New Water Act Diversion Licence (254779-00-00) Annual Water Volume Increase



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Sign-off Sheet

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The Association of Professional Engineers,
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Executive Summary

The findings of this water supply evaluation is that the Q_{20} , estimated from re-analysis of the 2009 pumping test data (applying the modified Moell method) show a significantly larger Q_{20} for production well 1065774 than what was previously estimated in Stantec (2009). The Q_{20} derived from the recent pumping test re-analyses is 403.3 m³/day for production well 1065774 (compared to 154.5 m³/day previously estimated in 2009). Transmissivity values are also higher (66 m²/day at Well 1065774) than were estimated in 2009 (28.7 m²/day at Well 1065774).

Pumping test data and interpretation indicate that the aquifer should be able to sustain production from Well 1065774 pumping at the sought after rate of 100 m³/d (36,500 m³/year). This conservative interpretation indicates that the aquifer is moderately transmissive and that there is additional aquifer potential if needed for Well 1065774.

During the field verified well survey, no previously existing water wells were noted to be within 100 m of the production well. At this distance, residual drawdown is estimated to be 1.39 m following 20 year of groundwater production. Given the available head in the aquifer, this degree of drawdown is anticipated to be manageable given the current land uses in the area.

Fluoride concentrations were below the reportable detection limit for the observation well 1065732 sample and duplicate sample and at the reportable detection limit (0.05 mg/L) for the production well 1065774 sample.



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Introduction August 2015

1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was retained by 1510060 Alberta Ltd. o/a Lincoln Utility Corp. (LUC) to conduct a desktop and field-verified well survey, collect groundwater samples, and prepare a new Water Supply Assessment Report for a production well located at SE 22-041-28-W4M, Plan 0924731, Block 1, Lot 3, on the southeast side of Gull Lake, Alberta. The production well is identified in the Alberta Water Well Information Database (AWWID) as Well ID 1065774 and is completed at a depth of 18.3 m below ground surface. The production well is the point of diversion for Water Act licence No. 00254779-00-00, which allocates 14,000 m³/year of groundwater for uses as stated in the license. The driller's report for this production well and the associated observation well (Well ID 1065732) are presented in Appendix A for reference.

The report presented herein is intended to serve as an addendum to the original Water Supply Assessment Report (Stantec, 2009) which was completed for the same production well. At that time, the Water Act application sought authorization for a groundwater diversion of 14,000 m³/year. The 405 recreational and 74 residential lots (located at the adjacent Lincoln Ranch Development) currently planned will need approximately 36,500 m³/year of groundwater for recreational and domestic purposes. As such, LUC is now seeking authorization for an additional 22,500 m³/year and a new Water Act diversion license is required for this incremental amount. This report is intended to evaluate the capacity for this well to sustainably produce the additional 22,500 m³/year of groundwater that is sought.



Objective and Scope of Work August 2015

2.0 OBJECTIVE AND SCOPE OF WORK

In order to support the new groundwater diversion license application for the production well, the following requirements of Alberta Environment and Parks (AEP) as outlined in the *Guide to Groundwater Authorization* (Information Required when Submitting an Application under the Water Act; AENV, 2011), must be addressed:

- Carry out a minimum 48 hour pumping test for the production well and monitor water quality throughout the tests. The pumping test completed in 2009 was conducted at a pumping rate of 261.8 m³/hour and fulfills this requirement, so no additional pumping test was required;
- Water Quality Analyses following AENV (2011); and,
- Preparation of a Water Supply Evaluation report.

Stantec contacted AEP to clarify the requirements for a new *Water Act* licence for the previously existing production well, in consideration of previous hydrogeologic evaluation conducted in 2009 (Stantec, 2009). Based on this discussion, AEP indicated that the following tasks should be completed to support the additional license application:

- Conduct a desktop review and a field verified well survey within a 2 km radius of the
 production well and reassess the volume of groundwater allocated per year via licenses and
 registrations in order to assess current demands on the aquifer. Compare to the data
 obtained in 2009.
- Collect groundwater samples from the 2009 wells (ID 1065774 and 1065732) to assess fluoride concentrations. A groundwater sample from well 1065732 was submitted to AGAT laboratory for routine analysis parameters in accordance with the requirements of licence No. 00254779-00-00. LUC provided recent analytical results for well 1065774.

In 2011, AENV (now AEP) implemented the Modified Moell formula to evaluate the potential long-term yield (Q_{20}), with theoretical drawdown in the pumping well calculated after 100 minutes and 20 years of pumping. This was not the standard analytical technique applied when the Stantec (2009) report was submitted. A new pumping test evaluation with drawdown and recovery data collected in 2009 has been performed using analytical techniques applicable within the current guideline.

This report summarizes the results of the desktop and field verified well survey, the analytical results for both 2009 production and observation wells, and the reinterpretation of the 2009 pumping test.



Feld Program August 2015

3.0 FELD PROGRAM

3.1 WELL LOCATIONS

The locations of the production (Well ID 1065774) and observation (Well ID 1065732) wells were determined by Stantec during the execution of the field verified well survey with a handheld GPS unit. Table 1 presents the Northing and Easting coordinates (UTM Zone 12, NAD83 datum) of the wells. Figure 1 presents the locations of the wells.

Table 1 Surveyed Well Coordinates

	UTM Zone 12 NAD 83						
Well Name	Northing (m)	Easting (m)					
1065774	5,825,446	300,503					
1065732	5,825,437	300,518					
Note: Well coording	ates obtained with	handeld GPS.					

3.2 DESKTOP AND FIELD VERIFIED SURVEY OF REGISTERED WELLS

An online query of the AWWID conducted in June 2015 indicated that there were 89 registered water wells purported to be within 2 km of production well 1065774 and its respective observation well 1065732 (Appendix B, Table B-1). Based on this query, Stantec prepared a preliminary map of purported well locations and initiated a field verified well survey between June 29 and July 2, 2015. Over the course of the field verified well survey, additional wells which were identified in the field, but for which Well ID's could not be reconciled with the AWWID were added to the purported list to bring the total count to 118. All 118 wells included in the field survey are plotted in Figure 1. This mapping shows the wells by colour coded categories, including:

- Well has a reconciled ID and GPS surveyed location
- Well has a reconciled ID but the precise location is not known (only approximate)
- Well does not have a reconciled ID but has a GPS surveyed location
- Well does not have a reconciled ID but the approximate location is known
- Could not confirm location or status
- Structural test Hole
- Confirmed Decommissioned well

Over the course of the field verified well survey, well locations were refined (where possible) using a handheld GPS unit. This allowed for repositioning of wells from the centroid of LSD's or



Feld Program August 2015

quarter sections (as reported in the AWWID) in the final mapping product presented as Figure 1. Based on this repositioning of wells by improved GPS measurements, some of the wells which were purported to be within 2 km of the production well were confirmed to be outside of the 2 km radius. Conversely, additional wells purported to be outside of the 2 km radius were confirmed to be inside of the 2 km radius. By the end of the field survey, Stantec had determined that 97 of the 118 purported wells are suspected to be within the 2 km radius, while the remaining 21 purported wells were outside of the 2 km radius. Of the 97 wells that were suspected to be within the 2 km radius:

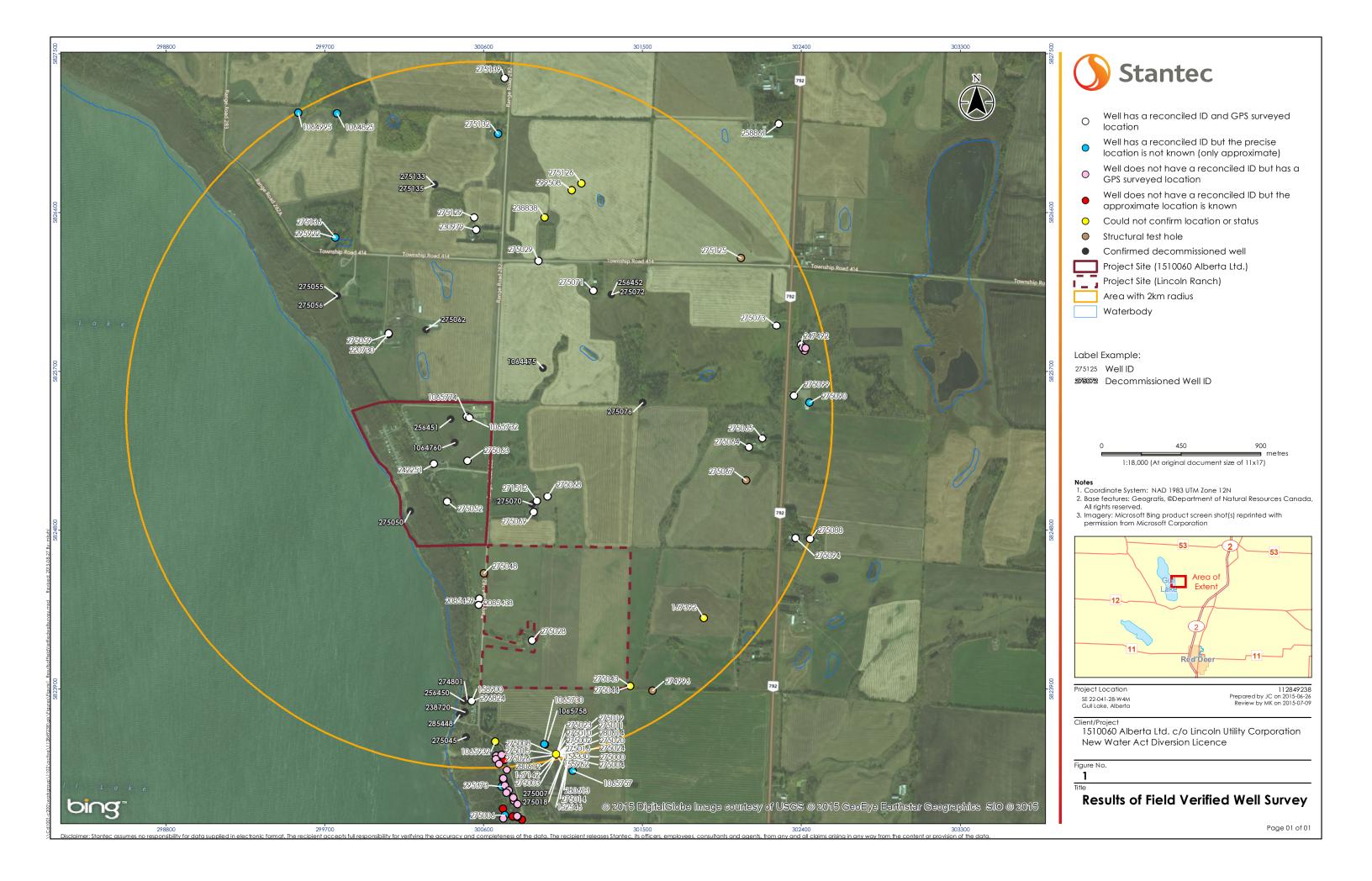
- 36 were confirmed to be in use (including one duplicate record for a re-completed well);
- 35 were confirmed to be test holes, abandoned wells, or are not longer in use; and
- 26 could not be found, or the landowner was not available for interview by Stantec.

A summary of the water well records, current owner, depths of completion, static water levels, and current use, is provided in Appendix B (where the information was available). Five water well records are associated with the project site.

In 2009, a desktop well survey completed by Stantec indicated the purported presence of 66 wells within a 2 km radius of the production well. Based on the field verified well survey, there are now 97 wells suspected to be within the 2 km radius, representing approximately 31 additional well records. The exact number of additional wells is difficult to determine due to the number of wells that cannot be reconciled with the AWWID.

Based upon the field verified well survey completed in the vicinity of production well 1065774, there are no other wells records within a 100 m radius of the production well (the nearest third party owned well is situated 625 metres from the production well). The proposed pumping rate and anticipated drawdown based on pumping test analysis (see Section 4) indicates that there is little possibility for negative interference effects to manage or monitor as a result of increased pumping from the production well.





Analysis and Discussion August 2015

4.0 ANALYSIS AND DISCUSSION

Data from the constant rate pumping test conducted on April 20th, 2009 were re-analyzed to derive estimates of the aquifer's hydraulic parameters. Pumping test parameters are summarized in Table 2 below for the production well (ID 1065774) and observation well (ID 1065732). Water level data are shown in graphical format in Appendix C. Various time-drawdown and drawdown-distance curves of both pumping and recovery periods were analyzed to estimate the hydraulic parameters. Cooper & Jacob, Theis recovery, Barker (confined and fractured aquifer), and Moench (leaky aquifer) solutions were used to estimate the aquifer parameters at the production well (Appendix C).

Table 2 Summary of Pumping Test Parameters

Well ID	Well Type	Distance from Production Well	Water Level Before Pumping (BTOC)	Drawdown at the End of Pumping Period (48 Hours)	Water Level after 48 hours Recovery (BTOC)	Residual Drawdown	Residual Drawdown as % of the Total Drawdown After 48 Hours Recovery
		(m)	(m)	(m)	(m)	(m)	%
1065774	Production		3.86	5.97	4.14	0.28	4.7
1065732	Observation	18	3.62	4.74	3.88	0.26	5.5

A summary of the estimated hydrogeologic parameters calculated from all pumping and recovery test data is presented in Table 3. Calculated transmissivities ranged from 19.99 to 228.12 m²/day at the production well as derived from various analytical solutions. Analytical calculations following Cooper & Jacob, Theis recovery, Barker (confined and fractured aquifer) indicate an average value of 126.29 m²/day at the production well (Table 3). A sensitivity analysis conducted for the 20 years forward solution with the Moench (leaky aquifer) solution suggested an average transmissivity value of 66 m²/day. This value lies between lower values of 26 m²/day for the initial portions of the pumping test and higher values of 228 m²/day for conditions observed in the final portion of the pumping test. The average hydraulic conductivity of 21.7 m/day is typical for medium to fine sand deposits (Domenico and Schwartz, 1990) corresponding in this case to poorly cemented or weathered sandstone. The aquifer shows confined conditions prior to pumping, transitioning to leaky conditions as the pumping progresses over time. This analysis considered the aquifer to be interbedded sandstone with low permeability shale units, confined by overlying shale units and clay till deposits.

