	----	----
1.1.2.2-Tetrachloroethane	S-VOCGMS01	0.100	mg/kg DW	<0.100	---	----	----	----	----
1.2-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.4-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.3-Dichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.2.4-Trichlorobenzene	S-VOCGMS01	0.030	mg/kg DW	<0.030	---	----	----	----	----
1.2.3-Trichlorobenzene	S-VOCGMS01	0.020	mg/kg DW	<0.020	---	----	----	----	----
1.3.5-Trichlorobenzene	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	----	----	----	----
1.2-Dichloropropane	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	----	----	----	----
Sum of 3 Dichlorobenzenes	S-VOCGMS01	0.060	mg/kg DW	<0.060	---	----	----	----	----
Sum of 4 Trihalomethanes	S-VOCGMS01	0.110	mg/kg DW	<0.110	---	----	----	----	----
Sum of 3 Trichlorobenzenes	S-VOCGMS01	0.10	mg/kg DW	<0.10	---	----	----	----	----
Sum of 5 Chlorinated Ethenes	S-VOCGMS01	0.070	mg/kg DW	<0.070	---	----	----	----	----
Non-Halogenated Volatile Organic Compounds									
Styrene	S-VOCGMS01	0.040	mg/kg DW	<0.040	---	----	----	----	----
Methyl tert-Butyl Ether (MTBE)	S-VOCGMS01	0.050	mg/kg DW	<0.050	---	----	----	----	----
tert-Butyl alcohol	S-VOCGMS01	0.80	mg/kg DW	<0.80	---	----	----	----	----
Sum of BTEXS	S-VOCGMS01	0.130	mg/kg DW	<0.130	---	----	----	----	----
Aliphatic Fractions of Petroleum Hydrocarbons									
C5 - C8 Aliphatic Fraction	S-TPHFID08	3.0	mg/kg DW	<3.0	---	----	----	----	----
C8 - C16 Aliphatic Fraction	S-TPHFID08	17	mg/kg DW	<17	---	----	----	----	----
C16 - C35 Aliphatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	----	----	----	----
Aromatic Fractions of Petroleum Hydrocarbons									
C5 - C9 Aromatic Fraction	S-TPHFID08	4.0	mg/kg DW	5.2	± 30.0%	----	----	----	----
C9 - C16 Aromatic Fraction	S-TPHFID08	16	mg/kg DW	<16	---	----	----	----	----
C16 - C35 Aromatic Fraction	S-TPHFID08	30	mg/kg DW	<30	---	----	----	----	----

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Measurement uncertainty is expressed as expanded measurement uncertainty with coverage factor k = 2, representing 95% confidence level.



Key: LOR = Limit of reporting; MU = Measurement Uncertainty. The MU does not include sampling uncertainty.

The end of result part of the certificate of analysis

Brief Method Summaries

<i>Analytical Methods</i>	<i>Method Descriptions</i>
<i>Location of test performance: Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00</i>	
S-DRY-GRCI	CZ_SOP_D06_01_045 (CSN ISO 11465, CSN EN 12880, CSN EN 14346:2007), CZ_SOP_D06_07_046 (CSN ISO 11465, CSN EN 12880, CSN EN 14346:2007, CSN 46 5735) Determination of dry matter by gravimetry and determination of moisture by calculation from measured values.
S-TPHFID08	CZ_SOP_D06_03_152 except chap. 9.2 (TNRCC Method 1005, TNRCC Method 1006) Determination of extractable compounds in the range of hydrocarbons C5- C40, their fractions calculated from the measured values by gas chromatography method with FID detection
S-VOCGMS01	CZ_SOP_D06_03_155 except chap. 10.4 (US EPA 8260, US EPA 5021A, US EPA 5021, US EPA 8015, CSN EN ISO 22155, CSN EN ISO 15009, CSN EN ISO 16558-1, MADEP 2004, rev. 1.1) Determination of volatile organic compounds by gas chromatography method with FID and MS detection and calculation of volatile organic compounds sums from measured values

A `` symbol preceding any method indicates laboratory or subcontractor non-accredited test. In the case when a procedure belonging to an accredited method was used for non-accredited matrix, would apply that the reported results are non-accredited. Please refer to General Comment section on front page for information. If the report contains subcontracted analysis, those are made in a subcontracted laboratory outside the laboratories ALS Czech Republic, s.r.o.
 The calculation methods of summation parameters are available on request in the client service.



CERTIFICATE OF ANALYSIS

Work Order	: PR2126984	Issue Date	: 29-Apr-2021
Amendment	: 1		
Customer	: ARTEK MUHENDISLIK CEVRE OLCUM VE DANISMANLIK HIZM. TIC. A.S.	Laboratory	: ALS Czech Republic, s.r.o.
Contact	: Evren Hakan Saka	Contact	: Client Service
Address	: Mehmet Akif Mah. Elalmis Cad. Tagrik Bugra Sok. No: 15 34 775 Umraniye/Istanbul Turkey	Address	: Na Harfe 336/9 Prague 9 - Vysocany 190 00 Czech Republic
E-mail	: evren.saka@alsglobal.com	E-mail	: customer.support@alsglobal.com
Telephone	: ----	Telephone	: +420 226 226 228
Project	: GOLDER	Page	: 1 of 11
Order number	: ARTEK BQ	Date Samples	: 30-Mar-2021
		Received	
		Quote number	: PR2017ALSTR-TR0002 (TR-252-17-0383)
Site	: ----	Date of test	: 30-Mar-2021 - 28-Apr-2021
Sampled by	: client	QC Level	: ALS CR Standard Quality Control Schedule

General Comments

This report shall not be reproduced except in full, without prior written approval from the laboratory.

The laboratory declares that the test results relate only to the listed samples. If the section "Sampled by" of the Certificate of analysis states: "Sampled by Customer" then the results relate to the sample as received.

Sample(s) PR2126984/001, 003, 004, 005, method W-BOD5-OXY, W-BOD7-OXY, W-BOD-OXY - determination of biochemical oxygen demand was performed using method for undiluted samples.

Amendment No. 1: Se added from W-METMSDG1. This Amendment No.1 replaces the original report issued on 14.4.2021.

Sample(s) PR2126984/006,007,011,010,003, method W-NNO-SPC, W-NH4-SPC, W-NO2-SPC, W-NO3-SPC was/were filtered prior to analysis (filter porosity 0.45 µm).

Responsible for accuracy

Testing Laboratory No. 1163
Accredited by CAI according to
CSN EN ISO/IEC 17025:2018

Signatories

Zdeněk Jiráček

Position

Environmental Business Unit
Manager



The company is certified according to ČSN EN ISO 14001 (Environmental management systems) and ČSN ISO 45001 (Occupational health and safety management systems)



