APPENDIX A16.1 HYDROGEOLOGY WELL SURVEY

Meath County Council - Ove Arup Consulting Engineers

N3 Navan to Carnaross F	ealignment Scherr	e																																	
GENERAL							USAGE & YIEL	D			LOCATION	COOPDINATES	DATE & PE	ERSONNEL	VA	LUE AS MON		IT		INSTALLAT	ION DATA					WATER		PUMP	WELLHEAD DES	GN & VULNER	ABILITY		PI T/	IOTOGRAPHS KEN	COMMENTS
WELL MONITORIN NUMBER POINT TYPE spring, staff g phreatic tube piezometer, surface water monitoring po	well, uuge, nt)	HOUSE NAME / NUMBER	TOWNLAND	ADDRESS	TELEPHON	E WEATHER	USAGE (by whom (farm or domestic), number (people and cattle)	ESTIMATE OF WELL YIELD (Consumption per day - m ³⁾	PLANS TO INCREASE WELL (plan to have higher pumping rates or drill an additional well)	TOOLS NEEDED FOR OPENING WELL	WATER LEVEL REFERENCE POINT		G OPERATIVE FOR SITE VISIT	OPERATIVE ENTERING DATA	DATE SUI AUDITED FOF REV (Mo	TABLE WIT R DEV VISITING Initorable)	THIN 500m OF VELOPMENT	WITHIN 100m OF DEVELOPMENT	UPSLOPE OR DOWNSLOPE OF DEVELOPMENT	DATE INSTALLED	INSTALLER ID (eg MEL site operatives, contractor)	INSTALLATION METHOD (Shell and Auger, Rotary-percussion, hand-dug, etc)	INSTALLED DEPTH MEASURED (meters below reference level (mbRef))	WELL DIAMETER (mm)	WELL COMPLETION (casing details)	WATER LEVEL (metres below reference)	HEIGHT OF REFERENCE POINT (meters above ground level negative)	РИМР ТҮРЕ	WELLHEAD COMPLETION	VUNERABILITY (1 = extreme, 2 = moderate, 3 = low)	ENVIRONMENTAL INTEGRITY	CONTAMINATION OBSERVED	ACCESSIBILITY (categories = drivable seasonally, drivable all year round)		
1 WELL	COLM MCEVOY	OSBERSTOWN STUD	OSBERSTOWN	-		FINE	8 X 75 GAL. TROUGHS AND HOUSE WITH 7 PEOPLE	UNKNOWN	NO	LEAD CUTTERS	S TOP OF CASING	287355 220972	CQN	CQN	24/07/2013 NO) YE	S	NO	UPSLOPE	2005	-	DRILLED		200	STEEL	UNKNOWN	0.20	SUBMERSIBLE	BEATEN LEAD SHEET OVER WELL CASING	3	GOOD	NO	DRIVABLE ALL 1 YEAR ROUND		-
2 WELL	CIARAN O'FLAHEI	BARRETTSTOV	VN BARRETTSTOW	'N -	879694059	9 FINE	APPROX 150 CATTLE AND 9 PEOPLE IN HOUSE	UNKNOWN	NO	LEVERS	GROUND LEVEL	287383 223977	CQN	CQN	24/07/2013 YE	S YE	S	NO	UPSLOPE	UNKNOWN	-	DUG	2.73	1300	CORBELLED	2.44	0.00	SUCTION	CONCRETE COVER	2	GOOD	NO	DRIVABLE ALL 1 YEAR ROUND		-
3 WELL	CIARAN O'FLAHEI	BARRETTSTOV	VN BARRETTSTOW	'N -	879694059	9 FINE	APPROX 150 CATTLE AND 9 PEOPLE IN HOUSE	UNKNOWN	NO	LEVERS	GROUND LEVEL	287382 223974	CQN	CQN	24/07/2013 YE	S YE	S	NO	UPSLOPE	UNKNOWN	-	DUG	3.11	900	CONCRETE RINGS	2.66	0.00	SUCTION	CONCRETE COVER	2	GOOD	NO	DRIVABLE ALL 1 YEAR ROUND		-
4 WELL	LANDOW	NER BODENSTOWN	BODENSTOWJN	1 -		FINE	2 X TROUGHS	UNKNOWN	UNKNOWN	NONE		288901 224322	CQN	CQN	24/07/2013 YE	S YE	S	YES	UPSLOPE	UNKNOWN	-	DUG	6.05	1000	CORBELLED	3.95	0.00	SUCTION	CONCRETE	2	GOOD	NO	DRIVABLE ALL 1		-
5 WELL	Alan Lloyc	OSBERSTOWN	OSBERSTOWN	-	876486280	0 FINE	3 PEOPLE IN 2 HOUSES	UNKNOWN	NO	NONE	GROUND	288018 222572	CQN	CQN	26/07/2013 YE	S YE	S	YES	DOWNSLOPE	UNKNOWN	-	DUG	3.1	1000	CONCRETE RINGS	1.94	0.00	SUBMERSIBLE	CONCRETE COVER	3	GOOD	NO	DRIVABLE ALL 1 YEAR ROUND		Owner has serious concerns about potential contamination resulting from th development and wants hydrochemical testing before, during and after construction. Ideally the Owner would like to be connected to the mains and stop using the well for water supply
6 WELL	PJ GARVI	EY OSBERSTOWN	OSBERSTOWN	-	871360139	9 FINE	3 PEOPLE	UNKNOWN	NO	FLATHEAD SCREWDRIVER	GROUND LEVEL	288027 222585	CQN	CQN	26/07/2013 YE	S YE	S	YES	DOWNSLOPE	UNKNOWN	-	DRILLED	7.28	150	LOCKABLE AND SEALED COVER	1.98	0.00	SUBMERSIBLE	PLASTIC AND METAL LOCKABLE COVER	3	GOOD	NO	DRIVABLE ALL 1 YEAR ROUND		Owner has serious concerns about potential contamination resulting from th development and wants hydrochemical testing before, during and after construction. Ideally the owner would like to be connected to the mains and stop using the well for water supply