It should be noted that over the course of the 48 hour tests, limited recharge boundaries were observed 1,500 minutes after the start of the pumping test (Figures C-1, C-2, C-3, C-5, and C-6. The calculated ratio of storativity during pumping (S) to storativity during recovery (S') from



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residual drawdown data are higher than 1 (1.56; Table 3 and Figure C-4 in Appendix C), suggesting the extent of the aquifer may be influenced by one or more recharge boundaries (Midwest Geoscience Group, 2013). Recharge conditions may be induced by vertical flow from alternating sandstones and shale deposits, as the production well 1065774 is screened only across one 3.04 m thick sandstone unit.

Several analytical solutions including one or two hypothetical recharge boundaries corresponding to the lake shore to the southwest (located at 580 m from well 1065774) and another boundary 500 to the northeast were evaluated, but did not result in better fit between the theoretical curves and observed water level response. The same result was found for a sensitivity analysis conducted using the Moench analytical solution for leaky aquifer conditions.

Q20 POTENTIAL LONG-TERM YIELD

Following the analytical methods recommended in the AENV guidelines (2011), potential long-term safe yield (Q_{20}) were calculated by applying the Modified Moell method (Maathuis and van der Kamp) for confined aquifers. Aquifer parameters used to calculate the long term safe yields were based upon values derived from the aquifer pumping tests as were summarized in Table 3. The parameters used to calculate the Q_{20} are shown in Table 5 along with the calculated long term safe yields as determined through use of the Modified Moell method.

Two separate sensitivity analysis were conducted applying the Barker fractured aquifer and Moench leaky aquifer solutions for 20 years of continuous pumping. Measured and theoretical drawdown values for both solutions are summarized in Table 4 for 100 minutes, 1,440 minutes, 2,880 minutes, and 20 years. Simulated drawdowns using the Barker analytical solution achieve a better fit for the early time period (until 1,440 minutes), while simulated drawdowns using the Moench analytical solution achieve better fit for latter time periods (1,440 to 2,880 minutes). The Barker solution overestimates drawdown after 20 years of continuous pumping (21.09 m) which may not be realistic as it doesn't consider recharge conditions observed in the final part of the pumping test. As such, the Moench solution was selected as more representative of long-term pumping conditions and the theoretical drawdown values derived from this forward calculation were used to calculate the Q₂₀.



TABLE 3. SUMMARY OF ESTIMATED HYDROGEOLOGICAL PARAMETERS FOR A 48-HOUR PUMPING TEST CONDUCTED AT WELL 1065774

Well	Analytical Method			Conductivity	Average Storage Coefficient		Comments S = Storativity during pumping S' = Storativity during recovery
Well 1065774 Pumping Test							
Well 1065774	Cooper-Jacob (Confined Aquifer Solution)	Aqtesolv Pro	26.82	8.8			Curve slope decreases after aprox. 1500 minutes
Well 1065732 Obs	Cooper-Jacob (Confined Aquifer Solution)	Aqtesolv Pro	27.59	9.1	5.84E-04		Curve slope decreases after aprox. 1500 minutes
Well 1065774/1065732	Theis Recovery	Aqtesolv Pro	19.99	6.6		1.56	
Well 1065774/1065732	Barker (Confined Aquifer Solution)	Aqtesolv Pro	227.09	74.7	8.34E-05		
Well 1065774/1065732	Barker (fractured Aquifer Solution)	Aqtesolv Pro	228.12	75.0	3.29E-06		
Well 1065774/1065732	Barker (fractured Aquifer Solution; composite plot)	Aqtesolv Pro	228.12	75.0	3.29E-06		
Well 1065774/1065732	Moench (Leaky Aquifer Solution, 20 Years Forward Solution)	Aqtesolv Pro	66.00	21.7	1.55E-05		
Well 1065774/1065732	Radial Distance Displacement Zero After 20 Years Continuous Pumping	Aqtesolv Pro	66.00	21.7	1.55E-05		Radial Distance aprox. 560 m
	Values Used for Q20 Calculation Well 1065774		66.00	21.7	1.55E-05		Obtained from sensitivity analysis

Notes:

Values highlighed in yellow were taken as reference for Q₀ calculations. Lower Storage Coefficient values are shown for illustrative purposes and were not taken into account for Q₀ calculations and they were deemed to be non-representative of long term conditions.

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Table 4 Comparison of Measured and Theoretical Drawdowns at Well 1065774

				Measured and Theoretical (th) Drawdown (m) at Specific Time Intervals						
Well Name	Analytical Solution	Transmissivity	Storage Coefficient	100 minutes	100 min th	1440 minutes	1440 min th	2880 minutes	2880 min th	20 Years
		m²/d		m	m	m	m	m	m	m
Well 1065774	Barker (Fractured Aquifer)	112.5	3.66E-05	3.45	3.58	5.51	5.50	5.97	6.14	21.09
Well 1065774	Moench (Leaky Aquifer)	66	1.55E-05	3.45	5.08	5.51	5.87	5.97	5.97	6.11

The parameters used to calculate the Q_{20} are shown in Table 5 along with the calculated long term safe yields as determined through use of the Modified Moell method.

Table 5 Parameters for Q20 Evaluation

Well Name	Average Transmissivity	Average Storage Coefficient	H°	Pumping Rate	\$100 min	S _{20yrs} Theor	S100 min Theor	Q ₂₀ Modified Moell Method
	m²/d		m	m³/d	m	m	m	m³/d
Well 1065774	66	1.54E-05	9.86	261.8	3.45	6.11	5.08	403.34

Notes:

 $\mbox{H}_{\mbox{\scriptsize a}}$ Available head (distance between the non-pumping water level and the top of the aquifer)

S Drawdown

Q₂₀ Long term safe yield

Based upon the value calculated in Table 5, the potential long term yield for the aquifer is approximately 403 m³/d in the vicinity of Well 1065774. Thus it appears that the aquifer should be able to sustain production from Well 1065774 at the target rate of 100 m³/d (36,500 m³/year). This interpretation indicates that the aquifer is moderately transmissive and that there may be additional aquifer potential if needed at Well 1065774.



Analysis and Discussion August 2015

Theoretical drawdown calculations following 20 years of constant pumping at this rate (a conservative assumption) suggest that sufficient head would be available in the aquifer for Well 1065774. The drawdown would be 6.11 m for Well 1065774 (Figure C-10, Appendix C). This drawdown leaves available head above the top of the aquifer in which the well is installed.

This interpretation is based on data observed during a 48-hour test that may be not long enough to extrapolate drawdown values after 20 years of continuous pumping.

POTENTIAL IMPACT ON THE AQUIFER AND OTHER USERS

The long term effects of pumping of the aquifer based on the analysis described above were calculated at various distances after 20 years of sustained pumping (Table 6). Calculated drawdowns after 20 years continuous pumping show measurable drawdown at 1, 10, 100, and 100 m distance from Well 1065774, dissipating to negligible drawdown at a theoretical distance of 560 m (Figure C-12, Appendix C). Leaky aquifer response as a result of vertical recharge may potentially result in smaller drawdowns over time from at well, as this response was observed during latter time periods during the pump testing.

Table 6 Predicted Drawdown at Various Distances after 20 Years of Continuous Pumping

Distance (m) from Production Well 1065774	Drawdown (m)
1	4.38
10	2.90
100	1.39
560	Negligible



Groundwater Analytical Results August 2015

5.0 GROUNDWATER ANALYTICAL RESULTS

On June 30, 2015 Stantec collected a groundwater sample and duplicate sample from observation well 1065732 and submitted them for laboratory analysis. A groundwater sample from production well 1065774 was previously collected by the Operator on behalf of LUC on May 28, 2015 and was subsequently analyzed at their laboratory for routine potability parameters. Results from this sample were forwarded to Stantec for inclusion in this report.

Samples collected by Stantec for laboratory analysis were collected in laboratory supplied containers and were filtered and/or preserved as required. Samples were kept in coolers with ice to regulate temperature and delivered to AGAT Laboratories in Edmonton. Groundwater samples were submitted for analyses including major ions, fluoride, and nutrients, (Appendix D).

Results of the groundwater quality analysis are presented in Table 7. Copies of the laboratory analytical reports are provided in Appendix D for reference. Groundwater quality data were compared to the *Guidelines for Canadian Drinking Water Quality* (Health Canada, 2012) (GCDWQ) and to the Alberta Tier 1 Groundwater Remediation Guidelines values for potable use (AENV 2014). A summary of the analytical results is presented in the following sections.

5.1 MAJOR IONS

The groundwater is considered fresh with a relatively low degree of mineralization. Total dissolved solids (TDS) concentrations for observation well 1065732 were reported as 341 and 330 mg/L for the sample and its duplicate, respectively. Similarly, a TDS concentration of 365 mg/L was reported for production well 1065774.

Figure 2 presents a piper plot of the groundwater major ion chemistries. The three samples sets plot in nearly identical positions within the calcium-magnesium-bicarbonate facies. This type of water chemistry is indicative of shallow water that did not have significant contact with till material, which are generally high in sulphate. Sodium concentrations were relatively low at 21.6 and 22.5 mg/L in the sample and duplicate from observation well 1065732, respectively. Sodium concentration at production well 1065774 was also similar, at 28.3 mg/L. Calcium concentrations were 60.5 and 63.1 mg/L for observation well 1065732 sample its duplicate, respectively. Similarly, calcium concentration at observation well 1065774 was 71.7 mg/L. Sulphate concentrations were 7 and 8 mg/L in the observation well 1065732 sample and duplicate, respectively, and 20 mg/L in the production well 1065774 sample. Chloride concentrations were 1.0 mg/L in both the observation well 1065732 sample and duplicate, and 8.73 mg/L in the production well 1065774 sample. Fluoride concentrations were below the reportable detection limit for the observation well 1065732 sample and duplicate sample and at the reportable detection limit (0.05 mg/L) for the production well 1065774 sample.



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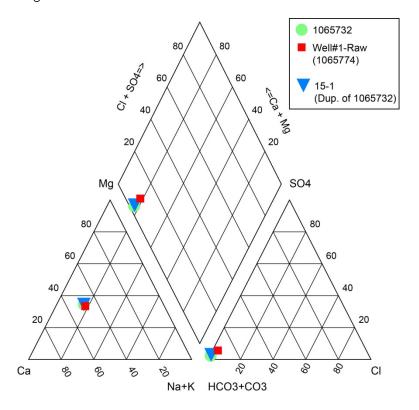


Figure 2 Piper Diagram of Major Cations and Anions

Analytical results for major ion concentrations (Table 7) met the GCDWQ requirements for all parameters analyzed in both the production and observation well.

5.2 METALS

Table 7 presents dissolved metals concentrations for the sample and duplicate collected from observation well 1065732 and from the sample collected from production well 1065774. In general, metals concentrations were within expected ranges and do not indicate any unusual or unexpected concentrations that may be attributable to the presence of anthropogenic contaminants.

Iron and manganese are commonly observed to have elevated concentrations in Alberta that are reflective of background conditions. Iron concentrations were below reportable detection (0.1 mg/L) limit for the observation well 1065732 sample and duplicate. Iron concentration was 0.08 mg/L for the production well 1065774 sample. All iron concentrations were below the aesthetic objective of 0.3 mg/L.

Manganese concentrations were above the aesthetic objective of 0.05 mg/L in the observation well samples with concentrations of 0.085 and 0.083 mg/L for the sample and duplicate,



Groundwater Analytical Results August 2015

respectively. Manganese was not tested for the sample collected from production well 1065774.

5.3 QUALITY ASSURANCE/QUALITY CONTROL RESULTS

Sample QA/QC documentation was reviewed including; chain of custody, sample temperatures, certificate of analysis, hold times. No issues for follow up were noted for the laboratory submissions. The laboratory QA/QC data including; lab duplicate relative percent difference (RPD), lab spike, matrix spike, method blank and surrogate recovery data were reviewed and were generally found to be within acceptable criteria. Laboratory QA/QC procedures and analysis are included with the analytical results in Appendix D.

A duplicate sample was collected as part of the QA/QC program to measure the precision or reproducibility of the analytical data between samples. Duplicate samples were collected from the production well near the end of the pumping period. The relative percent difference (RPD) between the sample and duplicate results was calculated for each sample or, when the parameter result was within five times the detection limit, the Absolute Difference (AD) between the sample and duplicate was calculated. An RPD of 20% or less, or an AD less than or equal to the laboratory-reporting limit, is generally considered acceptable for duplicate groundwater samples (Zeiner, 1994). No parameter exceeded the RPD criteria of 20% and thus the results of the analysis are deemed to be generally reproducible.

Standard Methods (2005) indicates an ion balance of $100\% \pm 10\%$ as a typically acceptable criterion for water with an anion sum less than 800 meq/L. Values outside the commonly acceptable limits may arise for a number of reasons (e.g. analytical interference, unknown constituents, or reporting errors). Ion balance values were 101% and 113% in the observation well 1065732 sample and its duplicate sample. The ion balance was 99.8% in the production well 1065774 sample (Table 7).



