Version No: Issue Date: Portfolio:

horizons

regional council

**Horizons Regional Council** 

Hydrology Operations

Manual



Water Quality Monitoring Run Guide

# SCANPOWER

## **POINT DISCHARGE**

**Monthly Sampling** 

The vellow hiat						naly			
	Ha hlighted	hazard Iden	ntification – tick a are known hazards	all that apply, w s at the time of co	rite additi ompiling th	onal haza iis docum	a <b>rds identified:</b> ent. This <b>does not n</b>	eqate the nee	
							ole location at every		
Hazard		Yes	Haz	ard	Yes		Hazard	Yes	
Confined spa	ice		Suspende	ed loads		Noise –	plant and equipment		
Difficult entry/	exit		Falling o	objects		Communication – means of			
Oxygen deficiency/exc	ess		Working near cra runw			Remote area		$\square$	
Poisonous fume			Live rails-gantry cranes			Temperature extremes			
Explosive ga	as		Trip ha	zards	$\boxtimes$	R	educed visibility		
Flammable mate	erials		Slippery s	surfaces	$\boxtimes$	Una	uthorized persons		
Combustible mat	terials		Manual handling		$\square$	High pressure water			
Hazardous subst	azardous substances [		Sharp materials			Vacuum			
Drowning	Drowning		Line of fire			Air emissions – dust, fumes			
Engulfmen	Engulfment [		Pressurized fluids			General waste			
UV Radiatio	UV Radiation		Pressurized air/gas			Hazardous waste			
Electrical – low voltage	/high		Traffic / vehicle movements		$\boxtimes$	Hydrocarbon / chemical spill			
Multiple electrical	l feeds		Machinery – mobile plant			Soil disturbance/erosion			
Working at he	Working at height		Moving parts			Habitat disruption			
Ladders			Chemical reaction (Pyrophoric iron)			Lighting			
Elevated work pla	atforms		Transport of hazardous substances			Weather extremes			
Potential for dif	ficult		Stock/Farn	n Animals		Difficu	t site access/egress		
rescue	i		l	l.				·	
		ed PPE are	ired PPE– tick al		to additio		equired:		
	neeu io	accase fo			of compilin	ig this doo	cument. This does n		
SAMPLING GLOVES		assess fo EAR ECTION			of compilin	ig this doo each sam			
		AR	r the appropriate	required PPE me SAFETY GLASSES /	of compilin easures at	ig this doo each sam	ument. This <b>does n</b> ple location per visit PROTECTIVE	PERSONAL FLOATATIOI DEVICE	
	PROT	AR	r the appropriate	required PPE me SAFETY GLASSES /	of compilin easures at	e this doc each sam BOOTS	ument. This <b>does n</b> ple location per visit PROTECTIVE	PERSONAL FLOATATIOI DEVICE	
GLOVES	PROT	AR ECTION	r the appropriate HARD HAT	required PPE me SAFETY GLASSES / GOGGLES	er C	e this doc each sam BOOTS	PROTECTIVE GLOVES	PERSONAL FLOATATIO DEVICE (PFD)	
GLOVES	PROT	AR ECTION	r the appropriate HARD HAT	required PPE me SAFETY GLASSES / GOGGLES	er C	eg this doc each sam BOOTS	PROTECTIVE GLOVES	PERSONAL FLOATATIO DEVICE (PFD)	

### Job Hazard & Task Analysis

Known Hazard	Significant		t Can it be Eliminated		Can it be Minimised	Method of control		
	Yes	No	Yes	No	Yes	No		
Trip Hazards	~			~	×		Prior to sampling staff must check area is clear of any items that pose a risk. If there is any these should only be moved if safe to do so. Sampling only to commence if the sampler is satisfied that any slip, trip or fall hazards are isolated.	
Slippery Surfaces – STP PONDS	~			~	×		Pond edges and river banks can be slippery at any time. Sampling from the pond edge (PPCS ORINGI) must always be done from stable level ground using a sample pole. PFD's must be available to staff. Vehicles must be driven a sensible distance from any pond edges. [HMP18 & 30]	
Slippery Surfaces – RIVER ACCESS	✓			✓	×		River banks can be slippery at any time. Care should be taken in all conditions. PFD's must be available to staff for use is deemed appropriate. [HMP18]	
Drowning - STP PONDS	~			~		Ý	The STP ponds can be deep, full of sediments, and have operating equipment on/within them. Typically, HRC staff do not need to sample from the STP pond/Pond edge. Sampling direct from the PPCS ORINGI STP pond must always be done from stable level ground using a sample pole. PFD's must be available to staff. Vehicles must be driven a sensible distance from any pond edges. [HMP18 & 30]	
Drowning - FLOWING WATER	✓			✓		~	Staff should be trained in alignment with HRCs training requirements. PFD's must be available to staff for use is deemed appropriate [HMP18]	
Traffic Vehicle movements & machinery – DEPOT	✓			✓		~	Sample site is within an operating depot: plant and machinery may be on-site during sampling. Staff to wear appropriate PPE, obey on site signage and instruction, and give way to all operational traffic.	
Traffic Vehicle movements – FARM	~			~		~	STP sample sites are accessed within a working Farm. Staff to obey on site signage and instruction. HRC Vehicle to be parked in a safe and appropriate location. [HMP 16] [HMP 20]	
Noise – plant and equipment	~			~	<ul> <li></li> </ul>		Plant operation can create high levels of noise. Ear protection to be carried in HRC vehicle at all times. Ear protection to be worn when machinery is running [HMP 4]	
Hazardous Waste – treated Effluent	•			<b>√</b>	✓ 		Sampling activities require the collection of a sample of treated effluent. Staff must wear sampling gloves, eye protection and have access to anti-bacterial hand-gel to sample.	