Client &	& Project No.:	Work item & Project description	:	
eral	Owner's name		Well type (bored/hand dug)	
Gene	Townland		Date drilled / dug	
	Address		Drilled contractor name and their telephone number	
	Contact number		Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)		Weather	
	National grid co-ordinates		Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring		Any contamination observed	
riteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	-	Grouting details	
ign C	Total depth (as reported by owner / drilling log (m))		Pump details	
Well Des	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	K	Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)		Tools needed to open well and access water	
	Well diameter (mm)		Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)		Number and ID of photographs	
ology	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc		Overburden or bedrock aquifer	
roge	Plans to increase output / drill another well and for what reasons		Water table(phreatic surface) or- piezometric surface	
Hyd	Water quality / laboratory results (yes or no and- attached or not)		Water level (mbRef)	
Geology	Overburden geology & thickness (m)			
	Bedrock geology			

Well Audit Methodology (CS 18/1/10)

1. With landowner:

- State that you are working for an engineering firm with an application to the council about a proposed quarry in the area, and that you are checking / auditing domestic wells to ensure there will be no negative impact to them. - Ask if the house has a domestic well water supply or if it is on a mains such as a group water scheme or other? Get name, date of connection and happiness with service if on a GWS. - If have a domestic well - ask if you can access it to take measurements. Ask key questions such as name of owner, townland name, address, contact no., date of well installation / age of well, depth of well (from owner), usage (how many people use the well? for house only or also farm?), happy with well performance? pump details, grouting - if any (cement along side of well wall?)

2. At Wellhead:

- Fill in well audit sheet - critical to measure diameter of well, depth of well, WL from top of wellcover and from ground level etc.

- Note how well protected the top of the well is from contamination, cement grouting, other?

- Take water sample - take HC, note colour, smell, how clear or not it is.

- If it is a drilled well - note available information on depth of subsoils - estimate.

- Diameter of well and depth of well - will tell you if drilled or dug well. - Sometimes it is not possible to take water at well - take from tap either outside or inside.