Table 7 - Water Analytical results: Indicator Parameters 1510060 Alberta Ltd. - Gull Lake Alberta

Parameter	Units	AESRD 2014 ¹	WELL#1-RAW (1065774)	1065732	15-1 (Duplicate)	Q	A/QC
			28-May-15	30-Jun-15	30-Jun-15	RPD/AD	Method
Routine							
рН	pH Units	6.5-8.5	8.38	7.86	7.91	1%	RPD
p - Alkalinity (as CaCO3)	mg/L	NG	NT	<5	<5	NC	NA
T - Alkalinity (as CaCO3)	mg/L	NG	337.00	298	275	8%	RPD
Bicarbonate	mg/L	NG	399.00	363	336	8%	RPD
Carbonate	mg/L	NG	6.00	<5	<5	NC	NA
Hydroxide	mg/L	NG	<5	<5	<5	NC	NA
Electrical Conductivity	uS/cm	NG	662.00	569	564	1%	RPD
Fluoride	mg/L	1.5	0.05	< 0.05	<0.05	NC	RPD
Chloride	mg/L	120	8.73	1	1	0	AD
Nitrite	mg/L	NG	NT	< 0.05	<0.05	NC	NA
Nitrite-N	mg/L	0.06	<0.010	<0.02	<0.02	NC	NA
Nitrate	mg/L	NG	NT	<0.5	<0.5	NC	NA
Nitrate-N	mg/L	3.0	<0.020	<0.02	<0.02	NC	NA
Nitrate+Nitrite - Nitrogen	mg/L	NG	<0.022	<0.02	<0.02	NC	NA
Sulphate	mg/L	429	20.00	7	8	13%	RPD
Dissolved Calcium	mg/L	NG	71.70	60.5	63.1	4%	RPD
Dissolved Magnesium	mg/L	NG	30.00	25.9	27.0	4%	RPD
Dissolved Sodium	mg/L	200	28.30	21.6	22.5	4%	RPD
Dissolved Potassium	mg/L	NG	3.93	3.6	3.8	5%	RPD
Dissolved Iron	mg/L	0.3	0.08	<0.1	<0.1	NC	NA
Dissolved Manganese	mg/L	0.05	NT	<u>0.085</u>	<u>0.083</u>	2%	RPD
Calculated TDS	mg/L	500	365.00	341	330	3%	RPD
Hardness	mg CaCO3/L	NG	303.00	258	269	4%	RPD
Ion Balance	%	NG	99.80	101	113	11%	RPD

Notes:

NA-Not Applicable

NG - No guideline established

NC - Not calculated

RPD - Relative Percent Difference

AD - Absolute Difference (used when concentrations are less than 5 times the RDL)

NT-Parameter was not tested for.

 $\textbf{0.08-} \textbf{Total iron not dissolved}. \ \textbf{Notice that the total does not exceed the guideline for dissolved}.$

 $\underline{\textit{Bold}}$ - Exceeds applicable guideline

1 - Alberta Environment and Sustainable Resource Development (2014) Tier 1 Soil and Groundwater Guidelines within a residential area.

Summary and Conclusions August 2015

6.0 SUMMARY AND CONCLUSIONS

The findings of this water supply evaluation is that the Q_{20} , estimated from re-analysis of the 2009 pumping test data (applying the modified Moell method) show a significantly larger Q_{20} for production well 1065774 than what was previously estimated in Stantec (2009). The Q_{20} derived from the recent pumping test re-analyses is 403.3 m³/day for production well 1065774 (compared to 154.5 m³/day previously estimated in 2009). Transmissivity values are also higher (66 m²/day at Well 1065774) than were estimated in 2009 (28.7 m²/day at Well 1065774).

Pumping test data and interpretation indicate that the aquifer should be able to sustain production from Well 1065774 pumping at the sought after rate of 100 m³/d (36,500 m³/year). This conservative interpretation indicates that the aquifer is moderately transmissive and that there is additional aquifer potential if needed for Well 1065774.

During the field verified well survey, no previously existing water wells were noted to be within 100 m of the production well. At this distance, residual drawdown is estimated to be 1.39 m following 20 year of groundwater production. Given the available head in the aquifer, this degree of drawdown is anticipated to be manageable given the current land uses in the area.

Fluoride concentrations were below the reportable detection limit for the observation well 1065732 sample and duplicate sample and at the reportable detection limit (0.05 mg/L) for the production well 1065774 sample.



References August 2015

7.0 REFERENCES

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- Midwest Geoscience Group. 2013. Advanced Aquifer Testing Techniques Featuring Aqtesolv™. Calgary, Alberta, June 19-23, 2013.
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 American Public Health Association. 2005.
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7.1

Appendix A
Drillers Reports



GOWN ID

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Imperial Export to Excel

1065774

GIC Well ID GoA Well Tag No. Drilling Company Well ID

100077

Date Report Received 2009/05/05

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country FRASER, GLEN 7891 - 50 AVE RED DEER **ALBERTA** CA T4P 2S4 1/4 or LSD SEC TWP W of MER Block Additional Description RGE Plan Location Lot NORTH OF EXISTING WELLS 8 22 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.542600 Longitude -113.940970 912.57 m m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Other

Type of Work
New Well

Formation Log	Measurement in Metric		
Depth from ground level (m)	Water Bearing	Lithology Description	
6.10		Brown Clay & Sand	
13.72		Gray Clay & Rocks	
16.76		Gray Sandstone	
18.29		Gray Shale	

Yield Test Summary Measurement in					
Recommended Pump	Rate	L/min			
Test Date Wat	ter Removal Rate ((L/min)	Stati	ic Water Level (m)	
2009/04/15	181.84	4.58			
Well Completion			M	easurement in Metric	
Total Depth Drilled F	inished Well Depti	h Start E	Date	End Date	
18.29 m 1	8.29 m	2009/0	4/15	2009/04/15	
Borehole					
Diameter (cm)				To (m)	
15.88 12.70	0.	.00 3.72		13.72 18.29	
Surface Casing (if ap		Well Cas Other			
	14.12 cm		Size OD :	11.43 cm	
Wall Thickness :					
Bottom at :				12.19 m	
				18.29 m	
Perforations					
From (m) To (m)		Slot Length(Hole or Slot Interval(cm)	
13.72 16.76	0.953			0.00	
Perforated by Dri	II				
Annular Seal Ceme	nt/Grout				
Placed from	0.00 m to	13.72	m		
Amount		_			
Other Seals					
Туре		At (m)			
Drive	n			3.72	
Screen Type					
Size OD :	cm				
From (m)		(m)		Slot Size (cm)	
Attachment					
Top Fittings		Fittings			
Pack					
Type Unknown		Grain Size			
Amount	Unknown				

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDÉL

Company Name

ALKEN BASIN DRILLING LTD.

Certification No

40628A

Copy of Well report provided to owner Yes Date approval holder signed

es 2009/04/15

Printed on 7/21/2015 3:32:59 PM Page: 1 / 2



GOWN ID

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Imperial Export to Excel

1065774

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received 2

2009/05/05

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Country Town Province FRASER, GLEN 7891 - 50 AVE. RED DEER **ALBERTA** CA T4P 2S4 1/4 or LSD SEC TWP Additional Description RGE W of MER Block Plan Location Lot NORTH OF EXISTING WELLS 8 22 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude <u>52.542600</u> Longitude <u>-113.940970</u> 912.57 m m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m Measurement in Metric Additional Information 100.00 cm Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 13.72 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Top of Casing Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 2009/04/15 12:00 AM 4.58 m Minutes:Sec 4.58 0:00 7.92 Method of Water Removal 5.98 1:00 6.35 6.25 Type Pump 2:00 6.18 6.34 3:00 6.08 181.84 L/min Removal Rate 6.42 4:00 6.02 Depth Withdrawn From 18.40 m 6.49 5:00 5.96 5.91 6.55 6:00 If water removal period was < 2 hours, explain why 6.59 7:00 5.88 8:00 5.85 6.64 6.67 9:00 5.82 6.70 10:00 5.79 5.75 6.75 12:00 6.80 14:00 5.70 6.84 16:00 5.67 6.93 20:00 5.63 7.01 25:00 5.53 7.09 30:00 5.49 7.16 35:00 5.44 7.22 40:00 5.40 7.35 50:00 5.34 7 44 60:00 5.28 7.58 75:00 5.19 7.70 90:00 5.10 7.80 105:00 5.01 120:00 7.92 4.92 Water Diverted for Drilling Diversion Date & Time Water Source Amount Taken SHOP 5455 31 2009/04/15 7:00 AM 1

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name
ALKEN BASIN DRILLING LTD.

Certification No

40628A

Copy of Well report provided to owner Yes Date approval holder signed

s 2009/04/15

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Proposed Well Use

Other

Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID 1065732 GoA Well Tag No.

Drilling Company Well ID Date Report Received 2009/05/15

GOWN ID

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Province Country Town FRASER, GLEN (DEGRAFF 7891-50 AVE. RED DEER **ALBERTA** CA T4P 2S4 SUB.) 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location 22 41 4 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.542520 Longitude -113.940960 Elevation m m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m **Drilling Information** Method of Drilling Type of Work Rotary New Well

Formation Log Measurement in Metric Water Depth from Lithology Description ground level (m) Bearing 1.22 Clay 3.35 Sand 6.10 Brown Clay 13.41 Gray Clay 16.15 Gray Sandstone 18.29 Gray Shale

Yield Test Summary Measurement in N						/letric	
Recommended Pump RateL/min							
Test Date	Water Removal Rate (L/min)			Static Water Level (m)			
2009/03/19		181.84					
Well Completion					Measurem	nent in M	/letric
Total Depth Drille					End		
18.29 m	18.29	18.29 m 2009/03/19 2009/03/			/03/19		
Borehole							
Diameter (cm)		(m)		To (
12.70 Surface Casing Steel	(if applic	0.eable)	Well Ca Plastic	asing/Li	18.7 ner	29	
	:1	4.12 cm		Size O	D: <u>11</u>	.43 cm	
Wall Thickness	Size OD : 14.12 cm ickness : 0.650 cm				s: 0.6		
Bottom at	t: <u>1</u>	3.41 m		Top at : 12.19 m			
			I		at :18		
Perforations							
		Diameter or Slot	Slo	\+	Hole or	Clot	
From (m) T	o (m)	Width(cm)	Lengtl		Interval		
13.41	16.46	0.953			30.4		
Perforated by	Drill						
Annular Seal (Comont/G	rout					
		0 m to	13.4	1 m			
_							
Other Seals			_				
	Type				At (m)		
Screen Type							
Size OD) :	cm					
From (m			(m)		Slot Size	e (cm)	
Attachmen	t						
Top Fittings Bottom Fittings							_
Pack							
Type Unknow	vn		Grain	Size			
Amount	l	Jnknown					

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

83061A

Copy of Well report provided to owner Yes

Date approval holder signed

2009/03/19

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GOWN ID

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

1065732

Drilling Company Well ID Date Report Received

2009/05/15

Owner Nan	me GLEN (DEGRA		Address	VE.		Town RED	DEER		Province ALBERTA	Country CA	Postal Code T4P 2S4
	1/4 or LSD 8	SEC 22	<i>TWP</i> 41	RGE 28	W of MER	Lot	Block	Plan	Additiona	I Description	
Measured f	from Boundary	of m from m from			Latitude <u>5</u> How Location	2.542520 n Obtained	Longi	es (NAD 83) itude <u>-113.94</u>	0960	Elevation How Elevation Obt	ained
A -1-1'1' 1	Lafa ann a Can				Hand held au	itonomous	GPS 20-30ı	m		Hand held autonon	nous GPS 20-30m
	Information										Measurement in Metric
	From Top of Ca				50.01 cm						
is Artesia.	n Flow		I feete					trol Installed			
	Rate		L/min								
	nded Pump Ra				L/mir	<u>Pum</u>	o Installed _			Depth	<u>m</u>
Recomme	nded Pump Inta	ake Depth	(From TOC)		12.19 m	Тур	9		Make		H.P
										Model (Output Ra	ating)
Did you	Encounter Salii	ne Water	(>4000 ppm 7	DS)	Depth		m	Well Disinfe	ected Upon C	ompletion	
				Gas	Depth		m	Geop	hysical Log T	aken	
									Submitted to E		
							Sample C	allected for Pa	ntahility	Subn	nitted to ESRD
Addition	nal Comments o	n Well					Sample Ci	ollected for F	лаышу	<u> </u>	nitted to ESRD
7100111011	iai commonio e	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
Yield Test								Take	n From Top		Measurement in Metric
Test Date		Start Ti	me	Stat	ic Water Level					o water level	
2009/03/19	9	11:00 A	M		5.72 m		Draw	vdown (m)		psed Time nutes:Sec	Recovery (m)
								5.72	1*11	0:00	8.15
Method of	f Water Remov	ral .						7.00		1:00	6.79
	Type	Pump						7.18		2:00	6.62
F	Removal Rate		181.84 L/min					7.29		3:00	6.50
	thdrawn From							7.35		4:00	6.43
Воритин	_		12.00 111					7.39 7.44		5:00 6:00	6.37 6.34
If water rei	moval period w	as < 2 ho	urs explain w	hv				7.44		7:00	6.29
n water rer	movar pomoa w	40 12 770	aro, oxpiani w	''				7.49		8:00	6.26
								7.51		9:00	6.23
								7.52		10:00	6.20
								7.57		12:00	6.15
								7.59		14:00	6.12
								7.61		16:00	6.00
								7.66		20:00	5.92 5.84
								7.70 7.73		25:00 30:00	5.84
								7.77		35:00	5.74
								7.80		40:00	5.72
								7.86		50:00	
								7.91		60:00	
								7.98		75:00	
								8.04		90:00	
								8.10 8.15		105:00 120:00	
								0.13		120.00	
Water Div	erted for Drill	ing									
		<u> </u>		A	T-/				D:- '	D-4- 0 T:	
Water Sour	rce			An	nount Taken L				Diversion	Date & Time	
						•					

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Company Name ALKÉN BASIN DRILLING LTD. Certification No

83061A

Copy of Well report provided to owner Yes

Date approval holder signed 2009/03/19

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Appendix B Field Verified Well Survey



TABLE B-1 Reconnaissance Report

View in Imperial

Export to Excel

Groundwater Wells

Please click the water Well ID to generate the Water Well Drilling Report.