Known Hazard	Signi	ficant	Can it be Eliminated		Can it be Minimised	Method of control		
	Yes	No	Yes	No	Yes	No		
							Hepatitis B vaccinations are offered by HRC [HMP 30] [HMP 35]	
General Waste		<b>~</b>		<ul> <li>✓</li> </ul>	✓		General waste can be stored on site depending on operating activity. Sample staff have no need to interact with any waste. All waste created by HRC staff to be taken with them.	
UV Radiation	~			~	~		Horizons provide sunscreen and hats. [HMP	
Manual Handling	~			×	×		There should be no need for sample staff to move any equipment etc. in order to carry out sampling activities. Sampling activities require the collection of a sample of treated effluent. Staff must wear sampling gloves, eye protection and have access to anti- bacterial hand-gel to sample. Hepatitis B vaccinations are offered by HRC. [HMP 30] [HMP 35]	
Electrical – low /high voltage	~			✓	×		Sampling activity does not require any interaction with live circuitry or equipment. Staff should check sample area is clear of any hazards (i.e. loose cables, live equipment etc.) before sampling. If access/safety is considered compromised sampling is aborted. [HMP 23]	
Stock/Farm Animals	×			~	×		Although generally docile farm animals can still be hazardous. The risk should be isolated by finding alternative access routes to the sample location or contacting the owner for assistance. [HMP26]	
Weather Extremes	✓			~	<ul> <li>Image: A start of the start of</li></ul>		During the duration of a sampling run varying types and degrees of weather may be experienced. All sampling staff are to have access within their HRC vehicle of additional and appropriate clothing.	
Temperature Extremes - Hypothermia: following emersion	×			~		~	Staff must have access to suitable PPE and spare clothing within their vehicle. [HMP18] [HMP18]	
Traffic Vehicle movements – ROADSIDE /GENERAL	~			~		×	Some sample sites require parking beside a main road. The vehicle must be parked as far off of the road surface as safe and practicable to do so. Use of hazards lights must be considered. Hi-vis clothing must be worn. [HMP 16] [HMP 20]	
Difficult access egress to sample site	<b>~</b>			×		<ul> <li>Image: A start of the start of</li></ul>	Oruakeretaki River Sites: Access to the sample location is limited by bank conditions. Area is subject to a very mobile river channel. Care is required at all times. In high flow conditions, bad weather (i.e. conditions under foot) access may not be safe and therefore sampling should be not undertaken.	

Hilltop Site Name	Easting/	Longitude	Northing/Latitude	Comments
PPCS Oringi STP at	NZMG:	2768237	6100532	Additional bottles – check
Oxpond Waste	NZTM:	1858237	5528831	bottle guide
	WGS84:	176.036676	-40.261160	Take Ebro Temperature
				reading per sample.
				Sample every month
Oruakeretaki at u/s	NZMG:	2768389	6100718	Sample every other
PPCS Oringi STP	NZTM:	1858383	5539018	month:(Sept/Nov/Jan/ Mar/May/Jul)
	WGS84:	176.038284	-40.259430	Additional bottles – check
				bottle guide
Oruakeretaki at d/s	NZMG:	2768528	6100534	Sample every month
PPCS Oringi STP	NZTM:	1858528	5538836	Additional bottles – check bottle guide
	WGS84:	176.040063	-40.261019	

## **Site Information**

Contact details can be found here.