#NAME?



Client	& Project No.:	Work item & Project description	on:
ral	Owner's name	PJ Garvey	Well type (bored
Bene l	Townland	Osberstown	Date drilled / du
0	Address	Osberstown	Drilled contract
	Contact number	871360139	Date of site visi
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	3 people domestic	Weather
	National grid co-ordinates	289053, 222354	Minerex site op
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	80	Any contaminat
riteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	Ground Level	Grouting details
ign Cr	Total depth (as reported by owner / drilling log (m))	7.28	Pump details
Well Des	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	7.28	Wellhead comp whether lockab recommendatio
	Drilling log available (yes or no)	none	Tools needed to water
	Well diameter (mm)	150mm ID of steel casing.	Comment of we vulnerability rar moderate, 3 = lo
	Well completion (casing details)	Tarmacadam around well,no cracks. Not sure about grout around casing.	Number and ID
logy	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	unknown	Overburden or I
rogeo	Plans to increase output / drill another well and for what reasons	No, they have adequate amount.	Water table(phre
Hyd	Water quality / laboratory results (yes or no and attached or not)	none	Water level (mb
Geology	Overburden geology & thickness (m)	Clayey GRAVEL	
	Bedrock geology	Rickardstown Fm cherty often dolomotised limestone	
Additiona	I work items recommended / comments Owner has serious concerns about potential contamination resulting from th development and wants hydrochemical testing before, during and after construction. Ideally the owner would like to be connected to the mains and stop using the well for water supply	1	•

		WELL NUMBER: 6
ed/hand dug)	Bored	Sketch of location / plan
ug	unknown	
tor name and their ber	unknown	
it by Minerex operative	26/07/2013	
	fine	-
perative(s)	Conor Quinlan	№
ation observed	None	
ls	unknown	Well design (cross-section)
	unknown	
pletion/protection & ble, also ons.	screwed down lid with plastic seal at ground level and a plastic cap over the steel borehole liner	
to open well and access	Large flat head screw driver	
ell protection / anking (1 = extreme, 2 = low)	1	
) of photographs		
bedrock aquifer	Overburden	
reatic surface) or I rface	Water table	
bRef)	1.98	
		_
		Environmental Limited

Clien	t & Project No.:	Work item & Project description:	
ral	Owner's name	Well type (bored/hand dug)	
	Townland	Date drilled / dug	
	Address	Drilled contractor name and their telephone number	
	Contact number	Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	Weather	
	National grid co-ordinates	Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	Any contamination observed	
	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)		
well besign Cr	Total depth (as reported by owner / drilling log (m))	Pump details	
	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	✓ Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)	Tools needed to open well and access	
	Well diameter (mm)	Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)	Number and ID of photographs	
	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	Overburden or bedrock aquifer	
)	Plans to increase output / drill another well and for what reasons	I Water table(phreatic surface) or- piezometric surface	
•	Water quality / laboratory results (yes or no and- attached or not)	- Water level (mbRef)	
;	Overburden geology & thickness (m)		
	Bedrock geology		

Well Audit Methodology (CS 18/1/10)

1. With landowner:

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2. At Wellhead:

- Fill in well audit sheet - critical to measure diameter of well, depth of well, WL from top of wellcover and from ground level etc.

- Note how well protected the top of the well is from contamination, cement grouting, other?
- Take water sample take HC, note colour, smell, how clear or not it is.

- If it is a drilled well - note available information on depth of subsoils - estimate.

- Diameter of well and depth of well - will tell you if drilled or dug well. - Sometimes it is not possible to take water at well - take from tap either outside or inside.

#NAME?