Well ID	LSD	SEC	TWP	RGE	М	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	СНМ	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIAM (m)
<u>152546</u>	SW	14	041	28	4	FORRESTER WATER WELL DRILLING (1981) LTD.	1990-08-08	44.20	New Well	Domestic		15		VANDERMEULEN, TED	10.06	18.18	14.12
<u>155962</u>	SW	14	041	28	4	UNKNOWN DRILLER		36.58	Chemistry	Domestic				SCHEIT, HELGE			0.00
<u>156330</u>	SW	14	041	28	4	FEHR DRILLING	1990-07-16	42.06	New Well	Domestic		15		MCDONALD, DALE	24.38	13.64	16.81
<u>158900</u>	8	15	41	28	4	J.C. DRILLING	1991-06-12	44.20	New Well	Domestic		10		LACOMBE FISH & GAME	9.75	45.46	16.81
<u>167142</u>	SW	14	041	28	4	FORRESTER WATER WELL DRILLING (1981) LTD.	1992-06-08	47.24	New Well	Domestic		18		WANDLEN, RAY	13.11	22.73	14.12
<u>167392</u>	NE	14	041	28	4	UNKNOWN DRILLER		30.48	Chemistry	Domestic				SCOTT, WENDY			0.00
220730	14	22	41	28	4	ALKEN BASIN DRILLING LTD.	1993-09-23	24.38	New Well	Industrial		5		NORTHSTAR RES/BRELCO 14E	4.57	227.30	13.97
<u>230979</u>	01	27	041	28	4	J.C. DRILLING	1993-09-13	20.12	New Well	Domestic & Stock		5		HALBERG, NEIL	7.62	45.46	16.81
238720	8	15	41	28	4	ALKEN BASIN DRILLING LTD.	1994-03-02	36.58	New Well	Domestic		5	4	OWENS, FRED	10.67	136.38	13.97
238838	04	26	041	28	4	ALKEN BASIN DRILLING LTD.	1994-06-07	36.58	New Well	Industrial		10	3	PAN CAN OIL/SEDCO 95#RIG WELL	25.91	181.84	0.00
<u>242251</u>	08	22	041	28	4	INGLIS WATER WELL DRILLING	1994-09-23	53.34	New Well	Domestic & Stock		17	25	DEGRAFF RESORT	6.40	90.92	13.97
247492	09	23	041	28	4	J.C. DRILLING	1994-10-24	44.20	New Well	Domestic		9	24	KEN RAY HLDG	8.35	68.19	16.81
<u>256450</u>	8	15	41	28	4	ALKEN BASIN DRILLING LTD.	1994-08-15	24.38	New Well	Industrial		3	3	NORTHSTAR RES/KENTING 31#RIG	3.05	409.15	13.97
<u>256451</u>	8	22	41	28	4	ALKEN BASIN DRILLING LTD.	1994-08-15	24.38	New Well	Industrial		3	3	NORTHSTAR RES/KENTING 31E	3.05	454.61	13.97
256452	14	23	041	28	4	ALKEN BASIN DRILLING LTD.	1994-06-11	18.29	New Well	Industrial		5	4	RUSTUM PETRO 93/SIMMONS 25#RIG	9.14	295.50	0.00
<u>258861</u>	NW	23	041	28	4	ALKEN BASIN DRILLING LTD.	1995-08-21	43.59	New Well	Domestic & Stock		6	7	STEWART, DEAN	17.37	181.84	13.97
<u>271512</u>	SW	23	041	28	4	BROWN JIM	1969-09-08	39.62	New Well	Stock		5		KOSTER, ANDREW	0.00	54.55	13.64
274801	8	15	41	28	4	ALBERTA EAGLE DRILLING LTD.	1985-08-29	27.43	New Well	Domestic		6		WHITMER, L.	11.28	136.38	11.43
<u>274996</u>	07	14	041	28	4	UNKNOWN DRILLER	1953-10-06	280.42	Structure Test Hole	Industrial				CALIF STD CO#390			0.00
275000	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1973-10-04	30.48	New Well	Domestic		3		BRUINS PLUMBING	11.58	68.19	13.34

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Well ID	LSD	SEC	TWP	RGE	М	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	СНМ	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIAM (m)
275002	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1971-07-01	32.00	New Well	Municipal		3		LACOMBE, COUNTY OF	9.45	54.55	13.34
275003	SW	14	041	28	4	AL'S WATER WELLS LTD	1972-08-28	21.95	New Well	Domestic		2		BRUINS, R.C.	7.32	45.46	12.70
275004	SW	14	041	28	4	AL'S WATER WELLS LTD	1972-05-16	20.12	New Well	Industrial		3		BC PLUMBING	6.71	45.46	12.70
275006	SW	14	041	28	4	UNKNOWN DRILLER		32.61	Chemistry	Domestic	<u>2</u>			FREEMAN, JEAN			0.00
275007	SW	14	041	28	4	RICHMOND WW DRLG	1978-06-20	27.43	New Well	Domestic		3		SCARLETT, RALPH	7.62	15.91	11.43
275008	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1980-03-18	42.67	New Well	Domestic		4		HODGSON, RON	9.14	36.37	13.97
275010	SW	14	041	28	4	UNKNOWN DRILLER		27.43	Federal Well Survey	Unknown				WILSON, A.			0.00
<u>275011</u>	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1980-09-15	24.38	New Well	Domestic		3		BRUINS PLUMBING	5.49	31.82	13.97
275014	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1980-10-02	24.38	New Well	Domestic		4		OTTO, W.	4.27	45.46	13.97
275015	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1980-09-13	25.91	New Well	Domestic		3		MERRICK, D.	4.88	45.46	13.97
275016	SW	14	041	28	4	SCHMIDT DRILLING LTD.	1982-07-12	32.00	New Well	Domestic		3		SKAVBERG, ERIC	9.45	90.92	11.43
<u>275018</u>	SW	14	041	28	4	UNKNOWN DRILLER		18.29	Chemistry	Municipal	1			LACOMBE FISH & GAME ASSOC			0.00
275019	SW	14	041	28	4	UNKNOWN DRILLER		0.00	Chemistry	Unknown				BIRK, ROBERT			0.00
275020	SW	14	041	28	4	JRBT DRILLING LTD.	1984-08-16	41.15	New Well	Domestic		5		CURZON, JACK	12.19	59.10	14.12
275023	SW	14	041	28	4	UNKNOWN DRILLER		30.48	Chemistry	Unknown	1			WILSON, DAN			0.00
275024	SW	14	041	28	4	UNKNOWN DRILLER		30.48	Chemistry	Domestic	1			SAFEWAY CREDIT UNION			0.00
275026	SW	14	041	28	4	UNKNOWN DRILLER		54.86	Chemistry	Domestic				NIEVIADONY, LES			0.00
275028	NW	14	041	28	4	BROWN JIM	1967-06-28	39.62	New Well	Domestic		5		KAMLAH, W.H.	6.10	54.55	13.97
<u>275029</u>	NW	14	041	28	4	UNKNOWN DRILLER		25.91	Federal Well Survey	Unknown				WILSON, A.			0.00
275043	00	14	041	28	4	UNKNOWN DRILLER		32.61	Chemistry	Domestic				ETHIER, R.			0.00

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View in Imperial Export to Excel

Well ID	LSD	SEC	TWP	RGE	м	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	СНМ	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIAM (m)
275044	00	14	041	28	4	UNKNOWN DRILLER		33.53	Chemistry	Domestic				HIGHBERG, DAVE			0.00
<u>275045</u>	8	15	41	28	4	FLINN DRILLING LTD.	1985-05-09	44.20	Deepened	Domestic		5		LACOMBE FISH & GAME ASSOC	10.06	68.19	13.97
275048	16	15	041	28	4	UNKNOWN DRILLER	1952-12-14	271.27	Structure Test Hole	Industrial				CALIF STD CO#W-420			0.00
275050	SE	22	041	28	4	ALBERTA WW SERVICE	1978-04-05	35.05	New Well	Unknown	<u>2</u>	7		DEGRAFF, JIM	8.53	68.19	14.12
275052	SE	22	041	28	4	ALKEN BASIN DRILLING LTD.	1989-04-28	54.86	New Well	Domestic		10		DEGRAFF, MARGETE	7.62	113.65	13.97
275055	14	22	41	28	4	UNKNOWN DRILLER		21.34	Chemistry	Domestic	<u>2</u>			STEWART, W.W.			0.00
<u>275056</u>	14	22	41	28	4	FORRESTER WATER WELL DRILLING (1981) LTD.	1985-01-15	34.14	New Well	Domestic & Stock		14		STEWART, W.W.	4.57	127.29	17.78
275059	NE	22	41	28	4	CHIPMUNK HOLDING LTD	1960-06-12	27.43	New Well	Domestic		7	3	BEFUX, PETER	3.66	45.46	11.43
275059	NE	22	41	28	4	CHIPMUNK HOLDING LTD	1960-06-12	27.43	New Well	Domestic		7	2	BEFUX, PETER	3.66	31.82	11.43
<u>275062</u>	NE	22	041	28	4	UNKNOWN DRILLER		27.43	Federal Well Survey	Unknown				JUNEL			0.00
275063	NE	22	041	28	4	UNKNOWN DRILLER		34.14	Chemistry	Domestic	<u>1</u>			STEWART, W.W.			0.00
275064	SE	23	041	28	4	AL'S WATER WELLS LTD	1977-08-10	30.48	New Well	Stock		9		WILSON, MARTIN	4.88	54.55	14.12
<u>275065</u>	SE	23	041	28	4	ALKEN BASIN DRILLING LTD.	1988-11-03	30.48	New Well	Domestic & Stock		7		WILSON, MARTIN	4.57	181.84	13.97
275067	01	23	041	28	4	UNKNOWN DRILLER		281.03	Structure Test Hole	Industrial				CALIF STD CO#E400			0.00
275068	SW	23	041	28	4	CHIPMUNK HOLDING LTD	1960-06-21	30.48	New Well	Domestic & Stock		7	2	GUSTAFSON, W.R.	4.88	38.64	12.70
275069	SW	23	041	28	4	UNKNOWN DRILLER		0.00	Chemistry	Domestic				HARTLEY, RON			0.00
<u>275070</u>	04	23	041	28	4	UNKNOWN DRILLER	1925-01-01	29.26	Federal Well Survey	Unknown				GUSTAFSON	4.27		5.08
275071	NW	23	041	28	4	UNKNOWN DRILLER		19.81	Chemistry	Domestic	1			STEWART, S.			0.00
<u>275072</u>	14	23	041	28	4	UNKNOWN DRILLER		24.38	Federal Well Survey	Unknown				KAMLAH, H.			0.00
275073	09	23	041	28	4	UNKNOWN DRILLER		4.57	Federal Well Survey	Unknown				CARTER, C.M.			0.00

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Well ID	LSD	SEC	TWP	RGE	М	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	СНМ	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIAM (m)
<u>275076</u>	SE	23	041	28	4	BROWN JIM	1970-02-01	24.38	New Well- Abandoned	Domestic		4		FISH & GAME#1			0.00
<u>275125</u>	01	26	041	28	4	UNKNOWN DRILLER	1952-12-13	300.23	Structure Test Hole	Industrial				CALIF STD CO#E-400			0.00
<u>275126</u>	SW	26	041	28	4	UNKNOWN DRILLER		30.48	Chemistry	Domestic	1			FERGUSON, D.			0.00
275129	SE	27	041	28	4	DOOL WW	1976-09-12	18.29	New Well	Stock		4		HALBERG, NIEL	7.01	45.46	10.16
<u>275132</u>	SE	27	041	28	4	SCHMIDT DRILLING LTD.	1978-09-26	36.58	New Well	Domestic & Stock	<u>1</u>	6		HALBERG, VICTOR	26.21	68.19	13.97
275133	SE	27	041	28	4	UNKNOWN DRILLER		1.83	Federal Well Survey	Unknown				SHYLLING			0.00
<u>275135</u>	SE	27	041	28	4	UNKNOWN DRILLER		21.64	Federal Well Survey	Unknown				HALBERG			0.00
<u>275136</u>	SW	27	041	28	4	SCHMIDT DRILLING LTD.	1978-09-25	17.37	New Well	Domestic & Stock	<u>1</u>	3		HALBERG, LEONARD	3.05	204.57	13.97
<u>280612</u>	SW	14	041	28	4	UNKNOWN DRILLER	1972-08-01	33.53	Chemistry	Domestic	1			SMITH, RAYMOND	11.58		0.00
280613	SW	14	041	28	4	FRASER, JACK	1983-08-18	27.43	New Well	Domestic		5		MACLEOD, ALLAN	7.62	45.46	14.12
280614	SW	14	041	28	4	FRASER, JACK	1983-08-11	28.96	New Well	Domestic		5		BLENCOWE, EVAN	9.14	68.19	14.12
285448	8	15	41	28	4	CLIFF'S DRILLING	1996-07-21	40.54	New Well	Domestic		10	6	BEATON, THRISH	11.28	136.38	14.12
295373	SW	14	041	28	4	J.C. DRILLING	2000-10-17	39.62	New Well	Domestic		6	21	GILL, RANDY	11.09	45.46	16.81
295922	SW	27	041	28	4	ALKEN BASIN DRILLING LTD.	2001-04-24	36.58	New Well	Domestic		14	6	HALBERG, LEN	10.06	227.30	13.97
296824	SW	14	041	28	4	ALKEN BASIN DRILLING LTD.	2001-05-27	67.06	New Well	Domestic		18	13	SCARLET, RALPH	14.02	45.46	13.97
299508	SW	26	041	28	4	ALKEN BASIN DRILLING LTD.	2002-03-23	30.48	New Well	Stock		5	19	GUSTAFSSON, SUE	3.05	136.38	13.97
1064475	12	23	041	28	4	ALKEN BASIN DRILLING LTD.	2004-08-06	30.48	New Well	Industrial		6	9	MURPHY OIL / P.D. 403	5.79	227.30	14.13
1064760	08	22	41	28	4	ALKEN BASIN DRILLING LTD.	2007-04-30	60.96	New Well	Municipal		9		DEGRAFF RESORT	16.76	136.38	14.13
1064825	6	27	41	28	4	ALKEN BASIN DRILLING LTD.	2006-10-25	30.48	New Well	Domestic		8	25	HALBERG, SANDY	11.58	181.84	14.13
1064995	SW	27	41	28	4	ALKEN BASIN DRILLING LTD.	2007-06-20	36.58	New Well	Domestic		17	25	HALBERG, CATHERYN	9.14	227.30	14.13