Analytical Results

Sub-Matrix: SURFACE WATER				Client sample ID		SW-1		SW-2		SW-3	
				Laboratory sample ID		PR2126984-001		PR2126984-002		PR2126984-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	1.7	± 10.0%	1.8	± 10.0%	2.5	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	86.6	± 10.0%	93.6	± 10.0%	54.7	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.71	± 1.0%	7.67	± 1.0%	7.62	± 1.0%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.7	± 10.0%	0.8	± 10.0%	1.1	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.4	± 10.0%	0.4	± 10.0%	0.6	± 10.0%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	0.606	± 20.0%	0.644	± 20.0%	0.294	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	8.16	± 20.0%	9.67	± 20.0%	10.7	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	0.402	± 15.0%	1.20	± 15.0%	1.77	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	0.517	± 15.0%	1.55	± 15.0%	2.28	± 15.0%		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	3.2	± 21.3%	3.2	± 21.2%	2.3	± 23.7%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	36.1	± 17.8%	29.5	± 18.4%	35.3	± 17.8%		
Chloride	W-CL-IC	1.00	mg/L	85.2	± 15.0%	106	± 15.0%	27.6	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	0.399	± 15.0%	0.384	± 15.0%	0.202	± 15.0%		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	6.48	---	4.97	---	6.01	---		
Nitrates	W-NO3-SPC	0.27	mg/L	25.8	---	15.4	---	18.0	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	6.08	± 20.0%	3.77	± 20.0%	4.24	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.851	± 15.0%	0.913	± 15.0%	0.568	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	2.19	---	3.48	---	3.75	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.11	± 20.0%	1.52	± 20.0%	1.91	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	1.89	± 20.0%	1.59	± 20.0%	2.08	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	68.1	± 15.0%	70.7	± 15.0%	25.5	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	2.59	± 23.8%	4.68	± 21.2%	5.52	± 20.9%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	8.7	---	8.4	---	9.8	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	0.827	± 20.0%	0.693	± 20.0%	0.908	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	2.54	± 20.0%	2.12	± 20.0%	2.78	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	5.82	---	3.49	---	4.07	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.259	± 15.0%	0.278	± 15.0%	0.173	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.362	± 20.0%	0.495	± 20.0%	0.622	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	542	± 9.8%	575	± 9.8%	354	± 9.9%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	71.4	± 10.2%	29.4	± 10.5%	141	± 10.1%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	4.52	± 12.0%	4.59	± 12.0%	4.02	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	3.56	± 10.0%	0.624	± 10.0%	4.51	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	<0.020	---		
Arsenic	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Barium	W-METAXDG1	0.00050	mg/L	0.0905	± 10.0%	0.0671	± 10.0%	0.124	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXDG1	0.010	mg/L	1.52	± 10.0%	3.63	± 10.0%	0.132	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	86.1	± 10.0%	85.4	± 10.0%	67.6	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0057	± 10.0%	<0.0020	---	0.0081	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-1		SW-2		SW-3	
				Laboratory sample ID		PR2126984-001		PR2126984-002		PR2126984-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Copper	W-METAXDG1	0.0020	mg/L	0.0047	± 10.0%	0.0032	± 10.0%	0.0097	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	2.23	± 10.0%	0.620	± 10.0%	3.82	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0144	± 10.0%	0.0238	± 10.0%	0.0217	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	14.5	± 10.0%	14.8	± 10.0%	11.6	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.134	± 10.0%	0.0507	± 10.0%	0.127	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	<0.020	---	<0.020	---	<0.020	---		
Molybdenum	W-METAXDG1	0.0030	mg/L	0.0036	± 10.0%	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Phosphorus	W-METAXDG1	0.050	mg/L	0.803	± 10.0%	0.612	± 10.0%	0.780	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	8.44	± 10.0%	10.0	± 10.0%	9.97	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	59.4	± 10.0%	74.4	± 10.0%	24.2	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0070	± 10.0%	0.0040	± 10.0%	0.0105	± 10.0%		
Zinc	W-METAXDG1	0.0030	mg/L	0.0278	± 10.0%	0.0100	± 10.0%	0.0173	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	0.023	± 10.0%	0.016	± 10.0%	<0.010	---		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0083	± 10.0%	0.0109	± 10.0%	0.0153	± 10.0%		
Barium	W-METAXFL1	0.00050	mg/L	0.0676	± 10.0%	0.0589	± 10.0%	0.0941	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	1.64	± 10.0%	3.72	± 10.0%	0.167	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	87.2	± 10.0%	84.9	± 10.0%	66.4	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Copper	W-METAXFL1	0.0010	mg/L	0.0023	± 10.0%	0.0019	± 10.0%	0.0027	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.0189	± 10.0%	0.0291	± 10.0%	0.0261	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0114	± 10.0%	0.0248	± 10.0%	0.0202	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	16.3	± 10.0%	16.0	± 10.0%	11.8	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.00360	± 10.0%	0.00287	± 10.0%	0.00141	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0044	± 10.0%	0.0047	± 10.0%	0.0078	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	0.351	± 10.0%	0.505	± 10.0%	0.627	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	9.29	± 10.0%	10.8	± 10.0%	9.84	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	64.2	± 10.0%	75.1	± 10.0%	30.4	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0042	± 10.0%	0.0037	± 10.0%	0.0040	± 10.0%		
Zinc	W-METAXFL1	0.0020	mg/L	0.0021	± 10.0%	0.0038	± 10.0%	<0.0020	---		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-4		SW-5		SW-6	
				Laboratory sample ID		PR2126984-004		PR2126984-005		PR2126984-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	1.9	± 10.0%	2.4	± 10.0%	1.2	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	44.3	± 10.0%	44.5	± 10.0%	107	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.66	± 1.0%	7.69	± 1.0%	7.50	± 1.1%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.9	± 10.0%	1.3	± 10.0%	0.7	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.5	± 10.0%	0.9	± 10.0%	0.4	± 10.0%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-4		SW-5		SW-6	
				Laboratory sample ID		PR2126984-004		PR2126984-005		PR2126984-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Aggregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	0.369	± 20.0%	0.490	± 20.0%	4.15	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	6.25	± 20.0%	6.44	± 20.0%	9.93	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	0.161	± 15.0%	0.080	± 15.0%	8.81	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	0.207	± 15.0%	0.103	± 15.0%	11.3	± 15.0%		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	3.0	± 21.7%	1.8	± 26.0%	47.9	± 15.4%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	21.3	± 19.7%	26.4	± 18.8%	202	± 15.5%		
Chloride	W-CL-IC	1.00	mg/L	17.8	± 15.0%	16.8	± 15.0%	144	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	<0.200	---	<0.200	---	0.211	± 15.0%		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	2.93	---	3.00	---	8.81	---		
Nitrates	W-NO3-SPC	0.27	mg/L	11.9	---	12.6	---	<0.27	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	2.77	± 20.0%	2.92	± 20.0%	<0.060	---		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.261	± 15.0%	0.291	± 15.0%	<0.0050	---		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	1.99	---	2.01	---	9.52	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.57	± 20.0%	1.45	± 20.0%	2.56	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	1.61	± 20.0%	1.62	± 20.0%	3.48	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	24.6	± 15.0%	23.0	± 15.0%	887	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	2.15	± 25.3%	2.09	± 25.6%	18.3	± 20.1%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	4.9	---	5.0	---	18.3	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	0.704	± 20.0%	0.709	± 20.0%	1.52	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	2.16	± 20.0%	2.17	± 20.0%	4.65	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	2.69	---	2.84	---	<0.060	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.0793	± 15.0%	0.0887	± 15.0%	<0.0020	---		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.511	± 20.0%	0.474	± 20.0%	0.835	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	293	± 9.9%	300	± 9.9%	522	± 9.8%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	129	± 10.1%	145	± 10.1%	346	± 10.0%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	3.23	± 12.0%	3.25	± 12.0%	5.66	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	4.18	± 10.0%	4.25	± 10.0%	8.85	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	0.023	± 10.0%		
Arsenic	W-METAXDG1	0.010	mg/L	0.024	± 10.0%	0.021	± 10.0%	0.017	± 10.0%		
Barium	W-METAXDG1	0.00050	mg/L	0.108	± 10.0%	0.105	± 10.0%	0.113	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXDG1	0.010	mg/L	0.842	± 10.0%	0.806	± 10.0%	0.165	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	51.0	± 10.0%	48.9	± 10.0%	95.6	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0174	± 10.0%	0.0179	± 10.0%	0.311	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	0.0081	± 10.0%		
Copper	W-METAXDG1	0.0020	mg/L	0.0068	± 10.0%	0.0066	± 10.0%	0.0532	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	4.72	± 10.0%	4.81	± 10.0%	12.9	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0232	± 10.0%	0.0222	± 10.0%	0.0313	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	15.3	± 10.0%	15.1	± 10.0%	18.7	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.228	± 10.0%	0.232	± 10.0%	0.460	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	<0.020	---	<0.020	---	0.048	± 10.0%		
Molybdenum	W-METAXDG1	0.0030	mg/L	0.0036	± 10.0%	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	0.0226	± 10.0%	0.0244	± 10.0%	0.0677	± 10.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-4		SW-5		SW-6	
				Laboratory sample ID		PR2126984-004		PR2126984-005		PR2126984-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Phosphorus	W-METAXDG1	0.050	mg/L	0.646	± 10.0%	0.628	± 10.0%	2.67	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	6.83	± 10.0%	6.59	± 10.0%	11.8	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	19.1	± 10.0%	18.3	± 10.0%	122	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0094	± 10.0%	0.0092	± 10.0%	0.0202	± 10.0%		
Zinc	W-METAXDG1	0.0030	mg/L	0.0248	± 10.0%	0.0200	± 10.0%	0.557	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	0.892	± 10.0%		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0192	± 10.0%	0.0191	± 10.0%	0.0162	± 10.0%		
Barium	W-METAXFL1	0.00050	mg/L	0.0669	± 10.0%	0.0666	± 10.0%	0.0463	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	0.918	± 10.0%	0.923	± 10.0%	0.172	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	46.4	± 10.0%	46.7	± 10.0%	75.4	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	0.0551	± 10.0%		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	0.0031	± 10.0%		
Copper	W-METAXFL1	0.0010	mg/L	0.0022	± 10.0%	0.0018	± 10.0%	0.0032	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.0204	± 10.0%	0.0216	± 10.0%	1.54	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0198	± 10.0%	0.0193	± 10.0%	0.0214	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	14.3	± 10.0%	14.4	± 10.0%	15.8	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.00109	± 10.0%	0.00104	± 10.0%	0.304	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	0.0060	± 10.0%	0.0050	± 10.0%	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0046	± 10.0%	0.0062	± 10.0%	0.0267	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	0.507	± 10.0%	0.497	± 10.0%	1.03	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	6.09	± 10.0%	5.98	± 10.0%	11.7	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	22.6	± 10.0%	22.7	± 10.0%	130	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0024	± 10.0%	0.0024	± 10.0%	0.0042	± 10.0%		
Zinc	W-METAXFL1	0.0020	mg/L	0.0027	± 10.0%	<0.0020	---	0.289	± 10.0%		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-7		SW-8		SW-9	
				Laboratory sample ID		PR2126984-007		PR2126984-008		PR2126984-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	0.9	± 10.0%	1.1	± 10.0%	0.9	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	102	± 10.0%	92.7	± 10.0%	88.2	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.13	± 1.1%	7.31	± 1.1%	7.29	± 1.1%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.4	± 10.0%	0.6	± 10.0%	0.5	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.3	± 10.1%	0.4	± 10.0%	0.3	± 10.1%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	7.17	± 20.0%	2.66	± 20.0%	0.574	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	9.36	± 20.0%	8.49	± 20.0%	8.17	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	8.38	± 15.0%	5.91	± 15.0%	5.22	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	10.8	± 15.0%	7.61	± 15.0%	6.73	± 15.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-7		SW-8		SW-9	
				Laboratory sample ID		PR2126984-007		PR2126984-008		PR2126984-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Nonmetallic Inorganic Parameters - Continued											
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	41.1	± 15.5%	16.6	± 16.2%	23.8	± 15.8%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	136	± 15.7%	120	± 15.8%	109	± 15.9%		
Chloride	W-CL-IC	1.00	mg/L	121	± 15.0%	109	± 15.0%	95.0	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	0.223	± 15.0%	0.260	± 15.0%	0.284	± 15.0%		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	8.44	---	7.11	---	6.66	---		
Nitrates	W-NO3-SPC	0.27	mg/L	0.28	---	4.90	---	6.18	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	0.066	± 20.0%	1.20	± 20.0%	1.44	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.0084	± 15.0%	0.318	± 15.0%	0.135	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	7.48	---	5.26	---	3.97	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	3.84	± 20.0%	2.94	± 20.0%	3.17	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	5.03	± 20.0%	4.06	± 20.0%	4.21	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	902	± 15.0%	854	± 15.0%	694	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	15.8	± 20.1%	11.2	± 20.2%	9.20	± 20.3%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	15.9	---	12.4	---	10.6	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	2.20	± 20.0%	1.77	± 20.0%	1.84	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	6.73	± 20.0%	5.44	± 20.0%	5.63	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	0.064	---	1.11	---	1.40	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.0026	± 15.0%	0.0967	± 15.0%	0.0410	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	1.25	± 20.0%	0.960	± 20.0%	1.03	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	496	± 9.8%	478	± 9.8%	450	± 9.8%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	472	± 10.0%	414	± 10.0%	504	± 10.0%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	5.64	± 12.0%	5.23	± 12.0%	5.39	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	13.3	± 10.0%	9.54	± 10.0%	11.9	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	0.028	± 10.0%	<0.020	---	<0.020	---		
Arsenic	W-METAXDG1	0.010	mg/L	0.032	± 10.0%	0.015	± 10.0%	0.026	± 10.0%		
Barium	W-METAXDG1	0.00050	mg/L	0.158	± 10.0%	0.110	± 10.0%	0.126	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	---	<0.00020	---	0.00033	± 10.0%		
Boron	W-METAXDG1	0.010	mg/L	0.160	± 10.0%	0.197	± 10.0%	0.176	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	120	± 10.0%	90.5	± 10.0%	105	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.354	± 10.0%	0.317	± 10.0%	0.325	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	0.0116	± 10.0%	0.0054	± 10.0%	0.0095	± 10.0%		
Copper	W-METAXDG1	0.0020	mg/L	0.0783	± 10.0%	0.0262	± 10.0%	0.0383	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	19.5	± 10.0%	9.47	± 10.0%	14.8	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	0.018	± 10.0%	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0372	± 10.0%	0.0359	± 10.0%	0.0382	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	22.1	± 10.0%	19.9	± 10.0%	22.0	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.601	± 10.0%	0.377	± 10.0%	0.496	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	0.073	± 10.0%	0.020	± 10.0%	0.054	± 10.0%		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	0.0988	± 10.0%	0.0398	± 10.0%	0.0605	± 10.0%		
Phosphorus	W-METAXDG1	0.050	mg/L	3.28	± 10.0%	1.54	± 10.0%	1.55	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	12.8	± 10.0%	11.0	± 10.0%	12.0	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	120	± 10.0%	90.1	± 10.0%	82.2	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0335	± 10.0%	0.0169	± 10.0%	0.0243	± 10.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-7		SW-8		SW-9	
				Laboratory sample ID		PR2126984-007		PR2126984-008		PR2126984-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Zinc	W-METAXDG1	0.0030	mg/L	0.778	± 10.0%	0.268	± 10.0%	0.323	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	2.15	± 10.0%	1.78	± 10.0%	1.55	± 10.0%		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0190	± 10.0%	0.0186	± 10.0%	0.0174	± 10.0%		
Barium	W-METAXFL1	0.00050	mg/L	0.0621	± 10.0%	0.0688	± 10.0%	0.0798	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	0.00026	± 10.0%	0.00027	± 10.0%		
Boron	W-METAXFL1	0.010	mg/L	0.158	± 10.0%	0.200	± 10.0%	0.180	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	98.2	± 10.0%	118	± 10.0%	126	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	0.0636	± 10.0%	0.169	± 10.0%	0.0890	± 10.0%		
Cobalt	W-METAXFL1	0.0020	mg/L	0.0045	± 10.0%	0.0050	± 10.0%	0.0066	± 10.0%		
Copper	W-METAXFL1	0.0010	mg/L	0.0062	± 10.0%	0.0188	± 10.0%	0.0190	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	3.19	± 10.0%	2.07	± 10.0%	1.94	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	0.0070	± 10.0%	0.0060	± 10.0%	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0208	± 10.0%	0.0246	± 10.0%	0.0236	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	16.7	± 10.0%	21.0	± 10.0%	21.0	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.397	± 10.0%	0.431	± 10.0%	0.497	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0413	± 10.0%	0.0349	± 10.0%	0.0368	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	1.51	± 10.0%	1.14	± 10.0%	1.16	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	11.2	± 10.0%	11.1	± 10.0%	11.0	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	118	± 10.0%	94.0	± 10.0%	83.3	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0088	± 10.0%	0.0108	± 10.0%	0.0104	± 10.0%		
Zinc	W-METAXFL1	0.0020	mg/L	0.559	± 10.0%	0.408	± 10.0%	0.429	± 10.0%		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-10		SW-11		----	
				Laboratory sample ID		PR2126984-010		PR2126984-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	0.7	± 10.0%	0.8	± 10.0%	----	----		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	91.8	± 10.0%	106	± 10.0%	----	----		
pH Value	W-PH-PCT	1.00	-	7.49	± 1.1%	7.18	± 1.1%	----	----		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.3	± 10.1%	0.5	± 10.0%	----	----		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.1	± 10.4%	0.3	± 10.1%	----	----		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	----	----		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	1.54	± 20.0%	8.33	± 20.0%	----	----		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	10.0	± 20.0%	10.5	± 20.0%	----	----		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	4.10	± 15.0%	7.45	± 15.0%	----	----		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	5.28	± 15.0%	9.59	± 15.0%	----	----		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	33.8	± 15.6%	37.6	± 15.5%	----	----		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	----	----		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	134	± 15.7%	123	± 15.8%	----	----		
Chloride	W-CL-IC	1.00	mg/L	107	± 15.0%	137	± 15.0%	----	----		
Fluoride	W-F-IC	0.200	mg/L	0.280	± 15.0%	0.232	± 15.0%	----	----		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	5.37	---	7.45	---	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-10		SW-11		----	
				Laboratory sample ID		PR2126984-010		PR2126984-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Nonmetallic Inorganic Parameters - Continued											
Nitrates	W-NO3-SPC	0.27	mg/L	5.50	---	<0.27	---	----	----		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	1.27	± 20.0%	<0.060	---	----	----		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.103	± 15.0%	<0.0050	---	----	----		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	4.92	---	5.54	---	----	----		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	3.87	± 20.0%	4.17	± 20.0%	----	----		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	6.53	± 20.0%	4.24	± 20.0%	----	----		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	----	----		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	873	± 15.0%	978	± 15.0%	----	----		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	----	----		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	9.02	± 20.3%	13.0	± 20.2%	----	----		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	10.3	---	13.0	---	----	----		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	2.85	± 20.0%	1.85	± 20.0%	----	----		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	8.73	± 20.0%	5.68	± 20.0%	----	----		
Nitrate as N	W-NO3-SPC	0.060	mg/L	1.24	---	<0.060	---	----	----		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.0314	± 15.0%	<0.0020	---	----	----		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	1.26	± 20.0%	1.36	± 20.0%	----	----		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	----	----		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	456	± 9.8%	522	± 9.8%	----	----		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	445	± 10.0%	339	± 10.0%	----	----		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	5.17	± 12.0%	5.12	± 12.0%	----	----		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	----	----		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	20.2	± 10.0%	12.7	± 10.0%	----	----		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	0.034	± 10.0%	----	----		
Arsenic	W-METAXDG1	0.010	mg/L	0.036	± 10.0%	0.027	± 10.0%	----	----		
Barium	W-METAXDG1	0.00050	mg/L	0.190	± 10.0%	0.172	± 10.0%	----	----		
Beryllium	W-METAXDG1	0.00020	mg/L	0.00050	± 10.0%	<0.00020	---	----	----		
Boron	W-METAXDG1	0.010	mg/L	0.188	± 10.0%	0.157	± 10.0%	----	----		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	----	----		
Calcium	W-METAXDG1	0.050	mg/L	121	± 10.0%	118	± 10.0%	----	----		
Chromium	W-METAXDG1	0.0020	mg/L	0.278	± 10.0%	0.0902	± 10.0%	----	----		
Cobalt	W-METAXDG1	0.0020	mg/L	0.0179	± 10.0%	0.0123	± 10.0%	----	----		
Copper	W-METAXDG1	0.0020	mg/L	0.0849	± 10.0%	0.0825	± 10.0%	----	----		
Iron	W-METAXDG1	0.0050	mg/L	25.6	± 10.0%	18.4	± 10.0%	----	----		
Lead	W-METAXDG1	0.010	mg/L	0.020	± 10.0%	0.020	± 10.0%	----	----		
Lithium	W-METAXDG1	0.0020	mg/L	0.0452	± 10.0%	0.0333	± 10.0%	----	----		
Magnesium	W-METAXDG1	0.020	mg/L	26.9	± 10.0%	21.6	± 10.0%	----	----		
Manganese	W-METAXDG1	0.00050	mg/L	0.729	± 10.0%	0.557	± 10.0%	----	----		
Mercury	W-HG-AFSDG	0.020	µg/L	0.089	± 10.0%	0.098	± 10.0%	----	----		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	----	----		
Nickel	W-METAXDG1	0.0050	mg/L	0.129	± 10.0%	0.116	± 10.0%	----	----		
Phosphorus	W-METAXDG1	0.050	mg/L	2.53	± 10.0%	3.03	± 10.0%	----	----		
Potassium	W-METAXDG1	0.015	mg/L	12.8	± 10.0%	12.0	± 10.0%	----	----		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	----	----		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	----	----		
Sodium	W-METAXDG1	0.030	mg/L	96.6	± 10.0%	122	± 10.0%	----	----		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0420	± 10.0%	0.0301	± 10.0%	----	----		
Zinc	W-METAXDG1	0.0030	mg/L	0.882	± 10.0%	0.861	± 10.0%	----	----		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	3.22	± 10.0%	1.40	± 10.0%	----	----		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0136	± 10.0%	0.0186	± 10.0%	----	----		
Barium	W-METAXFL1	0.00050	mg/L	0.0690	± 10.0%	0.0511	± 10.0%	----	----		
Beryllium	W-METAXFL1	0.00020	mg/L	0.00035	± 10.0%	<0.00020	---	----	----		
Boron	W-METAXFL1	0.010	mg/L	0.200	± 10.0%	0.161	± 10.0%	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-10		SW-11		----	
				Laboratory sample ID		PR2126984-010		PR2126984-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Dissolved Metals / Major Cations - Continued											
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	----	----		
Calcium	W-METAXFL1	0.0050	mg/L	124	± 10.0%	98.8	± 10.0%	----	----		
Chromium	W-METAXFL1	0.0010	mg/L	0.0692	± 10.0%	0.0167	± 10.0%	----	----		
Cobalt	W-METAXFL1	0.0020	mg/L	0.0096	± 10.0%	0.0052	± 10.0%	----	----		
Copper	W-METAXFL1	0.0010	mg/L	0.0404	± 10.0%	0.0100	± 10.0%	----	----		
Iron	W-METAXFL1	0.0020	mg/L	3.18	± 10.0%	2.51	± 10.0%	----	----		
Lead	W-METAXFL1	0.0050	mg/L	0.0105	± 10.0%	0.0095	± 10.0%	----	----		
Lithium	W-METAXFL1	0.0010	mg/L	0.0226	± 10.0%	0.0193	± 10.0%	----	----		
Magnesium	W-METAXFL1	0.0030	mg/L	22.2	± 10.0%	16.7	± 10.0%	----	----		
Manganese	W-METAXFL1	0.00050	mg/L	0.602	± 10.0%	0.365	± 10.0%	----	----		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	----	----		
Nickel	W-METAXFL1	0.0020	mg/L	0.0612	± 10.0%	0.0506	± 10.0%	----	----		
Phosphorus	W-METAXFL1	0.050	mg/L	1.49	± 10.0%	1.60	± 10.0%	----	----		
Potassium	W-METAXFL1	0.015	mg/L	10.7	± 10.0%	10.9	± 10.0%	----	----		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	----	----		
Sodium	W-METAXFL1	0.030	mg/L	97.1	± 10.0%	125	± 10.0%	----	----		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0146	± 10.0%	0.0072	± 10.0%	----	----		
Zinc	W-METAXFL1	0.0020	mg/L	1.11	± 10.0%	0.511	± 10.0%	----	----		