## **Equipment Required**

Sample Bottles	THREE (3) sample bottle sets - refer to http://tqm.horizons.govt.nz/Hydrology/SOPs/cd_om_15.4_Appendix_4_ELS% 20Bottle%20Guide.xlsx
Sample number	THREE (3)
Equipment	<ul> <li>Handheld multi-parameter instrument (calibrated) – including iPad/screen</li> <li>Temperature Probe</li> <li>Black disc, viewer, tape measure</li> <li>Clarity Tube</li> <li>Sampling pole</li> <li>Chilly bins and ice-packs</li> <li>Bags for isolating samples</li> <li>Disinfectant equipment for sampling equipment</li> <li>Field sampling books</li> <li>Sampling ID labels (created using Hilltop Sampler)</li> <li>Use gloves for wastewater and effluent samples</li> <li>Alcohol gel</li> <li>JSA Form</li> </ul>
Miscellaneous	<ul> <li>PPCS Oringi STP at Oxpond Waste: Sign/Induction in required</li> <li>Oruakeretaki at u/s PPCS Oringi STP: Sign/Induction in required</li> <li>Oruakeretaki at d/s PPCS Oringi STP: Sign/Induction in required</li> <li>Oruakeretaki at u/s PPCS Oringi STP: only sampled every other month on: Sept/Nov/Jan/Mar/May/Jul.</li> <li>JSA Form required for each sample round</li> <li>PPCS Oringi STP at Oxpond Waste: requires a temperature value to be recorded during sample (using Ebro).</li> </ul>
Additional Comments/	<ul> <li>Oruakeretaki at d/s PPCS Oringi STP: Access to site in high flows can be difficult.</li> <li>The following sites are sampled for the HRC/Scanpower Contract: PPCS Oringi STP at Oxpond Waste Oruakeretaki at d/s PPCS Oringi STP Oruakeretaki at u/s PPCS Oringi STP</li> </ul>

## NOTE: Scanpower Discharge runs follow immediately after the Upper Manawatū Discharge (Run 3) Run.



PPCS ORINGI: PPCS Oringi STP at Oxpond Waste | Oruakeretaki at u/s PPCS Oringi STP | Oruakeretaki at d/s PPCS Oringi STP

Site Location Map

#### DIRECTIONS:

- Retrace your steps toward SH2.
- Get back onto SH2 toward Palmerston North by turning left.
- Just before the passing lane after the rail bridge take the Left for Oringi Road and then the immediate left for the PPCS site.

#### ACCESS:

- Follow the driveway to the site.
- Sign in at office before driving to site(s).
- Sign out at office when sampling is complete.
- Staff to do a yearly induction with Scanpower staff organised by WQ Portfolio Holder, prior to signing in and sampling on site. Follow on site instruction/procedures.
- JSA required each month contact the WQ Portfolio Holder for more information





#### **PPCS Oringi Sample Site Location Plan**



0508 800 800 www.Horizons.govt.nz Oringi Cold Stores SAMPLING SITES Prepared by Catchment Information Drawn : August 2013 Contains Crown Copyright Data CIRef : OT861