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Well ID	LSD	SEC	TWP	RGE	М	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	СНМ	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)	SC_DIAM (m)
<u>1065730</u>	4	14	41	28	4	ALKEN BASIN DRILLING LTD.	2009-02-06	24.38	New Well	Observation		8		WILSON BEACH ESTATES C/O KIRK	7.50	27.28	14.12
<u>1065732</u>	8	22	41	28	4	ALKEN BASIN DRILLING LTD.	2009-03-19	18.29	New Well	Other		6		FRASER, GLEN (DEGRAFF SUB.)	5.72	181.84	14.12
<u>1065757</u>	3	14	41	28	4	ALKEN BASIN DRILLING LTD.	2009-01-28	67.06	New Well	Other		18	25	WILSON BEACH ESTATES (C/O KIRK MILLER)	18.40	136.34	14.12
<u>1065758</u>	5	14	41	28	4	ALKEN BASIN DRILLING LTD.	2009-01-30	79.25	New Well	Other		19		WILSON BEACH ESTATES (C/O KIRK MILLER)	18.80	13.64	14.12
<u>1065774</u>	8	22	41	28	4	ALKEN BASIN DRILLING LTD.	2009-04-15	18.29	New Well	Other		4	25	FRASER, GLEN	4.58	181.84	14.12
1065932	5	14	41	28	4	ALKEN BASIN DRILLING LTD.	2009-03-26	54.86	New Well	Domestic		14	19	YOST, JOANNE	4.57	90.92	14.12
2085438	16	15	41	28	4	BLACK DOG DRILLING & ENV SERV. LTD.	2012-10-21	60.96	New Well	Domestic		8	12	GIBBS, TIM	13.11	22.73	15.24
2085438	16	15	41	28	4	BLACK DOG DRILLING & ENV SERV. LTD.	2013-11-13	60.96	Reconstructed	Domestic		8	11	GIBBS, TIM	13.11	22.73	15.24
<u>2085459</u>	13	14	41	28	4	BLACK DOG DRILLING & ENV SERV. LTD.	2012-10-19	76.20	New Well	Domestic		10	10	GIBBS, TIM	9.14	22.73	15.24

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TABLE B-2. Field Verified Well Survey - Wells within 2 Km of SE 22-41-28 W4M

Information Downloaded from AWWID (Alberta Environment and Parks)

Results of Field Verified Well Survey

UTM NAD83 Zone 12 **Legal Land** Well Water Elevation Date of Completion Depth Well ID Easting Northing Owner Well Use (mASL) Completion Level (m) Description Method Description (m) Non-Pumping Water Level Contact Well Type Current Owner Well Use Location | Easting | Northing | (mBGS) Date Comments 275004 SW-14-41-28-W4 301010.060 5823529.820 BC PLUMBING 1972-05-16 Industrial New Well 20.12 6.71 Do not know the location of this well. 275019 SW-14-41-28-W4 301010.060 5823529.820 BIRK, ROBERT Unknown Chemistry N Do not know the location or status of this well Do not know the location or status of this well 280614 SW-14-41-28-W4 301010.060 5823529.820 BLENCOWE, EVAN 1983-08-11 Domestic New Well 28.96 9.14 he owner of Bruins plumbing knows nothing about these wells. Do not SW-14-41-28-W4 301010 060 5823529.820 BRITINS PLUMBING 1973-10-04 Domestic New Well 30.48 11.58 N N 275011 SW-14-41-28-W4 301010.060 5823529.820 BRUINS PLUMBING 1980-09-15 Domestic New Well 24.38 5.49 The owner of Bruins plumbing knows nothing about these wells. Do not SW-14-41-28-W4 301010.060 5823529.820 BRUINS, R.C. 1972-08-28 New Well 7.32 N know where they are located. 275003 Do not know the location of this well 274996 07-14-41-28-W4 301555.670 5823890.810 912 CALLE STD CO#390 1953-10-06 Industrial Structure Test Hole 280.42 N No well. Structure test hole SW-14-41-28-W4 301010.060 5823529.820 CURZON, JACK 1984-08-16 Domestic New Well 12.19 N 275020 00-14-41-28-W4 301428.490 5823915.570 ETHIER R Domestic 32.61 N 275043 275044 SW-14-41-28-W4 301428.490 5823015 570 HIGHRERG DAVE Domestic N 275008 SW-14-41-28-W4 301010.060 5823529.820 HODGSON, RON 1980-03-18 Domestic New Well 42.67 9.14 N Do not know the location or status of this well 275028 NW-14-41-28-W4 301042.560 5824333.880 911 KAMLAH, W.H. 1967-06-28 Domestic New Well 39.62 6.1 GISH, CHAD Υ NW-14-41-28-W4 300873.9 5824176.6 Pit well 30-Jun-15 Used for about 25 head in the winter ikely decommissioned. The Lacombe fish and game campsite manager di 275018 SW-14-41-28-W4 301010.060 5823529.820 LACOMBE FISH & GAME ASSOC Chemistry Υ not know anything about I SW-14-41-28-W4 1971-07-01 275002 301010.060 5823529.820 LACOMBE, COUNTY OF Municipal New Well 32 9.45 280613 SW-14-41-28-W4 5823529.820 MACLEOD, ALLAN 301010.060 1983-08-18 Domestic New Well 27.43 7.62 Do not know the location or status of this well SW-14-41-28-W4 5823529.820 1990-07-16 156330 301010.060 MCDONALD, DALE New Well 42.06 24.38 Domestic Do not know the location or status of this well SW-14-41-28-W4 275015 5823529.820 MERRICK, D. 1980-09-13 301010.060 Domestic New Well 25.91 4.88 Do not know the location or status of this well. 275026 SW-14-41-28-W4 5823529.820 NIEVIADONY, LES 301010.060 Domestic Chemistry 54.86 Do not know the location or status of this well 275014 SW-14-41-28-W4 24.38 4.27 Do not know the location or status of this well 275024 SW-14-41-28-W4 No shortage. 10 Igpm/mln. Used by 1 pers SW-14-41-28-W4 2001-05-27 SCARLET RALPH SW-14-41-28-W4 300530.1 5823832.6 2- Jul-15 SCARLET RALPH 14.02 SW-14-41-28-W4 SCARLETT RALPH 1978-06-20 New Well 27.43 275007 7.62 Do not know the location or status of this well 155962 SW-14-41-28-W4 301010 060 5823529 820 SCHEIT HELGE 36.58 N Do not know the location or status of this well. 167392 NF-14-41-28-W4 301846 920 5824301 230 SCOTT WENDY Domestic 30 48 N 275016 SW-14-41-28-W4 301010.060 5823529.820 SKAVBERG, ERIC 1982-07-12 Domestic New Well 9.45 N Do not know the location or status of this well. Do not know the location or status of this well 280612 SW-14-41-28-W4 301010 060 5823529.820 SMITH RAYMOND 1972-08-01 Domestic 33.53 11.58 N Do not know the location or status of this well. N 152546 SW-14-41-28-W4 301010.060 5823529.820 VANDERMEULEN, TED 1990-08-08 Domestic New Well 44.2 10.06 167142 SW-14-41-28-W4 301010.060 5823529.820 WANDI FN. RAY 1992-06-08 Domestic New Well 47.24 13.11 N 1065758 5-14-41-28-W4 5823586.45 WILSON BEACH ESTATES (C/O KIRK MILLER 2009-01-30 WILSON BEACH ESTATES Kirk Miller said that there is one observation well present on the property This is likely it. 1065730 4-14-41-28-W4 300943.24 5823588.79 909.8 WILSON BEACH ESTATES C/O KIRK 2009-02-06 Observation Steel with plastic line New Well 24.38 7.5 WILSON BEACH ESTATES Do not know the location or status of this well 275010 SW-14-41-28-W4 WILSON, A. Unknown ederal Well Survey 275029 NW-14-41-28-W4 WILSON, A. Unknown ederal Well Survey GISH, CHAD NW-14-41-28-W4 300909.3 5826326.9 Pit well Domestic 30-Jun-15 Chemistry 275023 SW-14-41-28-W4 301010.060 5823529.820 WILSON, DAN Unknown N 5-14-41-28-W4 YOST, JOANNE 2009-03-26 Domestic New Well 54.86 4.57 N 1065932 Talked to the owner. Coordinates are of the wells. Campground managers do not know about this well likely NW-14-41-28-W4 5824411.000 GIBBS, TIM 2012-10-19 Domestic New Well 76.2 9.14 GIBBS, TIM NE-15-41-28-W4 300575.5 5824412.8 4.5 inch steel Not used 2085459 300572.000 Υ decommissioned. 8-15-41-28-W4 5823754.68 BEATON, THRISH 1996-07-21 Domestic New Well 40.54 11.28 N 285448 300463.47 CALIF STD CO#W-420 275048 16-15-41-28-W4 300600.16 5824556.5 912 1952-12-14 Industrial Structure Test Hole 271.27 N 13.11 GIBBS, TIM Υ 5824380.77 GIBBS, TIM 2012-10-21 16-15-41-28-W4 300570.6 5824377.1 4.5 inch steel 2085438 16-15-41-28-W4 300558.42 898.6 Domestic Plastic New Well 60.96 Before reconstructio This is the re-completed well Gibbs, Tim Υ 16-15-41-28-W4 300570.6 5824377.1 GIBBS, TIM 2013-11-13 13.11 4.5 inch steel Not Used 2085438 16-15-41-28-W4 300558.42 5824380.77 Domestic Reconstructed 60.96 From July to August 96 camp sites and a bathroom and shower house. Campground and Domestic here is a residence for 2 people year round. This is the most recent we 158900 8-15-41-28-W4 LACOMBE FISH & GAME 1991-06-12 LACOMBE FISH & GAME SE-15-41-28-W4 300530.1 5823832.6 This is most likely the one in use. 275045 8-15-41-28-W4 300500.15 5823627.99 LACOMBE FISH & GAME ASSOC 1985-05-09 Domestic Steel with plastic line Deepened 44.2 10.06 LACOMBE FISH & GAME 2-Jul-15 Owners of campsite know nothing about. Likely decommissioned. Steel 4.5 inch line 8-15-41-28-W4 5823831.46 NORTHSTAR RES/KENTING 31#RIG 1994-08-15 24.38 3.05 LACOMBE FISH & GAME 2-Jul-15 256450 300487.18 Industrial and 5.5 inch surface Owners of campsite know nothing about. Likely decommissioned. Likely decommissioned. The managers of the campground did not know o 238720 8-15-41-28-W4 5823769 OWENS, FRED 1994-03-02 New Well 36.58 10.67 N Likely decommissioned. The managers of the campground did not know o 274801 8-15-41-28-W4 300504.66 5823840.32 WHITMER, I. 1985-08-29 Domestic inch galvanized ste New Well 27.43 11.28 N any other wells. 5825935.51 BEFUX, PETER 1960-06-12 STEWART, S. 275059 NE-22-41-28-W4 3.66 Υ 14-22-41-28-W4 300061.7 5825910.4 Pit well Stock 30-Jun-15 Ised for shower house, bathrooms and laundry. Used by three to four Domestic & 242251 8-22-41-28-W4 300337.29 5825133.48 DEGRAFE RESORT 1994-09-23 teel with plastic line New Well 53.34 6.4 FRASER, GLEN Υ SF-22-41-28-W4 300316.6 5825175.7 4.5 inch steel Domestic 7.88 29-Jun-15 people in the winter. In the summer it is used sparingly but most people use their trailers. This may not be a static water level 8-22-41-28-W4 300436.13 981.5 eel with plastic line 60.96 16.76 29-Jun-15 1064760 Municipal 275050 914.4 8.53 FRASER, GLEN Decommissioned. Looked to be partially backfilled with dirt. Unknown lked to one of the guys that worked at the campground and knew abou 275052 SE-22-41-28-W4 300239.55 5825131.46 DEGRAFF, MARGETE 1989-04-28 54.86 7.62 FRASER, GLEN SE-22-41-28-W4 300391.3 4.5 inch steel 29-Jun-15 Domestic teel with plastic line New Well 5824961.2 Not used the wells and he said this one was not in use.