Descriptive Results

Sub-Matrix: SURFACE WATER

Method: Compound	Laboratory sample ID	Client sample ID - Client sampling date / time	Analytical Results
Physical Parameters			
W-COL-PHO: Appearance	PR2126984-001	SW-1 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-002	SW-2 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-003	SW-3 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-004	SW-4 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-005	SW-5 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-006	SW-6 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-007	SW-7 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-008	SW-8 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-009	SW-9 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126984-010	SW-10 30-Mar-2021	Colorless, cloudy. After filtration colorless.
W-COL-PHO: Appearance	PR2126984-011	SW-11 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Measurement uncertainty is expressed as expanded measurement uncertainty with coverage factor $k = 2$, representing 95% confidence level.

Key: LOR = Limit of reporting; MU = Measurement Uncertainty. The MU does not include sampling uncertainty.

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Brief Method Summaries

Analytical Methods	Method Descriptions
<i>Location of test performance: Bendlova 1687/7 Ceska Lipa Czech Republic 470 01</i>	
W-COL-PHO	CZ_SOP_D06_07_035 (CSN EN ISO 7887) Determination of water colour by spectrophotometric method.
W-H2S-PHO	CZ_SOP_D06_07_015.A (CSN 83 0520:1978-part 16, CSN 83 0530:1980-part 31, SM 4500-S2- D) Determination of sum of sulfan and sulfide by spectrophotometry and calculation of free sulfan from measured values.
W-NKJ-PHO	CZ_SOP_D06_07_007.A (CSN EN 25663, CSN ISO 7150-1) Determination of Kjeldahl nitrogen by spectrophotometry.
<i>Location of test performance: Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00</i>	
W-ALK-PCT	CZ_SOP_D06_02_072 (CSN EN ISO 9963-1, CSN EN ISO 9963-2, CSN 75 7373, SM2320) Determination of acid neutralizing capacity (alkalinity) by potentiometric titration and determination of the carbonate hardness and calculation of CO ₂ forms from measured values including the calculation of total mineralization
W-BOD5-OXY	CZ_SOP_D06_02_077 (CSN EN ISO 5815-1) Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by dilution method with allylthiourea addition. CZ_SOP_D06_02_078 (CSN EN 1899-2, ISO 5815-2). Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by method for undiluted samples. If the method for undiluted samples is used, the general comment is on Certificate of Analysis.
W-BR-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CL-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CNT-PHO	CZ_SOP_D06_02_089.A (CSN 75 7415, CSN EN ISO 14403-2) Determination of total cyanide by spectrophotometry and calculation of complex-forming cyanides from measure values.
W-COD-SPC	CZ_SOP_D06_02_076 (CSN ISO 15705) Determination of chemical oxygen demand using dichromate (COD-Cr) by photometry.
W-CON-PCT	CZ_SOP_D06_02_075 (ČSN EN 27 888, SM 2520 B) Determination of electrical conductivity by conductometer and calculation of salinity.
W-F-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-HG-AFSDG	CZ_SOP_D06_02_096 (US EPA 245.7, CSN EN ISO 17852, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2.) - Determination of Mercury by Fluorescence Spectrometry. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-METAXDG1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-METAXFL1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METMSDG1	CZ_SOP_D06_02_002 (US EPA 200.8, CSN EN ISO 17294-2, US EPA 6020A, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1, 10.2) - Determination of elements by mass spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-NH4-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO ₂ -, SM 4500-NO ₃ -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NING-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO ₂ (-), SM 4500-NO ₃ (-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-NNO-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO ₂ (-), SM 4500-NO ₃ (-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NO2-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO ₂ -, SM 4500-NO ₃ -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization



Analytical Methods	Method Descriptions
W-NO3-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO2-, SM 4500-NO3-) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NORG-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-NTOT-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-PH-PCT	CZ_SOP_D06_02_105 (ČSN ISO 10523, US EPA 150.1, SM 4500-H+ B) Determination of pH by potentiometry
W-PO4O-SPC	CZ_SOP_D06_02_022 (CSN EN ISO 6878 SM 4500-P) Determination of orthophosphate by discrete spectrophotometry and calculation of orthophosphate's phosphorus from measured values including the calculation of total mineralization.
W-PTOT-SPC	CZ_SOP_D06_02_080 Determination of total phosphorus by discrete spectrophotometry and calculation of phosphorus as P2O5 and PO43- from measured values. (CSN EN ISO 6878 and CSN ISO 15681-1).
W-SO4-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-TDS-GR	CZ_SOP_D06_02_071 (CSN 757346, CSN 757347, CSN EN 15216, SM 2540C) Determination of dissolved solids (RL) and dissolved solids annealed (RAS) using glass fibre filters by gravimetry and calculation of loss on ignition of dissolved solids (RL550) from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).
W-TECD-IR	CZ_SOP_D06_02_059 (CSN 75 7506:2006, STN 83 0520-27:2015, STN 83 0540-4, SS 028145) Determination of extractable substances by infrared spectrometry and determination of polar extractable substances by calculation from measured values.
W-TOC-IR	CZ_SOP_D06_02_056 (CSN EN 1484, SM 5310) Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total inorganic carbon (TIC) and total carbon (TC) by IR detection.
W-TSS-GR	CZ_SOP_D06_02_070 (CSN EN 872, CSN 757350, SM 2540 D) Determination of dry suspended solids and annealed suspended solids by gravimetry and calculation of loss of ignition of suspended solids and total solids from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).

A `` symbol preceding any method indicates laboratory or subcontractor non-accredited test. In the case when a procedure belonging to an accredited method was used for non-accredited matrix, would apply that the reported results are non-accredited. Please refer to General Comment section on front page for information. If the report contains subcontracted analysis, those are made in a subcontracted laboratory outside the laboratories ALS Czech Republic, s.r.o.

