



Cirrus International Ltd

14-15 Montpellier Arcade
CHELTENHAM

England
GL50 1SU

Fax +44 (0) 1242 578758

Tel +44 (0) 1242 604895

Email info@cirrusuk.com

Multiple Borehole Remediation Loire Valley France.

Cirrus in were contacted by the operator of a water wellfield in the Loire Valley. All three were of the radial or collector well type, St Maur 1, St Maur 2 and La Chesnaie.

Cirrus had worked on the St Maur 1 a few years previously with good results. St Maur 2 was to be a new project. La Chesnaie was of particular interest in that it had been taken out of production and replaced with a new well.

This type of well poses some a challenge in that it is not possible to get access to the radial without draining down the main chamber.

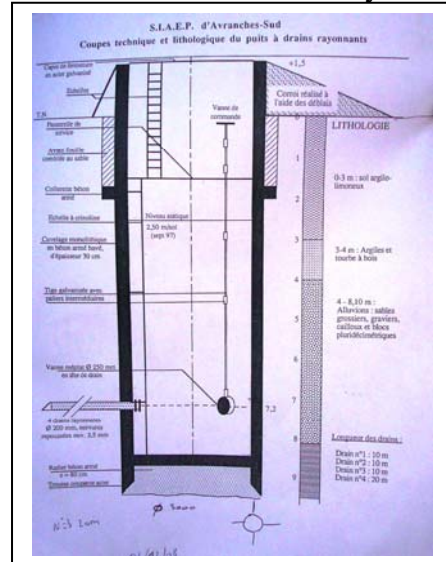
During routine “de-sanding” all radial service valves are closed, the main chamber drained and a high volume service pump installed. Once this pump is in place a single radial is opened and manual de-sanding and jetting can be performed.

This process had been undertaken in all of the wells in this program with a slight increase in production, however based on previous work it was felt that AirBurst would still yield a valuable improvement.

To undertake AirBurst in an efficient manner and minimize downtime a modified approach was used which negated the need to drain down the main chamber. The main service valves were closed as before and a pump installed. The service valve for the radial to be treated was opened. A diver was then used to insert and push the AirBurst tooling along the radial. Once the diver had surfaced the service pump was activated and AirBurst operations commenced. The treatment was repeated in the radial as decided by the AirBurst operator. For each well the AirBurst process was used on day 1 and on day 2 the additional material produced from AirBurst removed by de-sanding as above.

For diving operations a number of safety measures were implemented from lockout devices to backup diver and safety lift mechanisms. Full communications were maintained with the diver at all times during operations.

Slightly different AirBurst techniques were utilised on each of the wells.





Cirrus International Ltd

14-15 Montpellier Arcade
CHELTENHAM
England
GL50 1SU
Fax +44 (0) 1242 578758
Tel +44 (0) 1242 604895
Email info@cirrusuk.com

The feedback from the operator is summarised here :-

De : SOULARD

Envoyé : vendredi 12 juin 2009 11:34

Objet : RE: REGENERATION AIR-BURST DES PUIITS A DRAIN DE SAINT-MAUR (49)

Opération sur les 3 dernières semaines
St Maur puits 1 et 2 (une semaine de travail par puits)
Chesnaie puits 3 (4 jours de travail)

Puits 2 de St Maur

pour mémo ce puits était à 70m³/m de rabat il y a 2 ans (conclusion "air burst"/an)

débit calculé sur 2 h
avant opération = Q spé 140 m³/m de rabat
après dessablage 1 = Q spé 158 m³/m de rabat
après air burst = Q spé 216 m³/m de rabat
après dessablage 2 = Q spé 201 m³/m de rabat

Bon résultat mais conclusion : "air burst" tout les ans

Puits 1 de St Maur

Air burst cette année en prévention

débit calculé sur 2 h
avant opération = Q spé 142m³/m de rabat
après dessablage 1 = Q spé 201/m de rabat
après air burst = Q spé 401/m de rabat
après dessablage 2 = résultat ce soir (en cour ce jour)

conclusion

Résultat exceptionnel (air burst à faire tout les 5 ans)

Puits 3 de la Chesnaie

Air burst cette année car le puits a un très mauvais rabattement depuis 3 ans
(attention 3 drains en PVC, nous avons fait une inspection caméra avant)

débit calculé sur 2 h
avant opération = Q spé 51m³/m de rabat
après Décolmatage 1 = Q spé 60/m de rabat
après air burst = Q spé 191m³/m de rabat



Cirrus International Ltd

14-15 Montpellier Arcade
CHELTENHAM
England
GL50 1SU
Fax +44 (0) 1242 578758
Tel +44 (0) 1242 604895
Email info@cirrusuk.com

In all three cases good results were obtained. St Maur 1 had been brought from 70m³/m a few years previously. La Chesnaie presented a particular problem in that some of the drains were PVC so had to be treated with reduced energy, however good results were still obtained. The 60 m³/m figure for La Chesnaie was after various other clearance and cleaning methods were used.