Drinking water for a campground. Eighty people in the summer and about four in the winter. FRASER, GLEN Υ SE-22-41-28-W4 5825445.9 1065774 8-22-41-28-W4 5825454.97 912.6 18.29 4.58 Domestic

	Information Downloaded from AWWID (Alberta Environment and Parks)												Results of Field Verified Well Survey									
														UTM NAI	D83 Zone 12	2						
Well ID	Legal Land Description	Easting	Northing	Elevation (mASL)	Owner	Date of Completion	Well Use	Completion Method	Well Description	Depth (m)	Water Level (m)	Current Owner	Were owners or a knowledgeable person contacted? (Y/N)	Location Easting	Northing	Well Type	Well Use	Non-Pumping Water Level (mBGS)	Contact Date Comments			
1065732	8-22-41-28-W4	300574.01	5825446.04		FRASER, GLEN (DEGRAFF SUB.)	2009-03-19	Other	Steel with plastic liner	New Well	18.29	5.72	FRASER, GLEN	Y	SE-22-41-28-W4 300518.3		4.5 inch steel	Not used	3.2	30-Jun-15 Not used because water has high fluoride.			
275062	NE-22-41-28-W4	300272.33	5825935.51		JUNEL		Unknown		Federal Well Survey	27.43		STEWART, S.	N						30-Jun-15 Decommissioned. Nothing was known about this well.			
220730	14-22-41-28-W4	299724.24	5826182.58		NORTHSTAR RES/BRELCO 14E	1993-09-23	Industrial		New Well	24.38	4.57	GOODWIN, MARIE	N	14-22-41-28-W4 300060.5	5825912.6	4.5 inch steel	Not used.		30-Jun-15 Kept the well after the oil company was finished with it Talked to Scott Stewart who is the son of the owner.			
256451	8-22-41-28-W4	300411.85	5825431.05		NORTHSTAR RES/KENTING 31E	1994-08-15	Industrial	Steel	New Well	24.38	3.05		N						Decommissioned. Not present.			
<u>275055</u>	14-22-41-28-W4	299770.71	5826127		STEWART, W.W.		Domestic		Chemistry	21.34		GOODWIN, MARIE	N						30-Jun-15 Decommissioned. Nothing was known about this well. Talked to owners son Scott Stewart.			
<u>275056</u>	14-22-41-28-W4	299770.71	5826127		STEWART, W.W.	1985-01-15	Domestic & Stock		New Well	34.14	4.57	GOODWIN, MARIE	N	14-22-41-28-W4					29-Jun-15 Decommissioned. Nothing was known about this well. Talked to owners son Scott Stewart.			
<u>275063</u>	NE-22-41-28-W4	300272.33	5825935.51		STEWART, W.W.		Domestic		Chemistry	34.14		STEWART, S.	Υ	14-22-41-28-W4 300506.8	5825192	4.5 inch steel	Domestic		29-Jun-15 Four people in the house. Domestic use only. No problems.			
<u>275067</u>	01-23-41-28-W4	302086.53	5825083.09		CALIF STD CO#E400		Industrial		Structure Test Hole	281.03			Υ						Structure test hole			
<u>275073</u>	09-23-41-28-W4	302111.5	5825700.12	929.6	CARTER, C.M.		Unknown		Federal Well Survey	4.57		VISCHER	Y	09-23-41-28-W4 302258.4	5825960.1	4.5 inch steel.	Not used		29-Jun-15 Not used			
<u>275076</u>	SE-23-41-28-W4	301500.14	5825523.53		FISH & GAME#1	1970-02-01	Domestic		New Well-Abandoned	24.38			Y						Abandoned.			
275070	04-23-41-28-W4	300872.5	5824944.92	917.4	GUSTAFSON	1925-01-01	Unknown		Federal Well Survey	29.26	4.27	RIEITSMA, JOHN	N	SW-23-41-28-W4					30-Jun-15 Likely Decommissioned. Dianne Stewart the daughter of the property owners did not mention it.			
275068	SW-23-41-28-W4	301081.71	5825137.78		GUSTAFSON, W.R.	1960-06-21	Domestic & Stock		New Well	30.48	4.88	RIEITSMA, JOHN	N	SW-23-41-28-W4 300960	5824989		Not used		30-Jun-15 Nobody was home but I talked to Dianne Stewart and her parents rent this land out. Coordinates based off of 2007 survey.			
275069	SW-23-41-28-W4	301081.71	5825137.78		HARTLEY, RON		Domestic		Chemistry	0		RIEITSMA, JOHN	N	SW-23-41-28-W4 300882	5824901		Domestic		Nobody was home but I talked to Dianne Stewart and her parents rent this 30-Jun-15 land out. Coordinates based off of 2007 survey. There was also a large pool in the yard.			
<u>275072</u>	14-23-41-28-W4	301323.44	5826134.71		KAMLAH, H.		Unknown		Federal Well Survey	24.38			N						29-Jun-15 Decommissioned. Owners of property said that there were no other wells than those mentioned.			
247492	09-23-41-28-W4	302194.87	5825800.44		KEN RAY HLDG	1994-10-24	Domestic		New Well	44.2	8.35	VISCHER	Υ	09-23-41-28-W4 302397.7	5825849.5	4.5 inch steel.	Domestic		29-Jun-15 They are taking part in a type of sewage treatment trail. There water gets tested regularly.			
<u>271512</u>	SW-23-41-28-W4	301081.71	5825137.78	937.2	KOSTER, ANDREW	1969-09-08	Stock	Steel	New Well	39.62	0	RIEITSMA, JOHN	N	SW-23-41-28-W4 300900	5824964		Stock		Nobody was home but I talked to Dianne Stewart and her parents rent this 30-Jun-15 land out. Coordinates based off of 2007 survey. There was also a large			
1064475	12-23-41-28-W4	300934.79	5825717.59		MURPHY OIL / P.D. 403	2004-08-06	Industrial		New Well	30.48	5.79		N						pool in the vard. 29-Jun-15 Decommissioned. Owners of property said that there were no other wells			
256452	14-23-41-28-W4	301323.44	5826134.71		RUSTUM PETRO 93/SIMMONS 25#RIG	1994-06-11	Industrial		New Well	18.29	9.14		N						than those mentioned. 29-Jun-15 Decommissioned. Owners of property said that there were no other wells			
275071	NW-23-41-28-W4	301114.21	5825941.96		STEWART, S.		Domestic		Chemistry	19.81		STEWART, DEAN	Y	NW-23-41-28-W4 301219.7	5826156.9		Stock		than those mentioned. 29-Jun-15 Occasionally use for 50 beef cattle when the dugout goes dry.			
275064	SE-23-41-28-W4	301886	5825105.14		WILSON, MARTIN	1977-08-10	Stock		New Well	30.48	4.88	WILSON, ANNE AND CHRIS	Υ	SE-23-41-28-W4 302101.6	5825269	4.5 inch steel.	Not used		29-Jun-15 Not in use. Historically used for stock.			
275065	SE-23-41-28-W4	301886	5825105.14		WILSON, MARTIN	1988-11-03	Domestic &	Steel with plastic liner	New Well	30.48	4.57	WILSON, ANNE AND CHRIS	Υ	SE-23-41-28-W4 302178.1	5825320.6	4.5 inch steel.	Domestic	4.40m	29-Jun-15 This well had been used during the day. Not static.			
275094	SW-24-41-28-W4	302715.77	5825007.11	281.5	DECK, J.	1968-11-18	Stock Domestic	Steel with plastic liner	New Well	27.43	5.79	RIDEOUT, BONY	Υ	SW-24-41-28-W4 302364.8	5824754.9	4.5 inch steel.	Domestic & Stock		2-Jul-15 Two people and 2 horses.			
275090	SW-24-41-28-W4	302715.77	5825007.11		LINCOLN HALL SOCIETY	1984-08-30	Domestic	Steel	New Well	25.91	2.44	LINCON HALL SOCIETY	Υ	NW-24-41-28-W4 302444	5825523		Domestic		2-Jul-15 Did not see the well. Phoned the managers of the property. Got approximate coordinates off of google earth.			
275099	NW-24-41-28-W4	302538.9	5825618.35		COMMUNITY HALL	1935-08-06	Domestic		New Well	27.43		LINCON HALL SOCIETY	Υ	NW-24-41-28-W4	5825562	Metal pump	Not Used		29-Jun-15 Old Well			
<u>275125</u>	01-26-41-28-W4	302056.64	5826342.54		CALIF STD CO#E-400	1952-12-13	Industrial		Structure Test Hole	300.23			N						Structure test hole			
<u>275126</u>	SW-26-41-28-W4	301153.66	5826764.78		FERGUSON, D.		Domestic		Chemistry	30.48		UNKNOWN	N	SW-26-41-28-W4			Not Used		2-Jul-15 Could not see any wells from the road. No houses on the quarter section.			
299508	SW-26-41-28-W4	301098.71	5826725.58		GUSTAFSSON, SUE	2002-03-23	Stock	Steel with plastic liner	New Well	30.48	3.05	UNKNOWN	N	SW-26-41-28-W4			Not used		2-Jul-15 Could not see any wells from the road. No houses on the quarter section.			
238838	04-26-41-28-W4	300944.45	5826571.92		PAN CAN OIL/SEDCO 95#RIG WELL	1994-06-07	Industrial	Steel.	New Well	36.58	25.91	UNKNOWN	N	SW-26-41-28-W4			Not Used		2-Jul-15 Could not see any wells from the road. No houses on the quarter section.			
<u>275135</u>	SE-27-41-28-W4	300321.14	5826757.95		HALBERG		Unknown		Federal Well Survey	21.64			N						Decommissioned. Owners of property said that there were no other wells than those mentioned.			
1064995	SW-27-41-28-W4	299810.57	5827045.48		HALBERG, CATHERYN	2007-06-20	Domestic		New Well	36.58	9.14	HALBERG, CATHERYN	N	SW-27-41-28-W4 299548	5827165		Domestic		29-Jun-15 Talked to neighbor Dianne Stewart. Coordinates are of house.			
295922	SW-27-41-28-W4	299810.57	5827045.48		HALBERG, LEN	2001-04-24	Domestic	Steel with plastic liner	New Well	36.58	10.06	MR. HALBERG	N	SW-27-41-28-W4 299759	5826458		Domestic		29-Jun-15 Owned by Lenard Halbergs Son. Talked to neighbor Dianne Stewart. Coordinates are of house.			
<u>275136</u>	SW-27-41-28-W4	299810.57	5827045.48		HALBERG, LEONARD	1978-09-25	Domestic & Stock	Steel with plastic liner	New Well	17.37	3.05	MR. HALBERG	N	SW-27-41-28-W4 299759	5826458				29-Jun-15 Owned by Lenard Halbergs Son. Talked to neighbor Dianne Stewart. Coordinates are of house. Older and possibly decommissioned.			
230979	01-27-41-28-W4	300616.73	5826373.65		HALBERG, NEIL	1993-09-13	Domestic & Stock	Steel with plastic liner	New Well	20.12	7.62	MEYER, BEN	Υ	01-27-41-28-W4 300557.2	5826501.7		Domestic		29-Jun-15 Nine people in two houses use water. Both are rental properties.			
275129	SE-27-41-28-W4	300321.14	5826757.95		HALBERG, NIEL	1976-09-12	Stock		New Well	18.29	7.01	MEYER, BEN	Υ	SE-27-41-28-W4 300545	5826572		Stock		30-Jun-15 About one hundred cattle for three to four months of the year. Coordinates			
1064825	06-27-41-28-W4	299810.57	5827045.48		HALBERG, SANDY	2006-10-25	Domestic	Steel with plastic liner	New Well	30.48	11.58	HALBERG, SANDY	N	06-27-41-28-W4 299769	5827161		Domestic & Stock		29-Jun-15 are from the 2007 survey. 29-Jun-15 Talked to neighbor Dianne Stewart. Coordinates are of house.			
275132	SE-27-41-28-W4	300321.14	5826757.95		HALBERG, VICTOR	1978-09-26	Domestic & Stock		New Well	36.58	26.21	HALBERG, VICTOR	Υ	SE-27-41-28-W4 300681.7	5827045		Domestic		29-Jun-15 Two people and they may board one horse during the summer. Well is in the basement. Coordinates are from beside the house.			
275133	SE-27-41-28-W4	300321.14	5826757.95		SHYLLING		Unknown		Federal Well Survey	1.83			N						29-Jun-15 Decommissioned. Owners of property said that there were no other wells other than those mentioned.			
275139	NE-27-41-28-W4	300546.77	5827352.87	945.2	MCCASHY, D.		UNKNOWN		Federal Well Survey	30.48		GILLARD, ROY	Υ	NE-27-41-28-W4 300717.7	5827362.5		Domestic & agricultural	ı	29-Jun-15 Two people depend on the water supply and they occasionally fill the sprayer. This may not be the correct record but it is the only record on the			
Unknown												WIEBOS	Υ	NW-24-42-28-W4 302416.6	5825816.1	Pit well.	Domestic & Stock		29-Jun-15 Usually 2 people and 60 head of cattle. No record.			
Unknown												WIEBOS	Υ	NW-24-42-28-W4 302405.6	5825833.3	Metal hand pump	Not Used		29-Jun-15 No record.			
Unknown												WIEBOS	Υ	NW-24-42-28-W4 302421.7	5825830.8		Not Used.		29-Jun-15 No record. Well was under a rock in the garden and not visible.			
Unknown													N	SW-14-42-28-W4 300530.1	5823832.6		Domestic		2-Jul-15 No well record match. No well seen. Coordinates are of the house.			
Unknown						-						1000	N	SW-14-42-28-W4 300716.1	5823498.4		Domestic		2-Jul-15 No well record match. No well seen. Coordinates are of the driveway. No well record match. Talked to the neighbor. Took coordinates of a well			
Unknown												LOWE, RON	Y	SW-14-42-28-W4 300670.6			Domestic		with a poorly secured lid. Three to five people six weekend a year. No well people match. Took coordinates of the well and talked to the			
Unknown												STALL DOL	Y	SW-14-42-28-W4 300668.7 SW-14-42-28-W4 300701.1	5823503.8 5823528.8	4.5 inch steel 4.5 inch steel	Domestic Domestic		2-Jul-15 renter. Three people live here year round. 2-Jul-15 No well record match. Owner showed me where the well was. There are			
-												YZERMANS	N N	SW-14-42-28-W4 300686.5	5823476.1	Pit well	Domestic		No well record match. Says Yzerman's Cabin on the sign. Probably			
Unknown								1				1 ZERIVIAIVS	IN	3VV-14-42-20-VV4 3UU080.5	3023470.1	rit well	Domestic		2-Jul-15 seasonal. Coordinates are of the well.			