The calculation methods of summation parameters are available on request in the client service.



CERTIFICATE OF ANALYSIS

Work Order	: PR2126985	Issue Date	: 29-Apr-2021
Amendment	: 1		
Customer	: ARTEK MUHENDISLIK CEVRE OLCUM VE DANISMANLIK HIZM. TIC. A.S.	Laboratory	: ALS Czech Republic, s.r.o.
Contact	: Evren Hakan Saka	Contact	: Client Service
Address	: Mehmet Akif Mah. Elalmis Cad. Tagrik Bugra Sok. No: 15 34 775 Umraniye/Istanbul Turkey	Address	: Na Harfe 336/9 Prague 9 - Vysocany 190 00 Czech Republic
E-mail	: evren.saka@alsglobal.com	E-mail	: customer.support@alsglobal.com
Telephone	: ----	Telephone	: +420 226 226 228
Project	: GOLDER	Page	: 1 of 11
Order number	: ARTEK BQ	Date Samples	: 30-Mar-2021
		Received	
		Quote number	: PR2017ALSTR-TR0002 (TR-252-17-0383)
Site	: ----	Date of test	: 30-Mar-2021 - 28-Apr-2021
Sampled by	: client	QC Level	: ALS CR Standard Quality Control Schedule

General Comments

This report shall not be reproduced except in full, without prior written approval from the laboratory.

The laboratory declares that the test results relate only to the listed samples. If the section "Sampled by" of the Certificate of analysis states: "Sampled by Customer" then the results relate to the sample as received.

Sample(s) PR2126985/007, 009, 011, method W-BOD5-OXY, W-BOD7-OXY, W-BOD-OXY - determination of biochemical oxygen demand was performed using method for undiluted samples.

Sample(s) PR2126985/002, method W-BOD5-OXY, W-BOD7-OXY, W-BOD-OXY - determination of biochemical oxygen demand was performed using method for undiluted samples.

Amendment No.1- sample 001- results of BOD + COD corrected (internal non-conformity E03-RN-131), all samples - Se measured by MS method (client request). This Amendment No.1 replaces the original report issued on 13.4.2021

Sample(s) PR2126985/009, method W-NH4-SPC, W-NO2-SPC, W-NO3-SPC, W-NNO-SPC was/were filtered prior to analysis (filter porosity 0.45 µm).

Sample(s) PR2126985/008, method W-NH4-SPC, W-NNO-SPC, W-NO2-SPC, W-NO3-SPC was/were filtered prior to analysis (filter porosity 0.45 µm).

Responsible for accuracy

Testing Laboratory No. 1163
Accredited by CAI according to
CSN EN ISO/IEC 17025:2018

Signatories

Zdeněk Jiráček

Position

Environmental Business Unit
Manager



The company is certified according to ČSN EN ISO 14001 (Environmental management systems) and ČSN ISO 45001 (Occupational health and safety management systems)