3. Thank landowner and be courteous at all times.



Clien	t & Project No.:	Work item & Project descriptio	n:
ral	Owner's name	Alan Lloyd	Well type (bored
Gene	Townland	Osberstown	Date drilled / du
0	Address	Osberstown	Drilled contractor telephone numb
	Contact number	876486280	Date of site visit
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	3 people domestic (in 2 houses)	Weather
	National grid co-ordinates	287959, 222599	Minerex site ope
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	80	Any contaminat
riteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	Ground Level	Grouting details
gn Ci	Total depth (as reported by owner / drilling log (m))	3.1	Pump details
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	3.1	Wellhead compl whether lockabl recommendatio
	Drilling log available (yes or no)	none	Tools needed to
	Well diameter (mm)	1m	Comment of we vulnerability ran moderate, 3 = lo
	Well completion (casing details)	concrete biscuit cover with concrete manhole in centre	Number and ID
logy	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	unknown	Overburden or b
roged	Plans to increase output / drill another well and for what reasons	No, they have adequate amount.	Water table(phre piezometric surf
Hyd	Water quality / laboratory results (yes or no and attached or not)	none	Water level (mbl
Geology	Overburden geology & thickness (m)	Clayey GRAVEL	
	Bedrock geology	Rickardstown Fm cherty often dolomotised limestone	
Additior	nal work items recommended / comments		
	contamination resulting from th development and		

wants hydrochemical testing before, during and after construction. Ideally the owner would like to be connected to the mains and stop using the well for water supply

		WELL NUMBER: 5
ed/hand dug)	dug, 1m ID concrete rings liner	Sketch of location / plan
ug	unknown	_
tor name and their ber	unknown	_
sit by Minerex operative	26/07/2013	
	fine	
perative(s)	Conor Quinlan	N
ation observed	None	- +
ls	unknown	Well design (cross-section)
pletion/protection & ble, also ons.	screwed down lid with plastic seal at ground level and a plastic cap over the steel borehole liner	
to open well and access	levelrs to lift concrete cover	_
ell protection / anking (1 = extreme, 2 = low)	2	
) of photographs		_
bedrock aquifer	Overburden	
reatic surface) or Irface	Water table	
bRef)	1.94	
		_
		4
		Environmental Limited

Clien	t & Project No.:	Work item & Project description:	
ral	Owner's name	Well type (bored/hand dug)	
	Townland	Date drilled / dug	
	Address	Drilled contractor name and their telephone number	
	Contact number	Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	Weather	
	National grid co-ordinates	Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	Any contamination observed	
	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)		
well besign Cr	Total depth (as reported by owner / drilling log (m))	Pump details	
	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	✓ Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)	Tools needed to open well and access	
	Well diameter (mm)	Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)	Number and ID of photographs	
	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	Overburden or bedrock aquifer	
)	Plans to increase output / drill another well and for what reasons	I Water table(phreatic surface) or- piezometric surface	
•	Water quality / laboratory results (yes or no and- attached or not)	- Water level (mbRef)	
;	Overburden geology & thickness (m)		
	Bedrock geology		

Well Audit Methodology (CS 18/1/10)

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- Diameter of well and depth of well - will tell you if drilled or dug well. - Sometimes it is not possible to take water at well - take from tap either outside or inside.



Clien	t & Project No.:	Work item & Project description:				
ral	Owner's name	Landowner 118	Well type (bore			
Gene	Townland	Bodenstown	Date drilled / du			
Ŭ	Address	Bodenstown	Drilled contract telephone num			
	Contact number	none	Date of site visi			
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	two troughs	Weather			
	National grid co-ordinates	287959, 222599	Minerex site op			
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	85	Any contaminat			
iteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	Ground Level	Grouting details			
gn Cr	Total depth (as reported by owner / drilling log (m))	6.05	Pump details			
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	6.05	Wellhead comp whether lockab recommendatic			
	Drilling log available (yes or no)	none	Tools needed to			
	Well diameter (mm)	1m approx.	Comment of we vulnerability rai moderate, 3 = lo			
	Well completion (casing details)	concrete cover over dug and corbelled well	Number and ID			
ology	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	unknown	Overburden or			
roge	Plans to increase output / drill another well and for what reasons	unknown	Water table(phropheter) piezometric sur			
Hyd	Water quality / laboratory results (yes or no and attached or not)	none	Water level (mb			
Geology	Overburden geology & thickness (m)	Clayey GRAVEL				
	Bedrock geology	Rickardstown Fm cherty often dolomotised limestone				
Additior	nal work items recommended / comments					