PPCS Oringi Access Route



PPCS Oringi Site access detail plan

#### a: CTD at Overand Weate

POSSIBLE SITE HAZARDS (this does not negate undertaking a hazard review prior to sampling on the day):         Drowning – STP Pond       Traffic / vehicle movements – working yard and farm       Slippery surfaces – pond edge       Stock/Farm Animals – in paddocks         Trip hazards – cobbles, uneven ground       UV Radiation       Traffic / vehicle movements – access via crossing rail line       Stock/Farm Animals – in paddocks         REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):       SAMPLING         VEHICLE       HIVZ       PFD       WADERS       SAMPLING         BEACON       HIVZ       PFD       WADERS       GOGELS       GOGELS         BEACON       HIVZ       PFD       WADERS       SAMPLING       GLOVES       GLOVES         BEACON       HIVZ       OF       SAMPLING       GLOVES       GLOVES       GLOVES         ACCESS:       After signing in the first site is the STP.       Leave all gates as you find them!       Head to the rear of the complex and cross the rail tracks – consider this an active line. Open and close both gates (on either side of track) at the same time so you do not park on the tracks!         Immediately after crossing the line turn left then take the immediate right – there is normally an electrified line across the race here.       You should now be heading downhill – in the distance is the Oruakeretak		PPCS O	ringi STP	at Oxpon	d Waste		
Drowning – STP Pond       Traffic / vehicle movements – working yard and farm       Slippery surfaces –pond edge       Stock/Farm Animals – in paddocks         Trip hazards – cobbles, uneven ground       UV Radiation       Traffic / vehicle movements – access via crossing rail line       Traffic / vehicle movements – access via crossing rail line         REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):       SAMPLING GLASSES         VEHICLE BEACON       HI VIZ       PFD       WADERS       HAND SANITISER       SAFETY GLASSES       SAMPLING GLOVES         ACCESS:       After signing in the first site is the STP.       Leave all gates as you find them!       Fleave all gates as you find them!         Head to the rear of the complex and cross the rail tracks – consider this an active line. Open and close both gates (on either side of track) at the same time so you do not park on the tracks!         Immediately after crossing the line turn left then take the immediate right – there is normally an electrified line across the race here.         You should now be heading downhill – in the distance is the Oruakeretaki, the STP is on the right.         Half way down the slope is a double electrified string line on the right-hand paddock.         Park here and access the STP through this paddock.         Park here and access the STP through this paddock.         Park here and access the STP through this paddock. <t< td=""><td></td><td>ARDS (this o</td><td>does not neg</td><td>ate undertak</td><td>ing a hazard</td><td>review prior</td><td>r to</td></t<>		ARDS (this o	does not neg	ate undertak	ing a hazard	review prior	r to
movements – working yard and farm       edge       paddocks         Trip hazards – cobbles, uneven ground       UV Radiation       Traffic / vehicle movements – access via crossing rail line         REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):       SAPETY WADERS       SAPETY GLASSES / GOGGLES       SAMPLING GLOVES         VEHICLE BEACON       HIVZ       PFD       WADERS       HAND SANITISER       SAMPLING GLOVES       SAMPLING GLOVES         VEHICLE       HIVZ       PFD       WADERS       HAND SANITISER       SAMPLING GLOVES       SAMPLING GLOVES         ACCESS:       After signing in the first site is the STP.       Leave all gates as you find them!       Immediately after crossing the line turn left then take the same time so you do not park on the tracks!         Immediately after crossing the line turn left then take the immediate right – there is normally an electrified line across the race here.       You should now be heading downhill – in the distance is the Oruakeretaki, the STP is on the right.         Half way down the slope is a double electrified string line on the right-hand paddock.       Park here and access the STP through this paddock.         Park here and access the STP through this paddock.       Entering the paddock is another gate to the STP ahead- access this paddock to get to the STP.         Sample from the pond edge to the right of the inlet pipe. Walk round the right of th	sampling on the day):						
Imp nazards – cooples, uneven ground       UV Radiation       movements – access via crossing rail line         REQUIRED PPE (in accordance with above hazards – this does not negate undertaking a hazard review prior to sampling on the day and/or using additional PPE if deemed necessary):         VEHICLE       HI VIZ       PFD       WADERS       HAND SAFETY GLASSES/ GOGGLES       SAMPLING GLOVES         BEACON       III VIZ       PFD       WADERS       HAND SAFETY GLASSES/ GOGGLES       SAMPLING GLOVES         ACCESS:       III VIZ       PFD       III VIZ       III VIZ       GLASSES/ GOGGLES       GLOVES         ACCESS:       III VIZ       III VIZ       IIII VIZ       IIII VIZ       IIII VIZ       IIII VIZ         • After signing in the first site is the STP.       Leave all gates as you find them!       IIII VIZ       IIIII VIZ       IIIII VIZ         • Head to the rear of the complex and cross the rail tracks – consider this an active line. Open and close both gates (on either side of track) at the same time so you do not park on the tracks!       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Drowning – STP Pond	movemen	ts – working	ed	ge		
<ul> <li>Azcess:</li> <li>After signing in the first site is the STP.</li> <li>Leave all gates as you find them!</li> <li>Head to the rear of the complex and cross the rail tracks – consider this an active line. Open and close both gates (on either side of track) at the same time so you do not park on the tracks!</li> <li>Immediately after crossing the line turn left then take the immediate right – there is normally an electrified line across the race here.</li> <li>You should now be heading downhill – in the distance is the Oruakeretaki, the STP is on the right.</li> <li>Half way down the slope is a double electrified string line on the right.</li> <li>Half way down the slope is a double electrified string line on the right.</li> <li>Entering the paddock is another gate to the STP ahead- access this paddock to get to the STP.</li> <li>Sample from the pond edge to the right of the inlet pipe. Walk round the right of the pond</li> </ul>	•	UV R	adiation	movements	– access via		
<ul> <li>VEHICLE BEACON</li> <li>HI VIZ BEACON</li> <li>WILL PFD WADERS</li> <li>WADERS SAMETING GUOVES</li> <li>SAMETING GUOVES</li> <li>SAMETING</li></ul>							
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	<ul> <li>Leave all gates a</li> <li>Head to the rear Open and close b on the tracks!</li> <li>Immediately after normally an elect</li> <li>You should now b the right.</li> <li>Half way down th</li> <li>Park here and ac Entering the pade STP.</li> </ul>	is you find the of the comp both gates (d r crossing the trified line action be heading d he slope is a ccess the ST dock is another	nem! lex and cross on either side cross the race downhill – in double elect P through th her gate to th	e of track) at ft then take th e here. the distance rified string li is paddock. ne STP ahea	the same tim he immediat is the Oruak ine on the rig d- access th	ne so you do e right – thei keretaki, the ght-hand pac is paddock to	o not park re is STP is on Idock. o get to the
additional 500ml bottle; one for DO (ensure the bottle is completely full with no air inside -	and line up rough	ily in line wit	h the end of	the discharg	e pipe. <mark>Rem</mark>	ember to tak	<mark>ke an</mark> .