Analytical Results

Sub-Matrix: SURFACE WATER				Client sample ID		SW-12		SW-13		SW-15	
				Laboratory sample ID		PR2126985-001		PR2126985-002		PR2126985-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	2.2	± 10.0%	1.9	± 10.0%	2.4	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	94.1	± 10.0%	43.6	± 10.0%	80.4	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.19	± 1.1%	8.22	± 1.0%	7.82	± 1.0%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	1.2	± 10.0%	0.8	± 10.0%	1.5	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.7	± 10.0%	0.4	± 10.0%	1.0	± 10.0%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	14.9	± 20.0%	0.238	± 20.0%	13.0	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	13.6	± 20.0%	6.38	± 20.0%	9.51	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	7.01	± 15.0%	<0.040	----	4.73	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	9.02	± 15.0%	<0.050	----	6.09	± 15.0%		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	22.3	± 15.9%	1.6	± 27.3%	10.8	± 16.8%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	----	<0.50	----	<0.50	----		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	162	± 15.6%	20.5	± 19.9%	44.8	± 17.2%		
Chloride	W-CL-IC	1.00	mg/L	107	± 15.0%	13.2	± 15.0%	94.9	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	<0.200	----	<0.200	----	<0.200	----		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	7.01	----	1.25	----	5.41	----		
Nitrates	W-NO3-SPC	0.27	mg/L	<0.27	----	5.49	----	2.50	----		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	<0.060	----	1.25	± 20.0%	0.680	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.0058	± 15.0%	0.0233	± 15.0%	0.378	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	8.08	----	1.11	----	6.45	----		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.88	± 20.0%	0.134	± 20.0%	0.585	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	3.01	± 20.0%	0.402	± 20.0%	2.98	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	----	<0.050	----	<0.050	----		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	141	± 15.0%	17.9	± 15.0%	44.5	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	----	<0.005	----	0.005	± 66.8%		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	15.1	± 20.1%	1.11	± 36.1%	11.2	± 20.2%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	15.1	----	2.4	----	11.9	----		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	1.31	± 20.0%	0.175	± 20.0%	1.30	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	4.03	± 20.0%	0.538	± 20.0%	3.99	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	<0.060	----	1.24	----	0.565	----		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	<0.0020	----	0.0071	± 15.0%	0.115	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.611	± 20.0%	0.044	± 20.0%	0.191	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	----	<0.050	----	<0.050	----		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	559	± 9.8%	299	± 9.9%	466	± 9.8%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	240	± 10.1%	133	± 10.1%	320	± 10.0%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	3.18	± 12.0%	3.76	± 12.0%	4.22	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	----	<0.150	----	<0.150	----		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	4.94	± 10.0%	9.22	± 10.0%	8.27	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	----	<0.020	----	<0.020	----		
Arsenic	W-METAXDG1	0.010	mg/L	<0.010	----	<0.010	----	0.023	± 10.0%		
Barium	W-METAXDG1	0.00050	mg/L	0.0801	± 10.0%	0.0915	± 10.0%	0.106	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	----	0.00020	± 10.0%	0.00040	± 10.0%		
Boron	W-METAXDG1	0.010	mg/L	0.156	± 10.0%	0.040	± 10.0%	0.100	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	----	<0.0020	----	<0.0020	----		
Calcium	W-METAXDG1	0.050	mg/L	78.2	± 10.0%	60.4	± 10.0%	92.1	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0337	± 10.0%	0.0375	± 10.0%	0.0513	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	0.0053	± 10.0%	0.0056	± 10.0%	0.0092	± 10.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-12		SW-13		SW-15	
				Laboratory sample ID		PR2126985-001		PR2126985-002		PR2126985-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Copper	W-METAXDG1	0.0020	mg/L	0.0264	± 10.0%	0.0192	± 10.0%	0.0425	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	6.88	± 10.0%	9.95	± 10.0%	12.0	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	0.011	± 10.0%		
Lithium	W-METAXDG1	0.0020	mg/L	0.0216	± 10.0%	0.0217	± 10.0%	0.0227	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	16.1	± 10.0%	25.0	± 10.0%	17.2	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.366	± 10.0%	0.232	± 10.0%	0.478	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	0.192	± 10.0%	<0.020	---	0.070	± 10.0%		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	0.0071	± 10.0%		
Nickel	W-METAXDG1	0.0050	mg/L	0.0409	± 10.0%	0.0485	± 10.0%	0.0732	± 10.0%		
Phosphorus	W-METAXDG1	0.050	mg/L	1.60	± 10.0%	0.195	± 10.0%	1.50	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	10.1	± 10.0%	3.78	± 10.0%	8.23	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	102	± 10.0%	14.8	± 10.0%	83.4	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0126	± 10.0%	0.0208	± 10.0%	0.0218	± 10.0%		
Zinc	W-METAXDG1	0.0030	mg/L	0.278	± 10.0%	0.0198	± 10.0%	0.431	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	0.033	± 10.0%	<0.010	---	<0.010	---		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0100	± 10.0%	0.0057	± 10.0%	0.0074	± 10.0%		
Barium	W-METAXFL1	0.00050	mg/L	0.0370	± 10.0%	0.0487	± 10.0%	0.0313	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	0.141	± 10.0%	0.044	± 10.0%	0.098	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	67.3	± 10.0%	49.3	± 10.0%	55.5	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	0.0039	± 10.0%	<0.0010	---	0.0018	± 10.0%		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Copper	W-METAXFL1	0.0010	mg/L	0.0013	± 10.0%	0.0040	± 10.0%	0.0013	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.812	± 10.0%	0.0384	± 10.0%	0.111	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0135	± 10.0%	0.0082	± 10.0%	0.0096	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	11.4	± 10.0%	20.5	± 10.0%	11.5	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.251	± 10.0%	0.00054	± 10.0%	0.146	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	0.0022	± 10.0%		
Nickel	W-METAXFL1	0.0020	mg/L	0.0130	± 10.0%	0.0031	± 10.0%	0.0182	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	0.881	± 10.0%	0.054	± 10.0%	0.334	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	9.25	± 10.0%	2.19	± 10.0%	7.16	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	93.1	± 10.0%	16.1	± 10.0%	81.9	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	<0.0010	---	0.0014	± 10.0%	0.0010	± 10.0%		
Zinc	W-METAXFL1	0.0020	mg/L	0.0076	± 10.0%	<0.0020	---	0.0152	± 10.0%		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-16		SW-17		SW-18	
				Laboratory sample ID		PR2126985-004		PR2126985-005		PR2126985-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	2.4	± 10.0%	2.8	± 10.0%	2.2	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	88.0	± 10.0%	86.1	± 10.0%	94.5	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.85	± 1.0%	7.62	± 1.0%	7.68	± 1.0%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	1.5	± 10.0%	1.9	± 10.0%	1.5	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	1.0	± 10.0%	1.4	± 10.0%	0.9	± 10.0%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-16		SW-17		SW-18	
				Laboratory sample ID		PR2126985-004		PR2126985-005		PR2126985-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Aggregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	11.2	± 20.0%	8.71	± 20.0%	5.22	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	11.7	± 20.0%	8.57	± 20.0%	11.5	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	5.75	± 15.0%	3.38	± 15.0%	4.88	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	7.41	± 15.0%	4.35	± 15.0%	6.29	± 15.0%		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	21.4	± 15.9%	5.5	± 18.6%	13.0	± 16.5%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	99.8	± 16.0%	137	± 15.7%	90.4	± 16.1%		
Chloride	W-CL-IC	1.00	mg/L	120	± 15.0%	118	± 15.0%	141	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	<0.200	---	<0.200	---	<0.200	---		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	5.75	---	4.60	---	6.06	---		
Nitrates	W-NO3-SPC	0.27	mg/L	<0.27	---	4.95	---	4.70	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	<0.060	---	1.23	± 20.0%	1.18	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.0172	± 15.0%	0.364	± 15.0%	0.386	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	6.74	---	6.61	---	3.23	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.41	± 20.0%	0.834	± 20.0%	6.24	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	3.35	± 20.0%	2.70	± 20.0%	12.5	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	48.7	± 15.0%	50.4	± 15.0%	54.6	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	12.5	± 20.2%	9.98	± 20.3%	8.12	± 20.4%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	12.5	---	11.2	---	9.3	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	1.46	± 20.0%	1.18	± 20.0%	5.47	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	4.48	± 20.0%	3.61	± 20.0%	16.8	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	<0.060	---	1.12	---	1.06	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.0052	± 15.0%	0.111	± 15.0%	0.117	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.459	± 20.0%	0.272	± 20.0%	2.03	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	514	± 9.8%	512	± 9.8%	501	± 9.8%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	219	± 10.1%	120	± 10.1%	98.2	± 10.2%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	4.19	± 12.0%	4.04	± 12.0%	4.37	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	5.22	± 10.0%	1.34	± 10.0%	2.02	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	<0.020	---		
Arsenic	W-METAXDG1	0.010	mg/L	0.013	± 10.0%	<0.010	---	<0.010	---		
Barium	W-METAXDG1	0.00050	mg/L	0.0839	± 10.0%	0.0538	± 10.0%	0.0810	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	0.00030	± 10.0%	<0.00020	---	<0.00020	---		
Boron	W-METAXDG1	0.010	mg/L	0.107	± 10.0%	0.074	± 10.0%	0.081	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	75.8	± 10.0%	58.8	± 10.0%	68.6	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0322	± 10.0%	0.0098	± 10.0%	0.0176	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	0.0050	± 10.0%	<0.0020	---	<0.0020	---		
Copper	W-METAXDG1	0.0020	mg/L	0.0275	± 10.0%	0.0115	± 10.0%	0.0160	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	6.67	± 10.0%	1.66	± 10.0%	1.58	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0191	± 10.0%	0.0107	± 10.0%	0.0123	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	14.3	± 10.0%	9.99	± 10.0%	10.6	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.282	± 10.0%	0.113	± 10.0%	0.403	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	<0.020	---	0.024	± 10.0%	0.024	± 10.0%		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	0.0392	± 10.0%	0.0090	± 10.0%	0.191	± 10.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-16		SW-17		SW-18	
				Laboratory sample ID		PR2126985-004		PR2126985-005		PR2126985-006	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Phosphorus	W-METAXDG1	0.050	mg/L	1.45	± 10.0%	1.22	± 10.0%	5.32	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	8.76	± 10.0%	6.74	± 10.0%	7.54	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	110	± 10.0%	98.5	± 10.0%	112	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0135	± 10.0%	0.0034	± 10.0%	0.0029	± 10.0%		
Zinc	W-METAXDG1	0.0030	mg/L	0.297	± 10.0%	0.171	± 10.0%	1.54	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	0.033	± 10.0%	0.016	± 10.0%	0.014	± 10.0%		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	0.016	± 10.0%	0.022	± 10.0%		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0065	± 10.0%	0.0095	± 10.0%	0.0094	± 10.0%		
Barium	W-METAXFL1	0.00050	mg/L	0.0330	± 10.0%	0.0333	± 10.0%	0.0289	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	0.120	± 10.0%	0.080	± 10.0%	0.086	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	50.4	± 10.0%	50.8	± 10.0%	56.2	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	0.0026	± 10.0%	0.0025	± 10.0%	0.0034	± 10.0%		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Copper	W-METAXFL1	0.0010	mg/L	0.0020	± 10.0%	0.0021	± 10.0%	0.0019	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.279	± 10.0%	0.0813	± 10.0%	0.0332	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0097	± 10.0%	0.0089	± 10.0%	0.0102	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	10.3	± 10.0%	9.99	± 10.0%	10.4	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.136	± 10.0%	0.0109	± 10.0%	0.156	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0149	± 10.0%	0.0077	± 10.0%	0.0548	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	0.636	± 10.0%	0.425	± 10.0%	2.13	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	7.98	± 10.0%	6.77	± 10.0%	7.71	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	105	± 10.0%	100	± 10.0%	115	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Zinc	W-METAXFL1	0.0020	mg/L	0.0156	± 10.0%	0.0232	± 10.0%	0.168	± 10.0%		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-19		SW-20		SW-21	
				Laboratory sample ID		PR2126985-007		PR2126985-008		PR2126985-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	1.7	± 10.0%	1.6	± 10.0%	1.4	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	51.0	± 10.0%	26.2	± 10.0%	37.7	± 10.0%		
pH Value	W-PH-PCT	1.00	-	7.97	± 1.0%	7.94	± 1.0%	8.28	± 1.0%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.7	± 10.0%	0.7	± 10.0%	0.7	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.3	± 10.1%	0.4	± 10.0%	0.5	± 10.0%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	0.232	± 20.0%	0.216	± 20.0%	0.283	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	8.01	± 20.0%	4.91	± 20.0%	4.15	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	0.405	± 15.0%	<0.040	---	<0.040	---		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	0.522	± 15.0%	<0.050	---	<0.050	---		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-19		SW-20		SW-21	
				Laboratory sample ID		PR2126985-007		PR2126985-008		PR2126985-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Nonmetallic Inorganic Parameters - Continued											
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	1.7	± 26.6%	2.9	± 21.8%	1.1	± 32.5%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	22.8	± 19.4%	33.2	± 18.0%	10.4	± 24.6%		
Chloride	W-CL-IC	1.00	mg/L	25.0	± 15.0%	4.74	± 15.0%	7.61	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	<0.200	---	<0.200	---	<0.200	---		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	2.05	---	<0.500	---	0.712	---		
Nitrates	W-NO3-SPC	0.27	mg/L	7.08	---	1.18	---	3.11	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	1.64	± 20.0%	0.271	± 20.0%	0.712	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.150	± 15.0%	0.0140	± 15.0%	0.0329	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	1.02	---	1.32	---	0.99	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.04	± 20.0%	0.261	± 20.0%	0.577	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	0.936	± 20.0%	1.35	± 20.0%	0.300	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	38.9	± 15.0%	22.8	± 15.0%	11.5	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	1.42	± 30.8%	1.32	± 32.2%	0.99	± 39.1%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	3.1	---	1.6	---	1.7	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	0.408	± 20.0%	0.591	± 20.0%	0.131	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	1.25	± 20.0%	1.81	± 20.0%	0.401	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	1.60	---	0.267	---	0.702	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.0455	± 15.0%	0.0043	± 15.0%	0.0100	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.338	± 20.0%	0.085	± 20.0%	0.188	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	315	± 9.9%	194	± 10.1%	257	± 10.0%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	61.8	± 10.2%	568	± 10.0%	114	± 10.1%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	3.68	± 12.0%	2.17	± 12.0%	3.65	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	1.95	± 10.0%	4.18	± 10.0%	9.47	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	<0.020	---		
Arsenic	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Barium	W-METAXDG1	0.00050	mg/L	0.0809	± 10.0%	0.0692	± 10.0%	0.104	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	---	<0.00020	---	0.00042	± 10.0%		
Boron	W-METAXDG1	0.010	mg/L	0.057	± 10.0%	0.015	± 10.0%	0.022	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	77.5	± 10.0%	62.4	± 10.0%	59.3	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0058	± 10.0%	0.0062	± 10.0%	0.0143	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	0.0038	± 10.0%		
Copper	W-METAXDG1	0.0020	mg/L	0.0059	± 10.0%	0.0060	± 10.0%	0.0390	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	2.16	± 10.0%	4.50	± 10.0%	9.66	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0089	± 10.0%	0.0094	± 10.0%	0.0152	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	13.4	± 10.0%	7.79	± 10.0%	7.24	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.0962	± 10.0%	0.170	± 10.0%	0.321	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	0.177	± 10.0%	<0.020	---	<0.020	---		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	0.0094	± 10.0%		
Phosphorus	W-METAXDG1	0.050	mg/L	0.420	± 10.0%	0.642	± 10.0%	0.134	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	6.76	± 10.0%	2.69	± 10.0%	5.54	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	18.7	± 10.0%	9.09	± 10.0%	6.48	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0037	± 10.0%	0.0062	± 10.0%	0.0123	± 10.0%		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-19		SW-20		SW-21	
				Laboratory sample ID		PR2126985-007		PR2126985-008		PR2126985-009	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Zinc	W-METAXDG1	0.0030	mg/L	0.0186	± 10.0%	0.0093	± 10.0%	0.0571	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	<0.010	---	0.018	± 10.0%	0.012	± 10.0%		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0057	± 10.0%	<0.0050	---	<0.0050	---		
Barium	W-METAXFL1	0.00050	mg/L	0.0659	± 10.0%	0.0239	± 10.0%	0.0366	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	0.061	± 10.0%	0.020	± 10.0%	0.017	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	66.8	± 10.0%	40.1	± 10.0%	59.7	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Copper	W-METAXFL1	0.0010	mg/L	0.0030	± 10.0%	0.0068	± 10.0%	0.0011	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.0277	± 10.0%	0.0317	± 10.0%	0.0160	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0072	± 10.0%	0.0059	± 10.0%	0.0051	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	14.1	± 10.0%	5.34	± 10.0%	7.81	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.0100	± 10.0%	0.00086	± 10.0%	0.00053	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0039	± 10.0%	<0.0020	---	<0.0020	---		
Phosphorus	W-METAXFL1	0.050	mg/L	0.350	± 10.0%	0.082	± 10.0%	0.183	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	6.80	± 10.0%	2.02	± 10.0%	1.59	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	23.1	± 10.0%	7.47	± 10.0%	11.3	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Zinc	W-METAXFL1	0.0020	mg/L	0.0031	± 10.0%	<0.0020	---	<0.0020	---		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-22		SW-23		----	
				Laboratory sample ID		PR2126985-010		PR2126985-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	5.1	± 10.0%	1.9	± 10.0%	----	----		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	57.3	± 10.0%	52.5	± 10.0%	----	----		
pH Value	W-PH-PCT	1.00	-	7.72	± 1.0%	7.81	± 1.0%	----	----		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	2.4	± 10.0%	1.0	± 10.0%	----	----		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	1.3	± 10.0%	0.6	± 10.0%	----	----		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	----	----		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	3.86	± 20.0%	0.470	± 20.0%	----	----		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	16.6	± 20.0%	2.88	± 20.0%	----	----		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	2.29	± 15.0%	0.678	± 15.0%	----	----		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	2.95	± 15.0%	0.874	± 15.0%	----	----		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	19.9	± 16.0%	1.4	± 29.0%	----	----		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	----	----		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	113	± 15.9%	9.4	± 25.6%	----	----		
Chloride	W-CL-IC	1.00	mg/L	35.8	± 15.0%	35.1	± 15.0%	----	----		
Fluoride	W-F-IC	0.200	mg/L	<0.200	---	<0.200	---	----	----		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	4.31	---	2.06	---	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-22		SW-23		----	
				Laboratory sample ID		PR2126985-010		PR2126985-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Nonmetallic Inorganic Parameters - Continued											
Nitrates	W-NO3-SPC	0.27	mg/L	7.93	---	5.60	---	----	----		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	2.02	± 20.0%	1.38	± 20.0%	----	----		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.750	± 15.0%	0.388	± 15.0%	----	----		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	7.19	---	2.24	---	----	----		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	2.10	± 20.0%	0.287	± 20.0%	----	----		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	3.14	± 20.0%	0.405	± 20.0%	----	----		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	----	----		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	31.3	± 15.0%	41.2	± 15.0%	----	----		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	----	----		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	9.48	± 20.3%	2.92	± 23.0%	----	----		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	11.5	---	4.3	---	----	----		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	1.37	± 20.0%	0.177	± 20.0%	----	----		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	4.21	± 20.0%	0.542	± 20.0%	----	----		
Nitrate as N	W-NO3-SPC	0.060	mg/L	1.79	---	1.26	---	----	----		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.228	± 15.0%	0.118	± 15.0%	----	----		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.686	± 20.0%	0.094	± 20.0%	----	----		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	----	----		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	356	± 9.9%	305	± 9.9%	----	----		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	530	± 10.0%	81.6	± 10.2%	----	----		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	3.81	± 12.0%	3.45	± 12.0%	----	----		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	----	----		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	9.97	± 10.0%	1.56	± 10.0%	----	----		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	----	----		
Arsenic	W-METAXDG1	0.010	mg/L	0.013	± 10.0%	<0.010	---	----	----		
Barium	W-METAXDG1	0.00050	mg/L	0.0856	± 10.0%	0.0401	± 10.0%	----	----		
Beryllium	W-METAXDG1	0.00020	mg/L	0.00025	± 10.0%	<0.00020	---	----	----		
Boron	W-METAXDG1	0.010	mg/L	0.047	± 10.0%	0.058	± 10.0%	----	----		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	----	----		
Calcium	W-METAXDG1	0.050	mg/L	94.1	± 10.0%	52.2	± 10.0%	----	----		
Chromium	W-METAXDG1	0.0020	mg/L	0.0489	± 10.0%	0.0065	± 10.0%	----	----		
Cobalt	W-METAXDG1	0.0020	mg/L	0.0090	± 10.0%	<0.0020	---	----	----		
Copper	W-METAXDG1	0.0020	mg/L	0.0295	± 10.0%	0.0051	± 10.0%	----	----		
Iron	W-METAXDG1	0.0050	mg/L	14.8	± 10.0%	2.08	± 10.0%	----	----		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Lithium	W-METAXDG1	0.0020	mg/L	0.0123	± 10.0%	0.0126	± 10.0%	----	----		
Magnesium	W-METAXDG1	0.020	mg/L	18.0	± 10.0%	12.1	± 10.0%	----	----		
Manganese	W-METAXDG1	0.00050	mg/L	0.426	± 10.0%	0.0965	± 10.0%	----	----		
Mercury	W-HG-AFSDG	0.020	µg/L	0.041	± 10.0%	0.023	± 10.0%	----	----		
Molybdenum	W-METAXDG1	0.0030	mg/L	0.0099	± 10.0%	0.0056	± 10.0%	----	----		
Nickel	W-METAXDG1	0.0050	mg/L	0.0354	± 10.0%	0.0113	± 10.0%	----	----		
Phosphorus	W-METAXDG1	0.050	mg/L	1.53	± 10.0%	0.143	± 10.0%	----	----		
Potassium	W-METAXDG1	0.015	mg/L	13.8	± 10.0%	4.07	± 10.0%	----	----		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	----	----		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	----	----		
Sodium	W-METAXDG1	0.030	mg/L	30.5	± 10.0%	37.2	± 10.0%	----	----		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0276	± 10.0%	0.0038	± 10.0%	----	----		
Zinc	W-METAXDG1	0.0030	mg/L	0.0606	± 10.0%	0.0179	± 10.0%	----	----		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	0.011	± 10.0%	<0.010	---	----	----		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Arsenic	W-METAXFL1	0.0050	mg/L	0.0078	± 10.0%	<0.0050	---	----	----		
Barium	W-METAXFL1	0.00050	mg/L	0.0336	± 10.0%	0.0297	± 10.0%	----	----		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	----	----		
Boron	W-METAXFL1	0.010	mg/L	0.043	± 10.0%	0.058	± 10.0%	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-22		SW-23		----	
				Laboratory sample ID		PR2126985-010		PR2126985-011		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Dissolved Metals / Major Cations - Continued											
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	----	----		
Calcium	W-METAXFL1	0.0050	mg/L	51.9	± 10.0%	47.8	± 10.0%	----	----		
Chromium	W-METAXFL1	0.0010	mg/L	0.0040	± 10.0%	0.0020	± 10.0%	----	----		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	----	----		
Copper	W-METAXFL1	0.0010	mg/L	0.0042	± 10.0%	0.0018	± 10.0%	----	----		
Iron	W-METAXFL1	0.0020	mg/L	0.0778	± 10.0%	0.0067	± 10.0%	----	----		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	----	----		
Lithium	W-METAXFL1	0.0010	mg/L	0.0032	± 10.0%	0.0108	± 10.0%	----	----		
Magnesium	W-METAXFL1	0.0030	mg/L	16.4	± 10.0%	12.4	± 10.0%	----	----		
Manganese	W-METAXFL1	0.00050	mg/L	0.0587	± 10.0%	0.00052	± 10.0%	----	----		
Molybdenum	W-METAXFL1	0.0020	mg/L	0.0024	± 10.0%	0.0026	± 10.0%	----	----		
Nickel	W-METAXFL1	0.0020	mg/L	0.0056	± 10.0%	0.0093	± 10.0%	----	----		
Phosphorus	W-METAXFL1	0.050	mg/L	0.761	± 10.0%	0.105	± 10.0%	----	----		
Potassium	W-METAXFL1	0.015	mg/L	12.8	± 10.0%	4.01	± 10.0%	----	----		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	----	----		
Sodium	W-METAXFL1	0.030	mg/L	38.6	± 10.0%	44.2	± 10.0%	----	----		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	----	----		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0019	± 10.0%	<0.0010	---	----	----		
Zinc	W-METAXFL1	0.0020	mg/L	0.0024	± 10.0%	<0.0020	---	----	----		