		WELL NUMBER: 4
ed/hand dug)	dug, 1m ID approx, corbelled with concrete slab	Sketch of location / plan
ug	unknown	
tor name and their ber	unknown	
it by Minerex operative	26/07/2013	
	fine	
perative(s)	Conor Quinlan	
ation observed	None	+
IS	unknown	Well design (cross-section)
	unknown	
oletion/protection & ole, also ons.	concrete cover with opening approx 20cms wide	
o open well and access	none	
ell protection / inking (1 = extreme, 2 = iow)	2	
of photographs		
bedrock aquifer	Overburden	
reatic surface) or rface	Water table	
bRef)	3.95	
		_
		_
		Minorov
		Environmental Limited

Clien	t & Project No.:	Work item & Project description:	
ral	Owner's name	Well type (bored/hand dug)	
	Townland	Date drilled / dug	
	Address	Drilled contractor name and their telephone number	
	Contact number	Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	Weather	
	National grid co-ordinates	Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	Any contamination observed	
	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)		
well besign Cr	Total depth (as reported by owner / drilling log (m))	Pump details	
	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	✓ Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)	Tools needed to open well and access	
	Well diameter (mm)	Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)	Number and ID of photographs	
	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	Overburden or bedrock aquifer	
)	Plans to increase output / drill another well and for what reasons	I Water table(phreatic surface) or- piezometric surface	
•	Water quality / laboratory results (yes or no and- attached or not)	- Water level (mbRef)	
;	Overburden geology & thickness (m)		
	Bedrock geology		

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Client	t & Project No.:	Work item & Project description:				
ral	Owner's name	Ciaran O'Flaherty	Well type (bore			
Gene	Townland	Barrettstown	Date drilled / du			
0	Address	Barrettstown	Drilled contract telephone num			
	Contact number	879694059	Date of site visi			
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	domestic & Agri, 150 cattle approx and 9 people	Weather			
	National grid co-ordinates	287382, 223974	Minerex site op			
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	85	Any contamina			
riteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	Ground Level	Grouting details			
gn Ci	Total depth (as reported by owner / drilling log (m))	3.11	Pump details			
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	3.11	Wellhead comp whether lockab recommendatio			
	Drilling log available (yes or no)	none	Tools needed to			
	Well diameter (mm)	0.9 ID concrete ring	Comment of we vulnerability ran moderate, 3 = lo			
	Well completion (casing details)	concrete cover over dug well	Number and ID			
ology	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	unknown	Overburden or			
roge	Plans to increase output / drill another well and for what reasons	none	Water table(phreprint)			
Hyd	Water quality / laboratory results (yes or no and attached or not)	none	Water level (mb			
Geology	Overburden geology & thickness (m)	Clayey GRAVEL				
	Bedrock geology	Waulsortian limestones				
Addition	al work items recommended / comments	1				

		WELL NUMBER: 3
ed/hand dug)	dug, 0.9m ID , concrete rings concrete slab cover	Sketch of location / plan
ug	unknown	_
tor name and their ber	unknown	_
it by Minerex operative	26/07/2013	
	fine	
perative(s)	Conor Quinlan	
ation observed	None	+
ls	unknown	Well design (cross-section)
	unknown	_
pletion/protection & ble, also ons.	concrete cover with opening approx 0.9cms wide	
to open well and access	levers and brush to clean edges	_
ell protection / inking (1 = extreme, 2 = low)	2	
) of photographs		
bedrock aquifer	Overburden	
reatic surface) or I rface	Water table	
bRef)	2.66	
		_
		-
		Environmental Limited

Clien	t & Project No.:	Work item & Project description:	
ral	Owner's name	Well type (bored/hand dug)	
	Townland	Date drilled / dug	
	Address	Drilled contractor name and their telephone number	
	Contact number	Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	Weather	
	National grid co-ordinates	Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	Any contamination observed	
	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)		
)	Total depth (as reported by owner / drilling log (m))	Pump details	
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	✓ Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)	Tools needed to open well and access	
	Well diameter (mm)	Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)	Number and ID of photographs	
	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	Overburden or bedrock aquifer	
Hydrogeo	Plans to increase output / drill another well and for what reasons	Water table(phreatic surface) or piezometric surface	
	Water quality / laboratory results (yes or no and- attached or not)	- Water level (mbRef)	
;	Overburden geology & thickness (m)		
	Bedrock geology		