- squeeze the bottle when capping) and Conductivity.??? Take a temperature reading using an Ebro and record on the field form. •
- JSA required each month contact the WQ Portfolio Holder for more information •



PPCS Oringi STP at Oxpond Waste - View from Sample site



PPCS Oringi STP at Oxpond Waste - Parking area viewed from STP sample site

#### Oruakeretaki at u/s PPCS Oringi STP

		Oruaken	elaki al u/s		Ingi SIF			
POSSIBLE	SITE HAZA	RDS (this	does not neg	ate undertak	ing a hazaro	I review prior	' to	
sampling on	the day):	•	-		-			
Drowning	g - River	Traffic	/ vehicle	Slippery s	urfaces –	Stock/Farm Animals – ir		
			nts – working		eriphyton,	paddocks		
		yard a	and farm	ŭ /	bile bed			
Trip hazards – cobbles, uneven ground					vehicle			
		UVR	adiation		– access via rail line			
REQUIRED	PPE (in acc	cordance w	ith above haz	zards – this c	loes not neg	ate undertak	ing a	
nazard revie	w prior to sa	mpling on t	he day and/c	or using addit	ional PPE if	deemed nec	essary):	
VEHICLE BEACON	HI VIZ	PFD	WADERS					
ACCESS:								
	back to the							
<ul> <li>Conti</li> </ul>	inue downhill	into the pa	ddock straig	ht ahead.				
	ware that the	entrance of	an be wet. T	he paddock	nas been lev	elled but be	cautious	
cross	sing it.							
	to the river - on head here		hand side of	the far side	of the paddo	ock is a wood	en fenced	
<ul> <li>The l</li> </ul>	U/S sampling	, point is up	stream of the	e fenced sec	tion at the cli	ff area. In ur	isafe	
cond	itions sample	from the b	ank. The Oru	Jakeretaki is	very mobile	and channel		
morp	hology chang	ges frequer	ntly.		-			
	required eac	h month -	contact the	WO Portfolic	Holder for r	nore informa	ation	

JSA required each month – contact the WQ Portfolio Holder for more information

This sample is taken every other month: sample months are therefore: January, March, May, July, September, November. NOTE: Sampler will generate a number for this site every month – just cross through sampling sheet and comment no sample.



#### Oruakeretaki at d/s PPCS Oringi STP

Drowning - River		Traffic	/ vehicle	Slippery s	urfaces –	Stock/Farm Animals – in paddocks	
			s – working	cobbles, p			
		yard a	nd farm	highly mo			
Trip hazards – cobbles, uneven ground			Red and	Traffic /			
		UV Radiation		movements			
	-			crossing			
REQUIREI	D PPE (in acc	cordance wit	th above haz	ards – this d	oes not neg	ate undertaki	ng a
azard revi	ew prior to sa	ampling on th	ne day and/o	r using addit	ional PPE if	deemed nec	essary):
VEHICLE	HI VIZ	PFD	WADERS	HAND	SAFETY	SAMPLING	
BEACON				SANITISER	GLASSES /	GLOVES	
					GOGGLES		
						in the second se	
		9				to X	

- D/S sampling point is approx. 150m downstream of the access point and 20m d/s of the discharge (via wetland). The actual discharge point is not obvious so if in doubt sample below the cliff (on true left hand-side).
- Sample from the true right hand side of the stream.
- Access in good, safe conditions is easiest via wading along the stream itself. In unsafe conditions access is made by carefully picking through the vegetation on the bank.
- JSA required each month contact the WQ Portfolio Holder for more information



Oruakeretaki at d/s PPCS Oringi STP- Sample point looking downstream (downstream cliff/headland feature to the left)



Oruakeretaki at d/s PPCS Oringi STP- Sample point looking upstream Note cliff line/headland top centre of image