Descriptive Results

Sub-Matrix: SURFACE WATER

Method: Compound	Laboratory sample ID	Client sample ID - Client sampling date / time	Analytical Results
Physical Parameters			
W-COL-PHO: Appearance	PR2126985-001	SW-12 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-002	SW-13 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-003	SW-15 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-004	SW-16 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-005	SW-17 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-006	SW-18 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-007	SW-19 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-008	SW-20 30-Mar-2021	Cloudy, with sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-009	SW-21 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126985-010	SW-22 30-Mar-2021	Slightly yellow, with sediment. After filtration slightly yellow, without sediment.
W-COL-PHO: Appearance	PR2126985-011	SW-23 30-Mar-2021	Colorless, slightly cloudy. After filtration colorless.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Measurement uncertainty is expressed as expanded measurement uncertainty with coverage factor $k = 2$, representing 95% confidence level.

Key: LOR = Limit of reporting; MU = Measurement Uncertainty. The MU does not include sampling uncertainty.

The end of result part of the certificate of analysis



Brief Method Summaries

Analytical Methods	Method Descriptions
<i>Location of test performance: Bendlova 1687/7 Ceska Lipa Czech Republic 470 01</i>	
W-COL-PHO	CZ_SOP_D06_07_035 (CSN EN ISO 7887) Determination of water colour by spectrophotometric method.
W-H2S-PHO	CZ_SOP_D06_07_015.A (CSN 83 0520:1978-part 16, CSN 83 0530:1980-part 31, SM 4500-S2- D) Determination of sum of sulfan and sulfide by spectrophotometry and calculation of free sulfan from measured values.
W-NKJ-PHO	CZ_SOP_D06_07_007.A (CSN EN 25663, CSN ISO 7150-1) Determination of Kjeldahl nitrogen by spectrophotometry.
<i>Location of test performance: Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00</i>	
W-ALK-PCT	CZ_SOP_D06_02_072 (CSN EN ISO 9963-1, CSN EN ISO 9963-2, CSN 75 7373, SM2320) Determination of acid neutralizing capacity (alkalinity) by potentiometric titration and determination of the carbonate hardness and calculation of CO ₂ forms from measured values including the calculation of total mineralization
W-BOD5-OXY	CZ_SOP_D06_02_077 (CSN EN ISO 5815-1) Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by dilution method with allylthiourea addition. CZ_SOP_D06_02_078 (CSN EN 1899-2, ISO 5815-2). Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by method for undiluted samples. If the method for undiluted samples is used, the general comment is on Certificate of Analysis.
W-BR-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CL-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CNT-PHO	CZ_SOP_D06_02_089.A (CSN 75 7415, CSN EN ISO 14403-2) Determination of total cyanide by spectrophotometry and calculation of complex-forming cyanides from measure values.
W-COD-SPC	CZ_SOP_D06_02_076 (CSN ISO 15705) Determination of chemical oxygen demand using dichromate (COD-Cr) by photometry.
W-CON-PCT	CZ_SOP_D06_02_075 (ČSN EN 27 888, SM 2520 B) Determination of electrical conductivity by conductometer and calculation of salinity.
W-F-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-HG-AFSDG	CZ_SOP_D06_02_096 (US EPA 245.7, CSN EN ISO 17852, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2.) - Determination of Mercury by Fluorescence Spectrometry. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-METAXDG1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-METAXFL1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METMSDG1	CZ_SOP_D06_02_002 (US EPA 200.8, CSN EN ISO 17294-2, US EPA 6020A, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1, 10.2) - Determination of elements by mass spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-NH4-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO ₂ -, SM 4500-NO ₃ -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NING-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO ₂ (-), SM 4500-NO ₃ (-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-NNO-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO ₂ (-), SM 4500-NO ₃ (-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NO2-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO ₂ -, SM 4500-NO ₃ -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization



Analytical Methods	Method Descriptions
W-NO3-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO2-, SM 4500-NO3-) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NORG-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-NTOT-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-PH-PCT	CZ_SOP_D06_02_105 (ČSN ISO 10523, US EPA 150.1, SM 4500-H+ B) Determination of pH by potentiometry
W-PO4O-SPC	CZ_SOP_D06_02_022 (CSN EN ISO 6878 SM 4500-P) Determination of orthophosphate by discrete spectrophotometry and calculation of orthophosphate's phosphorus from measured values including the calculation of total mineralization.
W-PTOT-SPC	CZ_SOP_D06_02_080 Determination of total phosphorus by discrete spectrophotometry and calculation of phosphorus as P2O5 and PO43- from measured values. (CSN EN ISO 6878 and CSN ISO 15681-1).
W-SO4-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-TDS-GR	CZ_SOP_D06_02_071 (CSN 757346, CSN 757347, CSN EN 15216, SM 2540C) Determination of dissolved solids (RL) and dissolved solids annealed (RAS) using glass fibre filters by gravimetry and calculation of loss on ignition of dissolved solids (RL550) from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).
W-TECD-IR	CZ_SOP_D06_02_059 (CSN 75 7506:2006, STN 83 0520-27:2015, STN 83 0540-4, SS 028145) Determination of extractable substances by infrared spectrometry and determination of polar extractable substances by calculation from measured values.
W-TOC-IR	CZ_SOP_D06_02_056 (CSN EN 1484, SM 5310) Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total inorganic carbon (TIC) and total carbon (TC) by IR detection.
W-TSS-GR	CZ_SOP_D06_02_070 (CSN EN 872, CSN 757350, SM 2540 D) Determination of dry suspended solids and annealed suspended solids by gravimetry and calculation of loss of ignition of suspended solids and total solids from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).

A `` symbol preceding any method indicates laboratory or subcontractor non-accredited test. In the case when a procedure belonging to an accredited method was used for non-accredited matrix, would apply that the reported results are non-accredited. Please refer to General Comment section on front page for information. If the report contains subcontracted analysis, those are made in a subcontracted laboratory outside the laboratories ALS Czech Republic, s.r.o.

The calculation methods of summation parameters are available on request in the client service.



CERTIFICATE OF ANALYSIS

Work Order	: PR2126986	Issue Date	: 29-Apr-2021
Amendment	: 1		
Customer	: ARTEK MUHENDISLIK CEVRE OLCUM VE DANISMANLIK HIZM. TIC. A.S.	Laboratory	: ALS Czech Republic, s.r.o.
Contact	: Evren Hakan Saka	Contact	: Client Service
Address	: Mehmet Akif Mah. Elalmis Cad. Tagrik Bugra Sok. No: 15 34 775 Umraniye/Istanbul Turkey	Address	: Na Harfe 336/9 Prague 9 - Vysocany 190 00 Czech Republic
E-mail	: evren.saka@alsglobal.com	E-mail	: customer.support@alsglobal.com
Telephone	: ----	Telephone	: +420 226 226 228
Project	: GOLDER	Page	: 1 of 7
Order number	: ARTEK BQ	Date Samples	: 30-Mar-2021
		Received	
		Quote number	: PR2017ALSTR-TR0002 (TR-252-17-0383)
Site	: ----	Date of test	: 30-Mar-2021 - 28-Apr-2021
Sampled by	: client	QC Level	: ALS CR Standard Quality Control Schedule

General Comments

This report shall not be reproduced except in full, without prior written approval from the laboratory.

The laboratory declares that the test results relate only to the listed samples. If the section "Sampled by" of the Certificate of analysis states: "Sampled by Customer" then the results relate to the sample as received.

Sample(s) PR2126986/001-005, method W-BOD5-OXY, W-BOD7-OXY, W-BOD-OXY - determination of biochemical oxygen demand was performed using method for undiluted samples.

Amendment No. 1: Se reported from W-METMSDG1, samples 001-003, client request. This Amendment No.1 replaces the original report issued on 15.4.2021.