Well Audit Methodology (CS 18/1/10)

1. With landowner:

- State that you are working for an engineering firm with an application to the council about a proposed quarry in the area, and that you are checking / auditing domestic wells to ensure there will be no negative impact to them. - Ask if the house has a domestic well water supply or if it is on a mains such as a group water scheme or other? Get name, date of connection and happiness with service if on a GWS. - If have a domestic well - ask if you can access it to take measurements. Ask key questions such as name of owner, townland name, address, contact no., date of well (from owner), usage (how many people use the well? for house only or also farm?), happy with well performance? pump details, grouting - if any (cement along side of well wall?)

2. At Wellhead:

- Fill in well audit sheet - critical to measure diameter of well, depth of well, WL from top of wellcover and from ground level etc.

- Note how well protected the top of the well is from contamination, cement grouting, other?
- Take water sample take HC, note colour, smell, how clear or not it is.

- If it is a drilled well - note available information on depth of subsoils - estimate.

- Diameter of well and depth of well - will tell you if drilled or dug well. - Sometimes it is not possible to take water at well - take from tap either outside or inside.



Client & Project No.:		Work item & Project description:	
ral	Owner's name	Ciaran O'Flaherty	Well type (bore
Gene	Townland	Barrettstown	Date drilled / du
Ŭ	Address	Barrettstown	Drilled contract telephone num
	Contact number	879694059	Date of site visi
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	unused	Weather
	National grid co-ordinates	287383, 223977	Minerex site op
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	85	Any contamina
iteria	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)	Ground Level	Grouting details
ign Cr	Total depth (as reported by owner / drilling log (m))	2.73	Pump details
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	2.73	Wellhead comp whether lockab recommendatio
	Drilling log available (yes or no)	none	Tools needed to water
	Well diameter (mm)	1.3m approx	Comment of we vulnerability rai moderate, 3 = lo
	Well completion (casing details)	concrete cover over dug and corbelled well	Number and ID
ology	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	unknown	Overburden or
roge	Plans to increase output / drill another well and for what reasons	none	Water table(phropiezometric sur
Hyd	Water quality / laboratory results (yes or no and attached or not)	none	Water level (mb
Geology	Overburden geology & thickness (m)	Clayey GRAVEL	
	Bedrock geology	Waulsortian limestones	
Additio	nal work items recommended / comments	1	

		WELL NUMBER: 2
ed/hand dug)	corbelled dug well with gravel base	Sketch of location / plan
ug	unknown	
tor name and their ber	unknown	
it by Minerex operative	26/07/2013	
	fine	
perative(s)	Conor Quinlan	N ♠
ation observed	None	1 +
ls	unknown	Well design (cross-section)
	unknown	
pletion/protection & ble, also ons.	concrete cover with opening approx 0.5cms wide	
to open well and access	levers and brush to clean edges	
ell protection / Inking (1 = extreme, 2 = Iow)	2	
) of photographs		_
bedrock aquifer	Overburden	
reatic surface) or I rface	Water table	
bRef)	2.44	
		Environmental Limited