				Informati	on Downloaded from AWWID (Albe	erta Environmen	it and Parks)										ield Verified We	ll Survey			
		•									•			UTM N.	D83 Zone 1	2					
Well ID	Legal Land Description	Easting	Northing	Elevation (mASL)	Owner	Date of Completion	Well Use	Completion Method	Well Description	Depth (m)	Water Level (m)	Current Owner	Were owners or a knowledgeable person contacted? (Y/N)	Location Eastin	g Northing	Well Type	Well Use	Non-Pumping Water Level (mBGS)	Contact Date	Comments	
WELLS O	JTSIDE THE 2 KI	M RADIUS																			
<u>258861</u>	NW-23-41-28-W4	301114.21	5825941.96		STEWART, DEAN	1995-08-21	Domestic & Stock		New Well	43.59	17.37	STEWART, DEAN	Υ	NW-23-41-28-W4 302269	5827102.6	4.5 inch steel	Domestic		29-Jun-15	Three people reside in the house.	
275088	SW-24-41-28-W4	302715.77	5825007.11	281.4	JOHNSON, JALMER	1962-06-11	Domestic		Chemistry	18.29		RIDEOUT, BONY	Υ	SW-24-41-28-W4 302448.	5824749.6	4.5 inch steel.	Trees and Pool		2-Jul-15	No shortages. Used Seasonally.	
<u>275006</u>	SW-14-41-28-W4	301010.060	5823529.820	908	FREEMAN, JEAN		Domestic		Chemistry	32.61		FREEMAN, JEAN	Υ	SW-14-41-28-W4 300719.	5823185.4		Domestic		2-Jul-15	Were not home. Coordinates are from the house.	
<u>295373</u>	SW-14-41-28-W4	301010.060	5823529.820		GILL, RANDY	2000-10-17	Domestic	Steel with plastic liner	New Well	39.62	11.09	GILL, RANDY	N	SW-14-41-28-W4 300700.	5823346.9		Domestic		2-Jul-15	Were not there. Talked to the neighbor Lori Hellof. Did not locate well. Coordinates are of the driveway.	
1065757	3-14-41-28-W4	301103.48	5823436.36	905.6	WILSON BEACH ESTATES (C/O KIRK MILLER)	2009-01-28	Other		New Well	67.06	18.4	WILSON BEACH ESTATES	Υ	3-14-41-28-W4			Commercial		15-Jul-15	This is the commercial well for the subdivision under license number 00268021-00-00.	
Unknown													N	SW-14-42-28-W4 300762	5823178.3				2-Jul-15	No well recorded match. Coordinates are of a small shed near the house.	
Unknown													N	SW-14-42-28-W4 300710.	5823167.5	Pit well.	Domestic		2-Jul-15	No well record match. Coordinates are of a well. Looks seasonal.	
Unknown													N	SW-14-42-28-W4 300719.	5823353.1	PVC	Domestic		2-Jul-15	No well record match. Coordinates are of a well. Looks seasonal.	
Unknown													N	SW-14-42-28-W4 300742	5823325	4.5 inch steel	Domestic		2-Jul-15	No well record match. Coordinates are of well. Looks seasonal.	
Unknown													N	SW-14-42-28-W4 300788.	5823179.7	4.5 inch steel	Domestic		2-Jul-15	No well record match. Coordinates are of well. Could be year round.	
Unknown												HANDLE	N	SW-14-42-28-W4 300708.	5823222.3	Pit well.	Domestic		2-Jul-15	No well record match. Sign says the Handles. There is possibly a covered pit well to the north of the house.	
Unknown													N	SW-14-42-28-W4 300815.			Domestic		2-Jul-15	No well record match. No well seen. Coordinates are of the house.	
Unknown													N	SW-14-42-28-W4 300709.			Domestic		2-Jul-15	No well record match. No well seen. Coordinates are of the house. No well record match. Took coordinates of the well. Two people live here	
Unknown												EVANATION	Υ	SW-14-42-28-W4 300769.	5823267.9	4.5 inch steel	Domestic		2-Jul-15	year round.	
Unknown												DUKE, GREG	N	SW-14-42-28-W4 300732	5823315		Domestic		2-Jul-15	No well record match. Could not find the well. Talked to the neighbor about who owns it.	
Unknown												SCHELLEMBERG	Y	SW-14-42-28-W4 300766.	5823285.7	PCV	Domestic		2-Jul-15	No well record match. Took coordinates of the well and talked to the son that lives there. Five people reside here year round.	
Unknown												HELLOFS	Υ	SW-14-42-28-W4 300710.	5823392.7	4.5 inch steel	Domestic		2-Jul-15	No well record match. Talked to Lori Hellof and she showed me the well. There are four people living here year round.	
Unknown									_			KERR	Y	SW-14-42-28-W4 300731.	5823441.9	4.5 inch steel	Domestic		2-Jul-15	No well record match. Owner showed me where the well was. There are two people living here year round.	
Unknown												THIEM	Υ	SW-14-42-28-W4 300790.	5823248.3	4.5 inch steel	Domestic		2-Jul-15	No well record match. Owner showed me where the well was. There are two people living here year round.	
Unknown												FOOTE	Υ	SW-14-42-28-W4 300728	5823312.9		Domestic		2-Jul-15	No well record match. Talked to a visitor. Coordinates are of the well.	
Unknown													N	SW-14-42-28-W4 300791.	5823175.6		Domestic		2-Jul-15	No well record match. Seasonal set up. Took coordinates of a wooden box in the back yard.	



Stantec Consulting Ltd. 10160 - 112 Street Edmonton AB T5K 2L6 Tel: (780) 917-7000 Fax: (780) 917-7330

June 26, 2015 File: 112849238

Dear Resident,

Reference: 1510060 Alberta Ltd. (former de Graff0 – Gull Lake Water Well Licence Increase Field Verified Survey

Stantec Consulting Ltd. is conducting a field verified well survey in the area of a proposed groundwater licensing increase project for 1510060 Alberta Ltd. SE 22-041-28-W4M, Plan 0924731, Block 1, Lot 3. The well survey is required to support a groundwater diversion increase approval from Alberta Environment and Parks (AEP) for a resort (former de Graff and Lincoln Ranch). The purpose of the survey is to collect information on existing groundwater wells and water use in the area surrounding the project to identify any potential conflicts that may exist between the proposed groundwater pumping and existing users.

The survey of groundwater users involves the collection of information about the well owner, water well completion and construction, and how the water from the well is used. GPS coordinate information for water well locations will also be collected to obtain horizontal coordinates and vertical elevations. A copy of the survey form outlining the information to be collected has been attached for reference.

Participation in this survey is voluntary. Should you wish to participate or if you have any questions or require additional information regarding the well survey, please contact Shay Cairns (Stantec) 587-357-3551.

We look forward to your participation in this survey.

Regards,

STANTEC CONSULTING LTD.

Christian Nägeli, M.Sc., P.Geol.

Christen Higell

Senior Hydrogeologist Phone: (780) 917-8191 Fax: (780) 917-7249

Christian.Nageli@stantec.com

Attachment: Field Verified Well Survey Form

 $nc\ v: \verb|\lambda| survey \verb|\lambda| survey \verb|\lambda| survey \verb|\lambda| survey \verb|\lambda| survey \verb|\lambda| survey \verb|\lambda| de_graff_20150626.docx | survey \verb|\lambda| survey su$



Water Well Survey

Stantec Well	ID:
--------------	-----

Water Well Drilling Record No.:
Map Reference Number:
Legal Location:
Owner:
Owner's Address:
City:
Postal Code:
Phone:
Previous Owner:
Person Met:
Visited By:
Date/Time
WELL DETAILS
Date Drilled (mm/dd/yyyy):
Driller's Name:
GPS Co-ordinates (UTM NAD83): Northing: Easting:
Well Depth (mBGL):
Water Level (mBTOC):
Pump Depth (mBTOC):
Completion Type:
Last Serviced (mm/dd/yyyy):
Comments:
WELL PURPOSE
Type of Usage:
Estimated Amount of Usage:
Springs or Dugouts:
Number of People Depending on Supply:
Number of Stock Depending on Supply:
Comments:



Water Well Survey

Stantec	W/OII	ID:		
Sianiec	vveii	ID:		

WATER TREATMENT SYSTEM	
Iron filter:	
Type of sewage treatment:	
Water softener:	
Chlorination:	
Comments:	
SAMPLES	
Have you sent any groundwater samples to the Regional Health Authority for analysis? If so, when?	
Comments:	
MISCELLANEOUS	
Springs or dugouts	
Type of sewage treatment:	



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View in Imperial Export to Excel

GIC Well ID 15 GoA Well Tag No.

152546

Drilling Company Well ID

Date Report Received 1990/08/23

GOWN ID

Well Identification and Location	Measurement in Metric
Owner Name Address Town VANDERMEULEN, TED WILSONS BEACH RR 3, LACOMBE	Province Country Postal Code T0C 1S0
Location1/4 or LSDSECTWPRGEW of MERLotBlockPlanSW14041284020	Additional Description
Measured from Boundary of m from GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.525475 Longitude -113.93	i de la companya de
m from How Location Obtained	How Elevation Obtained
Map	Not Obtained

Drilling Informa	tion						
Method of Drillin Cable Tool	ng		Type of Work New Well				
Proposed Well (Domestic	Jse						
Formation Log			Measurement in Metric	Yield Test Sur	nmary		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description		Recommended Test Date	_	18.18 L/min val Rate (L/min)	Static Water Level (m)

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Topsoil
5.49		Brown Sandy Clay
7.92		Gray Clayey Sand
8.84		Gray Clayey Sand & Gravel
18.90		Gray Clayey Shale
21.95		Blue Stoney Shale
24.69		Gray Shale & Sandstone
25.60		Gray Fractured Shale
27.74		Gray Bentonitic Shale
29.87		Gray Fractured Shale
32.31		Gray Shale
33.22		Gray Sandstone
35.36		Gray Sandy Sandstone
37.49		Gray Bentonitic Sandstone
44.20		Gray Sandstone

Recommended I	Pump Rate	e18.1	8 L/min	<u>_</u>				
Test Date	Water R	emoval Rate (L/min)	_/min) Static Water Level (m)				
1990/08/08		18.18		10.06				
Well Completion	on				Me	easurement in M	1etric	
Total Depth Drill	Start	Date		End Date				
44.20 m		1990/	/08/03		1990/08/08			
Borehole								
Diameter (cm)		(m)			To (m)		
0.00			00			44.20		
Surface Casing Steel		•	Well Ca Steel	ŭ				
		4.12 cm				11.43 cm		
			Wall 7		_	0.396 cm		
Bottom at	: <u>3</u>	2.31 m		Тор а	at:	30.78 m		
			E	Bottom a	at:	44.20 m		
Perforations								
		Diameter or Slot	SIc	Slot		Hole or Slot		
From (m) T	o (m)					Interval(cm)		
31.09	14.20	0.953	30.48					
Perforated by	Torch							
Annular Seal (Cement/G	rout						
Placed from			0.00) m				
· · · · · · · · · · · · · · · · · · ·								
Other Seals			_					
	Type		At (m)					
Screen Type								
Size OD):	0.00 cm						
From (m	1)	То	(m)			Slot Size (cm)		
Attachmen	t							
				m Fitting	js _		_	
Pack							_	
Туре			Grain	Size				
Amount	0.00							

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

1

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 9:19:12 AM Page: 1 / 2



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View in Imperial Export to Excel

GIC Well ID

152546

GoA Well Tag No. **Drilling Company Well ID**

1990/08/23

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country VANDERMEULEN, TED WILSONS BEACH RR 3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER RGE I of Block Plan Additional Description Location SW 14 041 28 020 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 m m from How Elevation Obtained How Location Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 18.18 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1990/08/08 12:00 AM 10.06 m Minutes:Sec Method of Water Removal Type Bailer 18.18 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling

	L	

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

Water Source

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time

Printed on 7/27/2015 9:19:12 AM Page: 2 / 2



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View in Imperial Export to Excel

GIC Well ID

155962

GoA Well Tag No. **Drilling Company Well ID** Date Report Received

1990/01/19

0.000 cm

0.00 m

0.00 m

GOWN ID Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country SCHEIT, HELGE **RR3 LACOMBE** T0C 1S0 1/4 or LSD SEC TWP W of MER Block RGE Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.525475 Longitude -113.933391 m m from How Elevation Obtained How Location Obtained m from Not Verified Not Obtained

Drilling Information			
Method of Drilling Not Applicable	Type of Work Chemistry		
Proposed Well Use Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric
Depth from Water Lithology Description		Recommended Pump Rate L/min	Static Water Level (m)

Domestic Domestic	ise								
Formation Log			Measurement in Metric	Yield Test Sun		Measurement in Metric			
Depth from	Water Lithology Description			Recommended Pump RateL/min					
ground level (m)	ground level (m) Bearing			Test Date	Water Re	emoval Rate (L/m	nin) S	Static Water Level (m)	
				Well Completion	on			Measurement in N	/letric
				Total Depth Drill	ed Finish	ed Well Depth	Start Date	End Date	
				36.58 m					
				Borehole					
				Diameter (cm)	From (m	1)	To (m)	
				0.00		0.00		36.58	
				Surface Casing	(if applica	able) We	ell Casing/L	iner	
				Size OD): (0.00 cm	Size C	0.00 cm	

Perforations Diameter or Slot Hole or Slot Slot Width(cm) Interval(cm) From (m) To (m) Length(cm) Perforated by

Wall Thickness:

Top at:

Bottom at:

0.000 cm

0.00 m

Annular Seal 0.00 m to Placed from 0.00 m Amount Other Seals

At (m) Type Screen Type

0.00 cm

From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings

Pack Туре Grain Size Amount

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Wall Thickness:

Bottom at:

Size OD:

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID 155962 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1990/01/19