Well	Before AirBurst	After Airburst
St Maur 1	142 m ³ /m	401 m ³ /m
St Maur 2	140 m ³ /m	201 m ³ /m
La Chesnaie	60 m ³ /m	191 m ³ /m

For these results all of the team involved should be congratulated.

All works were undertaken with full assistance from the client and in conjunction with our local partners Bretagne Forage.

As before client details have been removed.



Cirrus International Ltd

14-15 Montpellier Arcade
CHELTENHAM

England
GL50 1SU

Fax +44 (0) 1242 578758

Tel +44 (0) 1242 604895

Email info@cirrusuk.com

Some further pictures from the operation.

Slotted casing used in radial construction.



De Sanding operations

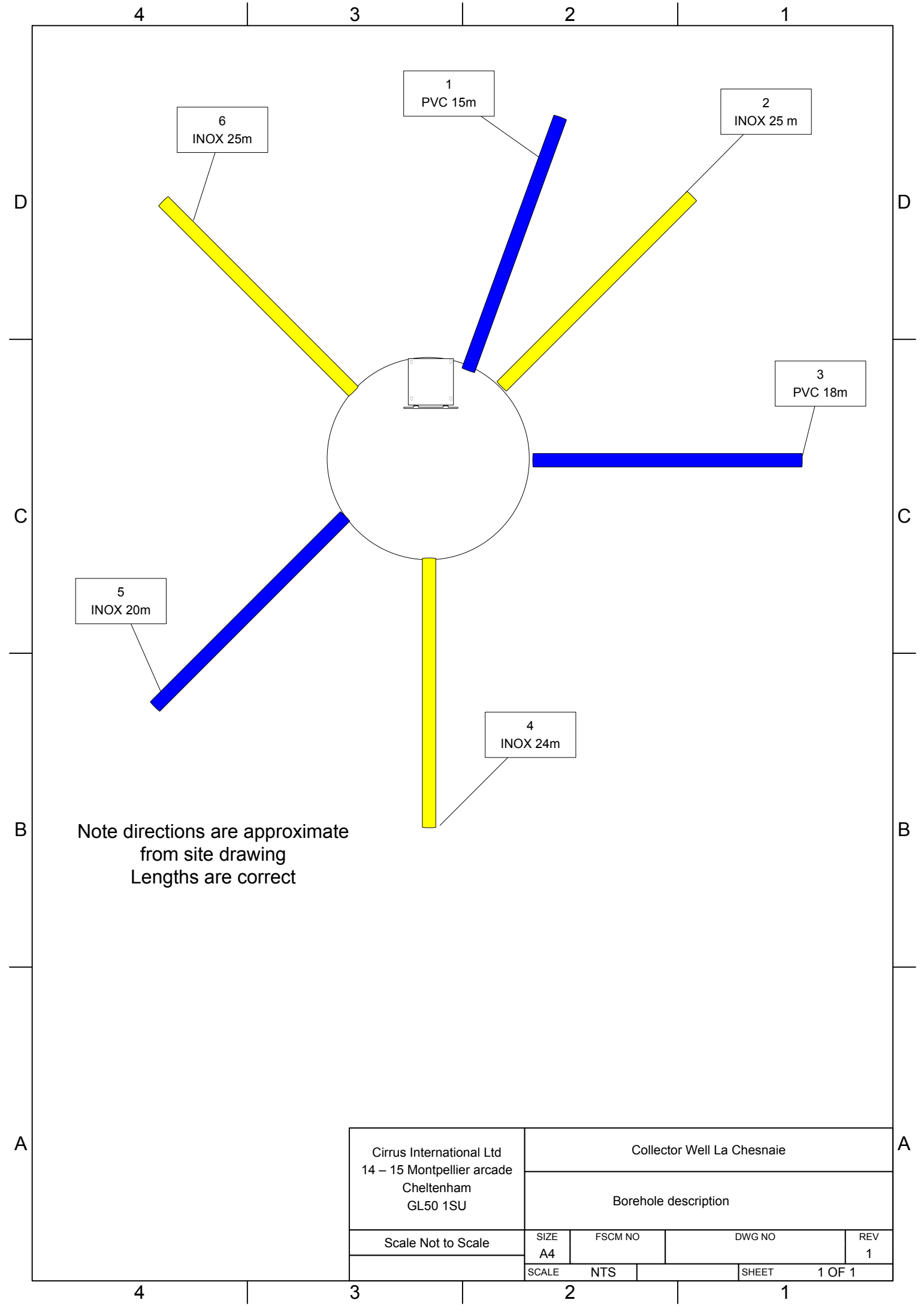


Diver preparing to descend



Material produced during AirBurst





Note directions are approximate
from site drawing
Lengths are correct

Cirrus International Ltd 14 – 15 Montpellier arcade Cheltenham GL50 1SU	Collector Well La Chesnaie			
	Borehole description			
Scale Not to Scale	SIZE A4	FSCM NO	DWG NO	REV 1
	SCALE NTS	SHEET 1 OF 1		