Responsible for accuracy

Testing Laboratory No. 1163
Accredited by CAI according to
CSN EN ISO/IEC 17025:2018

Signatories

Zdeněk Jiráček

Position

Environmental Business Unit
Manager



The company is certified according to ČSN EN ISO 14001 (Environmental management systems) and ČSN ISO 45001 (Occupational health and safety management systems)



Analytical Results

Sub-Matrix: SURFACE WATER				Client sample ID		SW-24		SW-25		SW-26	
				Laboratory sample ID		PR2126986-001		PR2126986-002		PR2126986-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	1.7	± 10.0%	0.9	± 10.0%	0.8	± 10.0%		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	60.8	± 10.0%	55.1	± 10.0%	53.9	± 10.0%		
pH Value	W-PH-PCT	1.00	-	8.04	± 1.0%	8.14	± 1.0%	8.16	± 1.0%		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	1.1	± 10.0%	0.5	± 10.0%	0.4	± 10.0%		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.8	± 10.0%	0.3	± 10.1%	0.2	± 10.2%		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	25	± 0.8%		
Agregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	0.888	± 20.0%	0.502	± 20.0%	0.422	± 20.0%		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	3.88	± 20.0%	3.12	± 20.0%	2.73	± 20.0%		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	0.522	± 15.0%	0.291	± 15.0%	0.172	± 15.0%		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	0.673	± 15.0%	0.374	± 15.0%	0.221	± 15.0%		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	2.7	± 22.4%	2.8	± 22.3%	2.2	± 23.9%		
Bromide	W-BR-IC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	17.0	± 20.9%	11.8	± 23.5%	12.9	± 22.8%		
Chloride	W-CL-IC	1.00	mg/L	35.2	± 15.0%	33.0	± 15.0%	32.5	± 15.0%		
Fluoride	W-F-IC	0.200	mg/L	<0.200	---	<0.200	---	<0.200	---		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	2.45	---	2.06	---	1.95	---		
Nitrates	W-NO3-SPC	0.27	mg/L	7.92	---	7.36	---	7.41	---		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	1.93	± 20.0%	1.77	± 20.0%	1.78	± 20.0%		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.468	± 15.0%	0.354	± 15.0%	0.344	± 15.0%		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	<0.50	---	<0.50	---	<0.50	---		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	0.605	± 20.0%	0.346	± 20.0%	0.312	± 20.0%		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	0.621	± 20.0%	0.369	± 20.0%	0.468	± 20.0%		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	56.9	± 15.0%	47.8	± 15.0%	48.9	± 15.0%		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	<0.005	---	<0.005	---		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	0.60	± 59.3%	0.61	± 57.9%	0.51	± 68.6%		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	2.5	---	2.4	---	2.3	---		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	0.271	± 20.0%	0.161	± 20.0%	0.204	± 20.0%		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	0.831	± 20.0%	0.494	± 20.0%	0.627	± 20.0%		
Nitrate as N	W-NO3-SPC	0.060	mg/L	1.79	---	1.66	---	1.67	---		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.142	± 15.0%	0.108	± 15.0%	0.105	± 15.0%		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.197	± 20.0%	0.113	± 20.0%	0.102	± 20.0%		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	---	<0.050	---	<0.050	---		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	384	± 9.9%	354	± 9.9%	345	± 9.9%		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	57.2	± 10.3%	58.0	± 10.2%	84.9	± 10.2%		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	4.02	± 12.0%	3.66	± 12.0%	3.53	± 12.0%		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	<0.150	---	<0.150	---		
Total Metals / Major Cations											
Aluminium	W-METAXDG1	0.010	mg/L	2.87	± 10.0%	1.94	± 10.0%	1.88	± 10.0%		
Antimony	W-METAXDG1	0.020	mg/L	<0.020	---	<0.020	---	<0.020	---		
Arsenic	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Barium	W-METAXDG1	0.00050	mg/L	0.0565	± 10.0%	0.0507	± 10.0%	0.0585	± 10.0%		
Beryllium	W-METAXDG1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXDG1	0.010	mg/L	0.063	± 10.0%	0.061	± 10.0%	0.068	± 10.0%		
Cadmium	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Calcium	W-METAXDG1	0.050	mg/L	63.7	± 10.0%	61.7	± 10.0%	67.8	± 10.0%		
Chromium	W-METAXDG1	0.0020	mg/L	0.0101	± 10.0%	0.0077	± 10.0%	0.0060	± 10.0%		
Cobalt	W-METAXDG1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-24		SW-25		SW-26	
				Laboratory sample ID		PR2126986-001		PR2126986-002		PR2126986-003	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		30-Mar-2021	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Copper	W-METAXDG1	0.0020	mg/L	0.0067	± 10.0%	0.0056	± 10.0%	0.0090	± 10.0%		
Iron	W-METAXDG1	0.0050	mg/L	3.59	± 10.0%	2.38	± 10.0%	2.32	± 10.0%		
Lead	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Lithium	W-METAXDG1	0.0020	mg/L	0.0164	± 10.0%	0.0146	± 10.0%	0.0143	± 10.0%		
Magnesium	W-METAXDG1	0.020	mg/L	16.2	± 10.0%	16.3	± 10.0%	19.4	± 10.0%		
Manganese	W-METAXDG1	0.00050	mg/L	0.159	± 10.0%	0.0962	± 10.0%	0.0998	± 10.0%		
Mercury	W-HG-AFSDG	0.020	µg/L	<0.020	---	<0.020	---	<0.020	---		
Molybdenum	W-METAXDG1	0.0030	mg/L	<0.0030	---	<0.0030	---	<0.0030	---		
Nickel	W-METAXDG1	0.0050	mg/L	0.0158	± 10.0%	0.0100	± 10.0%	0.0108	± 10.0%		
Phosphorus	W-METAXDG1	0.050	mg/L	0.214	± 10.0%	0.177	± 10.0%	0.316	± 10.0%		
Potassium	W-METAXDG1	0.015	mg/L	4.50	± 10.0%	4.55	± 10.0%	5.57	± 10.0%		
Selenium	W-METMSDG1	5.0	µg/L	<5.0	---	<5.0	---	<5.0	---		
Silver	W-METAXDG1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Sodium	W-METAXDG1	0.030	mg/L	39.2	± 10.0%	39.2	± 10.0%	43.2	± 10.0%		
Thallium	W-METAXDG1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXDG1	0.0020	mg/L	0.0068	± 10.0%	0.0045	± 10.0%	0.0044	± 10.0%		
Zinc	W-METAXDG1	0.0030	mg/L	0.0223	± 10.0%	0.0076	± 10.0%	0.0289	± 10.0%		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Arsenic	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Barium	W-METAXFL1	0.00050	mg/L	0.0388	± 10.0%	0.0334	± 10.0%	0.0333	± 10.0%		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	---	<0.00020	---	<0.00020	---		
Boron	W-METAXFL1	0.010	mg/L	0.078	± 10.0%	0.063	± 10.0%	0.065	± 10.0%		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	---	<0.00040	---	<0.00040	---		
Calcium	W-METAXFL1	0.0050	mg/L	57.0	± 10.0%	52.5	± 10.0%	51.2	± 10.0%		
Chromium	W-METAXFL1	0.0010	mg/L	<0.0010	---	0.0015	± 10.0%	0.0013	± 10.0%		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Copper	W-METAXFL1	0.0010	mg/L	0.0022	± 10.0%	0.0017	± 10.0%	0.0016	± 10.0%		
Iron	W-METAXFL1	0.0020	mg/L	0.0144	± 10.0%	0.0111	± 10.0%	0.0145	± 10.0%		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	---	<0.0050	---	<0.0050	---		
Lithium	W-METAXFL1	0.0010	mg/L	0.0086	± 10.0%	0.0092	± 10.0%	0.0096	± 10.0%		
Magnesium	W-METAXFL1	0.0030	mg/L	17.7	± 10.0%	14.9	± 10.0%	14.5	± 10.0%		
Manganese	W-METAXFL1	0.00050	mg/L	0.00101	± 10.0%	0.00068	± 10.0%	0.00060	± 10.0%		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		
Nickel	W-METAXFL1	0.0020	mg/L	0.0072	± 10.0%	0.0076	± 10.0%	0.0094	± 10.0%		
Phosphorus	W-METAXFL1	0.050	mg/L	0.201	± 10.0%	0.115	± 10.0%	0.109	± 10.0%		
Potassium	W-METAXFL1	0.015	mg/L	5.15	± 10.0%	4.13	± 10.0%	3.97	± 10.0%		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Sodium	W-METAXFL1	0.030	mg/L	47.6	± 10.0%	43.4	± 10.0%	43.6	± 10.0%		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	---	<0.010	---	<0.010	---		
Vanadium	W-METAXFL1	0.0010	mg/L	<0.0010	---	<0.0010	---	<0.0010	---		
Zinc	W-METAXFL1	0.0020	mg/L	<0.0020	---	<0.0020	---	<0.0020	---		

Sub-Matrix: SURFACE WATER				Client sample ID		SW-27		SW-28		----	
				Laboratory sample ID		PR2126986-004		PR2126986-005		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Physical Parameters											
Absorbing coefficient at 436 nm	W-COL-PHO	0.1	m-1	0.7	± 10.0%	0.6	± 10.0%	----	----		
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	118	± 10.0%	108	± 10.0%	----	----		
pH Value	W-PH-PCT	1.00	-	8.19	± 1.0%	8.28	± 1.0%	----	----		
Absorbing coefficient at 525 nm	W-COL-PHO	0.1	m-1	0.4	± 10.0%	0.2	± 10.1%	----	----		
Absorbing coefficient at 620 nm	W-COL-PHO	0.1	m-1	0.2	± 10.2%	0.1	± 10.4%	----	----		
Temperature	W-COL-PHO	1	°C	25	± 0.8%	25	± 0.8%	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-27		SW-28		----	
				Laboratory sample ID		PR2126986-004		PR2126986-005		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Aggregate Parameters											
Total Extractable Compounds	W-TECD-IR	0.050	mg/L	0.350	± 20.0%	0.351	± 20.0%	----	----		
Total Organic Carbon	W-TOC-IR	0.50	mg/L	3.84	± 20.0%	3.68	± 20.0%	----	----		
Nonmetallic Inorganic Parameters											
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	0.394	± 15.0%	<0.040	----	----	----		
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	0.507	± 15.0%	<0.050	----	----	----		
Biochemical Oxygen Demand (BOD 5)	W-BOD5-OXY	1.0	mg/L	3.6	± 20.6%	1.2	± 31.1%	----	----		
Bromide	W-BR-IC	0.50	mg/L	<0.50	----	<0.50	----	----	----		
Chemical Oxygen Demand (COD-Cr)	W-COD-SPC	5.0	mg/L	15.7	± 21.4%	12.8	± 22.8%	----	----		
Chloride	W-CL-IC	1.00	mg/L	95.8	± 15.0%	84.8	± 15.0%	----	----		
Fluoride	W-F-IC	0.200	mg/L	0.352	± 15.0%	0.396	± 15.0%	----	----		
Inorganic Nitrogen as N	W-NING-CC	0.500	mg/L	2.91	----	2.13	----	----	----		
Nitrates	W-NO3-SPC	0.27	mg/L	10.6	----	8.78	----	----	----		
Nitrite + Nitrate as N	W-NNO-SPC	0.060	mg/L	2.52	± 20.0%	2.13	± 20.0%	----	----		
Nitrites	W-NO2-SPC	0.0050	mg/L	0.404	± 15.0%	0.494	± 15.0%	----	----		
Organic Nitrogen as N	W-NORG-CC	0.50	mg/L	<0.50	----	<0.50	----	----	----		
Orthophosphate	W-PO4O-SPC	0.040	mg/L	1.36	± 20.0%	1.21	± 20.0%	----	----		
Phosphorus (as P2O5)	W-PTOT-SPC	0.120	mg/L	1.02	± 20.0%	0.853	± 20.0%	----	----		
Sulfides as H2S	W-H2S-PHO	0.050	mg/L	<0.050	----	<0.050	----	----	----		
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	226	± 15.0%	200	± 15.0%	----	----		
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	----	<0.005	----	----	----		
Total Kjeldahl Nitrogen as N	W-NKJ-PHO	0.50	mg/L	0.52	± 67.6%	<0.50	----	----	----		
Total Nitrogen as N	W-NTOT-CC	1.0	mg/L	3.0	----	2.1	----	----	----		
Total Phosphorus as P	W-PTOT-SPC	0.050	mg/L	0.444	± 20.0%	0.372	± 20.0%	----	----		
Total Phosphorus as PO4 3-	W-PTOT-SPC	0.150	mg/L	1.36	± 20.0%	1.14	± 20.0%	----	----		
Nitrate as N	W-NO3-SPC	0.060	mg/L	2.40	----	1.98	----	----	----		
Nitrite as N	W-NO2-SPC	0.0020	mg/L	0.123	± 15.0%	0.150	± 15.0%	----	----		
Orthophosphate as P	W-PO4O-SPC	0.010	mg/L	0.442	± 20.0%	0.396	± 20.0%	----	----		
Sulfide as S2-	W-H2S-PHO	0.050	mg/L	<0.050	----	<0.050	----	----	----		
Dissolved solids dried at 105 °C	W-TDS-GR	10	mg/L	765	± 9.7%	699	± 9.7%	----	----		
Suspended solids dried at 105 °C	W-TSS-GR	5.0	mg/L	41.0	± 10.4%	27.5	± 10.5%	----	----		
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	4.81	± 12.0%	4.64	± 12.0%	----	----		
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	----	<0.150	----	----	----		
Total Metals / Major Cations											
Aluminium	W-METAFX1	0.010	mg/L	0.260	± 10.0%	0.196	± 10.0%	----	----		
Antimony	W-METAFX1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Arsenic	W-METAFX1	0.0050	mg/L	<0.0050	----	<0.0050	----	----	----		
Barium	W-METAFX1	0.00050	mg/L	0.0639	± 10.0%	0.0623	± 10.0%	----	----		
Beryllium	W-METAFX1	0.00020	mg/L	<0.00020	----	<0.00020	----	----	----		
Boron	W-METAFX1	0.010	mg/L	0.588	± 10.0%	0.524	± 10.0%	----	----		
Cadmium	W-METAFX1	0.00040	mg/L	<0.00040	----	<0.00040	----	----	----		
Calcium	W-METAFX1	0.0050	mg/L	85.6	± 10.0%	84.1	± 10.0%	----	----		
Chromium	W-METAFX1	0.0010	mg/L	0.0019	± 10.0%	0.0018	± 10.0%	----	----		
Cobalt	W-METAFX1	0.0020	mg/L	<0.0020	----	<0.0020	----	----	----		
Copper	W-METAFX1	0.0010	mg/L	0.0025	± 10.0%	0.0017	± 10.0%	----	----		
Iron	W-METAFX1	0.0020	mg/L	0.261	± 10.0%	0.173	± 10.0%	----	----		
Lead	W-METAFX1	0.0050	mg/L	<0.0050	----	<0.0050	----	----	----		
Lithium	W-METAFX1	0.0010	mg/L	0.0648	± 10.0%	0.0565	± 10.0%	----	----		
Magnesium	W-METAFX1	0.0030	mg/L	42.6	± 10.0%	38.3	± 10.0%	----	----		
Manganese	W-METAFX1	0.00050	mg/L	0.0772	± 10.0%	0.0676	± 10.0%	----	----		
Mercury	W-HG-AFSFX	0.010	µg/L	<0.010	----	<0.010	----	----	----		
Molybdenum	W-METAFX1	0.0020	mg/L	<0.0020	----	<0.0020	----	----	----		
Nickel	W-METAFX1	0.0020	mg/L	0.0086	± 10.0%	0.0072	± 10.0%	----	----		