Clien	t & Project No.:	Work item & Project description:	
ral	Owner's name	Well type (bored/hand dug)	
	Townland	Date drilled / dug	
	Address	Drilled contractor name and their telephone number	
	Contact number	Date of site visit by Minerex operative	
	Usage (amount (m3/day) & for what purpose eg household use or feeding cattle)	Weather	
	National grid co-ordinates	Minerex site operative(s)	
	Reduced level (maODMalin) for ground level and ref point for water level monitoring	Any contamination observed	
	Reference point description (Use permanent ink) (eg 6" steel casing, ground level)		
)	Total depth (as reported by owner / drilling log (m))	Pump details	
Well Desi	Total depth (as measured using dipper by Minerex site operative (mb Ref point))	✓ Wellhead completion/protection & whether lockable, also recommendations.	
	Drilling log available (yes or no)	Tools needed to open well and access	
	Well diameter (mm)	Comment of well protection / vulnerability ranking (1 = extreme, 2 = moderate, 3 = low)	
	Well completion (casing details)	Number and ID of photographs	
	Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc	Overburden or bedrock aquifer	
Hydrogeo	Plans to increase output / drill another well and for what reasons	Water table(phreatic surface) or piezometric surface	
	Water quality / laboratory results (yes or no and- attached or not)	- Water level (mbRef)	
;	Overburden geology & thickness (m)		
	Bedrock geology		

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Owner's name Colm McEvoy W Townland Osberstown D. Address Osberstown D. Address Osberstown D. Contact number none D. Usage (amount (m3/day) & for what purpose eg household use or feeding cattle) domestic and agri. 8 x 75 gallon troughts and 7 W National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 A Reference point description (Use permanent ink) (eg 6' steel casing, ground level) toc G Total depth (as reported by owner / drilling log (m) 200ft or 140ft Pr Total depth (as measured using dipper by Minerex site operative (mb Ref point)) unknown W Vell completion (casing details) 200mm ref Well completion (casing details) 200mm casing capped with beaten lead cover Ni Well completion (casing details) 200mm casing capped with beaten lead cover Ni Metore of persons in house etc Plans to increase output / drill another well and none none W	Work item & Project description:	
By Townland Osberstown Display Address Osberstown Display Address Osberstown Display Contact number none Display Usage (amount (m3/day) & for what purpose eg household use or feeding cattle) domestic and agri. 8 x 75 gallon troughts and 7 people W National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 Ai Feference point description (Use permanent ink) (m) toc G G Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pri Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pri Drilling log available (yes or no) none Money Well diameter (mm) 200mm W Well completion (casing details) 200mm casing capped with beaten lead cover Ni Money Plans to increase output / drill another well and for what reasons none W	/ell type (bore	
Address Osberstown Difference Contact number none Difference Usage (amount (m3/day) & for what purpose eg household use or feeding cattle) domestic and agri. 8 x 75 gallon troughts and 7 W National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 Article (eg 6° steel casing, ground level) Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pr Total depth (as neasured using dipper by Minerex unknown W site operative (mb Ref point)) none Tref Drilling log available (yes or no) none Tref Well completion (casing details) 200mm Comm Well completion (casing details) 200mm casing capped with beaten lead cover Ni Well transe of well yield (g/d)(//sec) / consumption per day based on persons in house etc unknown Or Plans to increase output / drill another well and none none W	ate drilled / du	
Contact number none Dr. Usage (amount (m3/day) & for what purpose eg household use or feeding cattle) domestic and agri. 8 x 75 gallon troughts and 7 people W National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 Ar ref point for water level monitoring 200ft or 140ft Pr Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pr Total depth (as measured using dipper by Minerex wite operative (mb Ref point)) none Total depth (as measured using dipper by Minerex (mb Ref point)) None Drilling log available (yes or no) none Total with operative (mb Ref point)) None None Well completion (casing details) 200mm Common None None Mell completion (casing details) 200mm casing capped with beaten lead cover None None Plans to increase output / drill another well and for what reasons none Mone Wp	rilled contract	