Sub-Matrix: SURFACE WATER				Client sample ID		SW-27		SW-28		----	
				Laboratory sample ID		PR2126986-004		PR2126986-005		----	
				Client sampling date / time		30-Mar-2021		30-Mar-2021		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU		
Total Metals / Major Cations - Continued											
Phosphorus	W-METAFX1	0.050	mg/L	0.522	± 10.0%	0.457	± 10.0%	----	----		
Potassium	W-METAFX1	0.015	mg/L	12.2	± 10.0%	11.2	± 10.0%	----	----		
Selenium	W-METAFX1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Silver	W-METAFX1	0.0010	mg/L	<0.0010	----	<0.0010	----	----	----		
Sodium	W-METAFX1	0.030	mg/L	108	± 10.0%	95.1	± 10.0%	----	----		
Thallium	W-METAFX1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Vanadium	W-METAFX1	0.0010	mg/L	0.0031	± 10.0%	0.0025	± 10.0%	----	----		
Zinc	W-METAFX1	0.0020	mg/L	0.0115	± 10.0%	0.0049	± 10.0%	----	----		
Dissolved Metals / Major Cations											
Aluminium	W-METAXFL1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Antimony	W-METAXFL1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Arsenic	W-METAXFL1	0.0050	mg/L	<0.0050	----	<0.0050	----	----	----		
Barium	W-METAXFL1	0.00050	mg/L	0.0587	± 10.0%	0.0573	± 10.0%	----	----		
Beryllium	W-METAXFL1	0.00020	mg/L	<0.00020	----	<0.00020	----	----	----		
Boron	W-METAXFL1	0.010	mg/L	0.604	± 10.0%	0.536	± 10.0%	----	----		
Cadmium	W-METAXFL1	0.00040	mg/L	<0.00040	----	<0.00040	----	----	----		
Calcium	W-METAXFL1	0.0050	mg/L	81.2	± 10.0%	77.6	± 10.0%	----	----		
Chromium	W-METAXFL1	0.0010	mg/L	<0.0010	----	<0.0010	----	----	----		
Cobalt	W-METAXFL1	0.0020	mg/L	<0.0020	----	<0.0020	----	----	----		
Copper	W-METAXFL1	0.0010	mg/L	<0.0010	----	<0.0010	----	----	----		
Iron	W-METAXFL1	0.0020	mg/L	0.0026	± 10.0%	<0.0020	----	----	----		
Lead	W-METAXFL1	0.0050	mg/L	<0.0050	----	<0.0050	----	----	----		
Lithium	W-METAXFL1	0.0010	mg/L	0.0635	± 10.0%	0.0540	± 10.0%	----	----		
Magnesium	W-METAXFL1	0.0030	mg/L	41.9	± 10.0%	36.7	± 10.0%	----	----		
Manganese	W-METAXFL1	0.00050	mg/L	0.00216	± 10.0%	0.00247	± 10.0%	----	----		
Molybdenum	W-METAXFL1	0.0020	mg/L	<0.0020	----	<0.0020	----	----	----		
Nickel	W-METAXFL1	0.0020	mg/L	0.0055	± 10.0%	0.0050	± 10.0%	----	----		
Phosphorus	W-METAXFL1	0.050	mg/L	0.453	± 10.0%	0.409	± 10.0%	----	----		
Potassium	W-METAXFL1	0.015	mg/L	12.2	± 10.0%	10.7	± 10.0%	----	----		
Selenium	W-METAXFL1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Silver	W-METAXFL1	0.0010	mg/L	<0.0010	----	<0.0010	----	----	----		
Sodium	W-METAXFL1	0.030	mg/L	106	± 10.0%	91.3	± 10.0%	----	----		
Thallium	W-METAXFL1	0.010	mg/L	<0.010	----	<0.010	----	----	----		
Vanadium	W-METAXFL1	0.0010	mg/L	0.0025	± 10.0%	0.0021	± 10.0%	----	----		
Zinc	W-METAXFL1	0.0020	mg/L	<0.0020	----	<0.0020	----	----	----		

Descriptive Results

Sub-Matrix: SURFACE WATER

Method: Compound	Laboratory sample ID	Client sample ID - Client sampling date / time	Analytical Results
Physical Parameters			
W-COL-PHO: Appearance	PR2126986-001	SW-24 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126986-002	SW-25 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126986-003	SW-26 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126986-004	SW-27 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.
W-COL-PHO: Appearance	PR2126986-005	SW-28 30-Mar-2021	Colorless, with light sediment. After filtration colorless, without sediment.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Measurement uncertainty is expressed as expanded measurement uncertainty with coverage factor k = 2, representing 95% confidence level.

Key: LOR = Limit of reporting; MU = Measurement Uncertainty. The MU does not include sampling uncertainty.



The end of result part of the certificate of analysis

Brief Method Summaries

Analytical Methods	Method Descriptions
<i>Location of test performance: Bendlova 1687/7 Ceska Lipa Czech Republic 470 01</i>	
W-COL-PHO	CZ_SOP_D06_07_035 (CSN EN ISO 7887) Determination of water colour by spectrophotometric method.
W-H2S-PHO	CZ_SOP_D06_07_015.A (CSN 83 0520:1978-part 16, CSN 83 0530:1980-part 31, SM 4500-S2- D) Determination of sum of sulfan and sulfide by spectrophotometry and calculation of free sulfan from measured values.
W-NKJ-PHO	CZ_SOP_D06_07_007.A (CSN EN 25663, CSN ISO 7150-1) Determination of Kjeldahl nitrogen by spectrophotometry.
<i>Location of test performance: Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00</i>	
W-ALK-PCT	CZ_SOP_D06_02_072 (CSN EN ISO 9963-1, CSN EN ISO 9963-2, CSN 75 7373, SM2320) Determination of acid neutralizing capacity (alkalinity) by potentiometric titration and determination of the carbonate hardness and calculation of CO ₂ forms from measured values including the calculation of total mineralization
W-BOD5-OXY	CZ_SOP_D06_02_077 (CSN EN ISO 5815-1) Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by dilution method with allylthiourea addition. CZ_SOP_D06_02_078 (CSN EN 1899-2, ISO 5815-2). Determination of biochemical oxygen demand electrochemically after n days (BOD _n) by method for undiluted samples. If the method for undiluted samples is used, the general comment is on Certificate of Analysis.
W-BR-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CL-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CNT-PHO	CZ_SOP_D06_02_089.A (CSN 75 7415, CSN EN ISO 14403-2) Determination of total cyanide by spectrophotometry and calculation of complex-forming cyanides from measure values.
W-COD-SPC	CZ_SOP_D06_02_076 (CSN ISO 15705) Determination of chemical oxygen demand using dichromate (COD-Cr) by photometry.
W-CON-PCT	CZ_SOP_D06_02_075 (ČSN EN 27 888, SM 2520 B) Determination of electrical conductivity by conductometer and calculation of salinity.
W-F-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-HG-AFSDG	CZ_SOP_D06_02_096 (US EPA 245.7, CSN EN ISO 17852, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2.) - Determination of Mercury by Fluorescence Spectrometry. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-HG-AFSFX	CZ_SOP_D06_02_096 (US EPA 245.7, CSN EN ISO 17852, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2.) - Determination of Mercury by Fluorescence Spectrometry. Sample was fixed by nitric acid addition prior to analysis.
W-METAXDG1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-METAXFL1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METAXFX1	CZ_SOP_D06_02_001 (US EPA 200.7, CSN EN ISO 11885, US EPA 6010, SM 3120, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1 and 10.2) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was fixed by nitric acid addition prior to analysis.
W-METMSDG1	CZ_SOP_D06_02_002 (US EPA 200.8, CSN EN ISO 17294-2, US EPA 6020A, CSN 75 7358, samples prepared as per CZ_SOP_D06_02_J02 chap. 10.1, 10.2) - Determination of elements by mass spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was homogenized and mineralized by nitric acid in autoclave under high pressure and temperature prior to analysis.
W-NH4-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO ₂ -, SM 4500-NO ₃ -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NING-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO ₂ (-), SM 4500-NO ₃ (-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.



Analytical Methods	Method Descriptions
W-NNO-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NO2-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO2-, SM 4500-NO3-) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NO3-SPC	CZ_SOP_D06_02_019 (ČSN EN ISO 11732, ČSN EN ISO 13395, ČSN EN 16192, SM 4500-NO2-, SM 4500-NO3-) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NORG-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-NTOT-CC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 16192, SM 4500-NO2(-), SM 4500-NO3(-)) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and determination of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions by calculation from measured values including the calculation of total mineralization.
W-PH-PCT	CZ_SOP_D06_02_105 (ČSN ISO 10523, US EPA 150.1, SM 4500-H+ B) Determination of pH by potentiometry
W-PO4O-SPC	CZ_SOP_D06_02_022 (CSN EN ISO 6878 SM 4500-P) Determination of orthophosphate by discrete spectrophotometry and calculation of orthophosphate's phosphorus from measured values including the calculation of total mineralization.
W-PTOT-SPC	CZ_SOP_D06_02_080 Determination of total phosphorus by discrete spectrophotometry and calculation of phosphorus as P2O5 and PO43-from measured values. (CSN EN ISO 6878 and CSN ISO 15681-1).
W-SO4-IC	CZ_SOP_D06_02_068 (ČSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-TDS-GR	CZ_SOP_D06_02_071 (CSN 757346, CSN 757347, CSN EN 15216, SM 2540C) Determination of dissolved solids (RL) and dissolved solids annealed (RAS) using glass fibre filters by gravimetry and calculation of loss on ignition of dissolved solids (RL550) from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).
W-TECD-IR	CZ_SOP_D06_02_059 (CSN 75 7506:2006, STN 83 0520-27:2015, STN 83 0540-4, SS 028145) Determination of extractable substances by infrared spectrometry and determination of polar extractable substances by calculation from measured values.
W-TOC-IR	CZ_SOP_D06_02_056 (CSN EN 1484, SM 5310) Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total inorganic carbon (TIC) and total carbon (TC) by IR detection.
W-TSS-GR	CZ_SOP_D06_02_070 (CSN EN 872, CSN 757350, SM 2540 D) Determination of dry suspended solids and annealed suspended solids by gravimetry and calculation of loss of ignition of suspended solids and total solids from measured values (glass microfibre filter of porosity 1,5 µm - Environmental Express).

A `` symbol preceding any method indicates laboratory or subcontractor non-accredited test. In the case when a procedure belonging to an accredited method was used for non-accredited matrix, would apply that the reported results are non-accredited. Please refer to General Comment section on front page for information. If the report contains subcontracted analysis, those are made in a subcontracted laboratory outside the laboratories ALS Czech Republic, s.r.o.

The calculation methods of summation parameters are available on request in the client service.