Usage (amount (m3/day) & for what purpose eg household use or feeding cattle) domestic and agri. 8 x 75 gallon troughts and 7 W National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 Ai Reference point description (Use permanent ink) (eg 6" steel casing, ground level) toc G Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pi Total depth (as measured using dipper by Minerex usite operative (mb Ref point)) unknown W Drilling log available (yes or no) none Trow Well completion (casing details) 200mm Comm Well completion (casing details) 200mm casing capped with beaten lead cover Ni Well completion (casing details) 200mm casing capped with beaten lead cover Ni Pride dy based on persons in house etc unknown Or Or	ate of site visi	
National grid co-ordinates 287355, 2220972 M Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 A Reference point description (Use permanent ink) (eg 6" steel casing, ground level) toc G Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pri Total depth (as measured using dipper by Minerex site operative (mb Ref point)) unknown W Drilling log available (yes or no) none Tr Well diameter (mm) 200mm Cummer casing capped with beaten lead cover N Well completion (casing details) 200mm casing capped with beaten lead cover N Pri day based on persons in house etc unknown Or Or Plans to increase output / drill another well and for what reasons none W W	leather	
Reduced level (maODMalin) for ground level and ref point for water level monitoring 78 Ai Image: Second S	inerex site op	
Reference point description (Use permanent ink) (eg 6" steel casing, ground level) toc G Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Pt Total depth (as measured using dipper by Minerex site operative (mb Ref point)) unknown W Drilling log available (yes or no) none Total Well diameter (mm) Total depth (asing details) Well completion (casing details) 200mm casing capped with beaten lead cover Nu Mered available of well yield (g/d)(l/sec) / consumption per day based on persons in house etc unknown Or Plans to increase output / drill another well and for what reasons none W	ny contamina	
Discussion Total depth (as reported by owner / drilling log (m)) 200ft or 140ft Prime (m) Total depth (as measured using dipper by Minerex site operative (mb Ref point)) unknown W Drilling log available (yes or no) none Total well diameter (mm) Well diameter (mm) 200mm Crive (mb Ref point) Well completion (casing details) 200mm casing capped with beaten lead cover Ni Mell completion (casing details) 200mm casing capped with beaten lead cover Ni Plans to increase output / drill another well and for what reasons none W	routing detail	
Total depth (as measured using dipper by Minerex site operative (mb Ref point)) unknown W Drilling log available (yes or no) none Total Well diameter (mm) Well diameter (mm) 200mm Crive (mb Ref point) Well completion (casing details) 200mm casing capped with beaten lead cover Numerical mathematical site (mm) Drilling log available (yes or no) none Crive (mb Ref point) Numerical site (mm) Well completion (casing details) 200mm casing capped with beaten lead cover Numerical site (mm) Drilling log available (yes or no) none Well (mm) Or Plans to increase output / drill another well and for what reasons none W	ump details	
Drilling log available (yes or no) none Transmitter Well diameter (mm) 200mm Craws Well completion (casing details) 200mm casing capped with beaten lead cover No Well completion (casing details) 200mm casing capped with beaten lead cover No Plans to increase output / drill another well and for what reasons none W	/ellhead comp hether lockab commendatio	
Well diameter (mm) 200mm Criving with well of the second sec	ools needed to ater	
Well completion (casing details) 200mm casing capped with beaten lead cover N Soo Estimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc unknown O Plans to increase output / drill another well and for what reasons none W	omment of we ulnerability ra oderate, 3 = le	
Bestimate of well yield (g/d)(l/sec) / consumption per day based on persons in house etc unknown O Plans to increase output / drill another well and for what reasons none W	umber and ID	
Ø Plans to increase output / drill another well and for what reasons none W	verburden or	
	/ater table (phr i ezometric su i	
X Water quality / laboratory results (yes or no and attached or not) none W	ater level (mb	
Overburden geology & thickness (m) Clayey GRAVEL		
Bedrock geology Rickardstown Fm cherty often dolomotised limestone Imestone		

		WELL NUMBER: 1
ed/hand dug)	bored	Sketch of location / plan
ug	approx 8 years ago	
tor name and their ber	unknown but was reportedly from Co. Kerry	
it by Minerex operative	26/07/2013	-
	fine	
perative(s)	Conor Quinlan	- N ↑
ation observed	None	
ls	unknown	Well design (cross-section)
pletion/protection & ble, also ons.	well is inside pumphouse and the top of the steel casing is covered with a beaten lead cover, thus the borehole itself is inaccessible	
to open well and access	lead cutters	
ell protection / nking (1 = extreme, 2 = low)	1	
) of photographs		-
bedrock aquifer	bedrock	
reatic surface) or I rface	Water table	
bRef)	unknown	
		Environmental Limited