Well Iden	tification and L	ocation									Measu	rement in Metric
Owner Nar SCHEIT, H			Address RR3 LACC	MBE		Town			Province	Country		Postal Code T0C 1S0
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured	from Boundary (of m from m from			GPS Coordin Latitude 5: How Location Not Verified	2.525475	•	es (NAD 83 itude ₋ -113.9	*	Elevation How Elevation On the Not Obtained		n
Additiona	I Information										Measu	rement in Metric
	From Top of Cas an Flow Rate				cm	Is	s Flow Con	trol Installed	d e			
	ended Pump Rai ended Pump Inta	te			L/min m	Pump				Depth	т Н.Р.	
										Model (Output I	Rating)	
Did you	Encounter Salir	ne Water (>		DS) Gas						Completion g Taken p ESRD		
Additio	nal Comments o	on Well					Sample Co	ollected for	Potability	Sub	mitted to ES	SRD
Yield Tes	t							Ta	ken From (Ground Level	Measu	rement in Metric
Test Date	,	Start Tim	ne	Sta	atic Water Level m							
Method o	of Water Remov	<i>r</i> al										
	Removal Rate _ ithdrawn From _											
If water re	emoval period wa	as < 2 houi	rs, explain wl	ny								
Water Div	verted for Drilli	ing										
Water Sou	ırce			Aı	mount Taken				Diversio	on Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Date approval holder signed



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GIC Well ID GoA Well Tag No. Drilling Company Well ID

156330

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GOWN ID										Date Report Receive	ed 1990/08/02	
Well Identi	fication and L	ocation									Measurement in M	∕letric
Owner Nam MCDONALE			Address 5304-101	AVE., EDM	ONTON	Town			Province	Country	Postal Co T6A 0G8	
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured fr	om Boundary o	of			GPS Coordinates in Decimal Degrees (NAD 83)							
		m from			Latitude 5	2.525475	Longi	tude -113.9	33391	Elevation	<u>m</u>	
		m from			How Location	n Obtained				How Elevation Obta	ained	
					Not Verified					Not Obtained		

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric			
Depth from ground level (m)	Water Bearing	Lithology Description				
3.35		Sand				
6.71		Clay				
7.32		Sandstone				
13.72		Clay				
15.54		Shale				
16.15		Boulders				
17.98		Shale				
18.90		Sandstone				
21.34		Shale				
22.25		Sandstone				
23.77		Shale				
34.75		Silt				
35.36		Coal				
38.10		Silt				
42.06		Gravel				

Recommende	ed Pump Ra	ate13	3.64 L/min	<u>1</u>			
Test Date	Water	Removal Rate	(L/min)	Static Water Level (m))
1990/07/16)	13.64		24.38			
Well Comple	etion				Measu	rement in I	Metric
Total Depth D	Prilled Finis	shed Well Dep				End Date	
42.06 m			1990	/07/14	1	1990/07/16	
Borehole							
Diamete			m (m)			To (m)	
0.0 Surface Casi			0.00 Well C a	ocina/Li		42.06	
Plastic	пу (п аррп	icable)	Plastic	asing/Li	ner		
		16.81 cm		Size O	D :	12.70 cm	
		0.953 cm	Wall 7	Thicknes	ss :	0.475 cm	
Botton	n at :	30.48 m				24.99 m	•
			L	Bottom a	at:	42.06 m	
Perforations			_				
		Diameter or Slot		Slot		Hole or Slot	
From (m)	To (m)	Width(cm)					
38.40	42.06	0.000			0.00		
Perforated by	Saw						
Annular Seal	Shale Tr	an					
		00 m to _	30.48	3 m			
Other Seals							
	Type			At (m)			
Screen Type							
Size	OD :	0.00 cm					
From (m) To (o (m)		Slot	Size (cm)	
Attachm	nent						
			m Fitting	gs		_	
Pack							
Туре			Grain	Size			
Amount	0.00						

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FEHR DRILLING Certification No

Copy of Well report provided to owner Date approval holder signed

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GIC Well ID GoA Well Tag No.

156330

Drilling Company Well ID

GOWN ID Date Report Received 1990/08/02 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country MCDONALD, DALE 5304-101 AVE., EDMONTON T6A 0G8 1/4 or LSD SEC TWPBlock Plan Location RGE W of MER Lot Additional Description

SW	14 041	28	4				
Measured from Bo	oundary of m from			s in Decimal Degr 25475 Long	ees (NAD 83) gitude113.933391	Elevation	m
	m from		How Location O	btained		How Elevation C	Obtained
			Not Verified			Not Obtained	
Additional Inforn	nation						Measurement in Metric
	op of Casing to Ground Level		cm				
Is Artesian Flow		•	_	Is Flow Co	ntrol Installed		
	L/min	_			Describe		
Recommended P	•		13.64 L/min	Pump Installed	Yes	Depth	
Recommended P	Pump Intake Depth (From TOC	()	25.30 m	Type SUB	Mai	ke	H.P.
						Model (Output	Rating)
Did you Encour	nter Saline Water (>4000 ppm	TDS)	Depth	m	Well Disinfected	Upon Completion	
		Gas	Depth	m	Geophysic	cal Log Taken	
					Submi	itted to ESRD	
				Sample (Collected for Potabili	ity Sui	bmitted to ESRD
Additional Con	nments on Well						
Yield Test					Taken Fı	rom Ground Level	Measurement in Metric
Test Date	Start Time	Stat	ic Water Level			Depth to water level	
1990/07/16	12:00 AM	Otal	24.38 m	Dra	wdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water	r Removal						
	Type Air						
Remova	al Rate 13.64 L/m	<u>i</u> n					
Depth Withdrawi	<i>Prom</i> 25.30 m						
If water removal i	period was < 2 hours, explain	whv					
,	,.,.,.	,					
Water Diverted	for Drilling						

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FEHR DRILLING Certification No

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158900

GIC Well ID GoA Well Tag No.

Drilling Company Well ID 1991/09/24

GOWN ID

Date Report Received Well Identification and Location Measurement in Metric Address Owner Name Town Postal Code Province Country P.O. BOX 1573 LACOMBE LACOMBE FISH & GAME 1/4 or LSD SEC TWP Block RGE W of MER Lot Plan Additional Description Location 8 15 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.526502 Longitude -113.940753 m m from How Location Obtained How Elevation Obtained m from Not Obtained

Drilling Information Method of Drilling Type of Work New Well Cable Tool Proposed Well Use Domestic Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.49		Gray Sand	
8.84		Sandy Gravel	
29.26		Gray Shale	
30.18		Green Shale	
31.70		Gray Shale	
32.31		Gray Sandstone	
34.14		Gray Shale	
35.36		Green Shale	
42.98		Gray Shale	
44.20		Gray Sandstone	

Yield Test Summary				Measurement in Metric				
Recommended Pump Rate 45.46 L/min								
Test Date Water Removal Rate (L/min) Static Water Level (m)								
1991/06/12	9.75							
Well Completion				Measurement in Metric				
Total Depth Drilled Finis	shed Well Dept			End Date				
44.20 m		1991/	06/10	1991/06/12				
Borehole								
Diameter (cm)		m (m)		To (m)				
0.00		.00		44.20				
Surface Casing (if apple Steel	icable)	Well Ca Steel	asing/Li	ner				
Size OD :	16.81 cm		Size Ol	D: 11.43 cm				
Wall Thickness :	0.478 cm	Wall 7	hicknes	s: 0.396 cm				
Bottom at :	18.29 m		Тор а	nt : 13.72 m				
		E	Bottom a	at: 44.20 m				
Perforations								
	Diameter or	Cla		Hala ar Clat				
From (m) To (m)	Slot Width(cm)	Slo		Hole or Slot Interval(cm)				
18.29 44.20	0.318	Longi	I(CIII)	60.96				
Perforated by Torch								
_								
Annular Seal Driven	00 /	40.00						
Placed from 0.			<u> m</u>					
Amount		_						
Other Seals								
Type				At (m)				
_								
Screen Type								
Size OD :	_							
From (m)	То	(m)		Slot Size (cm)				
Attachment								
Top Fittings Bottom Fittings								
Pack								
Туре		Grain	Size					
Amount 0.00			_					

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

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GIC Well ID

158900

GoA Well Tag No. Drilling Company Well ID

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GOWN ID		accuracy. The in	iornation on this rep	ort will be re	etained in a pi	udiic databas	se.		Date Report Rece		1991/09/24
Well Identi	fication and Lo	ocation								Mea	surement in Metric
Owner Nam LACOMBE I	ie FISH & GAME	Address P.O. BOX	1573 LACOMBE		Town			Province	Country	′	Postal Code
Location	1/4 or LSD 8	SEC TWP 15 41	RGE W 6	of MER	Lot	Block	Plan	Additio	nal Description		
Measured fr		f m from m from	Lati	itude <u>52</u> v Location		_	es (NAD 83) tude <u>-113.9</u>		Elevation How Elevation O Not Obtained		m
Additional	Information									Mea	surement in Metric
		ing to Ground Level		cm	Is	Flow Con					
	nded Pump Rate			.46 L/min .58 m		_	Yes		Depth	H.P.	
	Encounter Saline		DS) Gas			m	Geo	ophysical Log Submitted to			ESRD
Yield Test							Tal	ken From G	Ground Level	Mea	surement in Metric
Test Date 1991/06/12	!	Start Time 12:00 AM	Static Wate 9	<i>r Level</i> .75 m		Draw	down (m)	E	h to water level Elapsed Time Minutes:Sec	R	ecovery (m)
R Depth Witt	hdrawn From		ny		_						
Water Dive	erted for Drillin	ng									
Water Source	ce		Amount Ta	aken I				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

167142

Drilling Company Well ID Date Report Received

1992/07/27

Well Ident	ification and L	ocation									Measurement in Metric
Owner Nan WANDLEN			Address P.O. BOX BLACKFA		SON'S BEACH),	Town			Province	Country	Postal Code TOM 0J0
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot 23	Block	Plan	Additio	nal Description	
Measured f	rom Boundary o	of			GPS Coord	inates in Ded	cimal Degre	es (NAD 83	3)		
	•	m from			Latitude	52.525475	Long	itude <u>-113.</u>	933391	Elevation	<u>m</u>
		m from			How Location	on Obtained				How Elevation Ob	tained
					Мар					Not Obtained	
Drilling Inf	ormation										
Method of Cable Tool	Drilling				Type of Wo	ork					
Proposed Domestic	Well Use										
Formation	Lon			M	assurament in	Metric	Vield Te	et Summa	irv		Measurement in Metric

Recommended Pump Rate

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
0.61		Topsoil
1.22		Brown Firm Clay
2.13		Brown Caving Clay
4.27		Brown Sandy Clay & Sandstone
7.32		Brown Clay & Gravel
11.89		Gray Clayey Sand & Gravel
14.63		Brown Firm Clay & Sand
15.85		Gray Sticky Shale & Gravel
17.68		Gray Soft Clay
20.12		Brown Sandy Clay & Sandstone
21.64		Gray Sandy Clay & Shale
23.47		Blue Bentonitic Shale
25.60		Gray Bentonitic Sandstone
31.39		Blue Gray Bentonitic Shale
32.61		Gray Hard Sandstone
35.97		Blue Bentonitic Shale
38.40	Yes	Gray Water Bearing Sandstone
47.24	Yes	Gray Water Bearing Shale & Sandstone Ledges

Test Date	Water Re	_/min)	min) Static Water Level (m)				
1992/06/08		22.73		13.11			
Well Completion	n			N	Measurement	in Metric	
Total Depth Drille	ed Finishe	ed Well Depth	Start	Date	End Date)	
47.24 m			1992	/06/03	1992/06/0	08	
Borehole							
Diameter (cm)	From			To (m)		
0.00		0.0			47.24		
Surface Casing Steel		•	Well Ca Plastic	asing/Lin	er		
	: 14				11.43		
Wall Thickness	: 0.6	620 cm	Wall 7	hickness	0.602	cm	
Bottom at	: 31	.39 m		Top at	28.96	m	
			E	Bottom at	47.24	m	
Perforations							
From (m) T	o (m)	liameter or Slot Width(cm)	Slo Length		Hole or Slot Interval(cm)		
28.96	17.24	0.953			20.32		
Perforated by Annular Seal Placed from Amount	Oriven & Be 30.18		31.39	9 m			
Other Seals							
	Type				At (m)		
Screen Type							
	:0						
From (m)	To ((m)		Slot Size (cm	n)	
Attachment	t						
Top Fittings	<u> </u>		Botto	m Fittings	·		
Pack							
Туре			Grain	Size			
Amount							

22.73 L/min

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

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GIC Well ID 167142

GoA Well Tag No.

Drilling Company Well ID Date Report Received 1992/07/27

GOWN ID

Well Identifi	ication and L	ocation							Measurement in Metr
Owner Name WANDLEN, RAY P.O. BOX 218 (WILS BLACKFALDS			218 (WILSON'S BEAC LDS	Tow.	n	I	Province	Country	Postal Code TOM 0J0
Location	1/4 or LSD SW	SEC TWP 14 041	RGE W of M. 28 4	23		Plan	Additional D	escription	
Measured fro		m from	Latitude	oordinates in De = 52.525475 ocation Obtained	Long			evation w Elevation Obt	
	-	m from	Map	odilon oblamo	,			t Obtained	aniod
Additional In	nformation		·						Measurement in Met
Distance Fro		ing to Ground Level	cr		Is Flow Con	trol Installed			
	Rate	L/min							
	ded Pump Rati	e ke Depth (From TOC)	22.73 44.20		_			oth	m H.P
	,						Λ	lodel (Output Ra	ating)
Additiona	l Comments oi	n Well	Gas	Depth		Sul	bmitted to ESI	RD	itted to ESRD
Yield Test						Taken	From Grou	nd Level water level	Measurement in Met
Test Date 1992/06/08		Start Time 12:00 AM	Static Water Le 13.11		Drav	vdown (m)		ed Time tes:Sec	Recovery (m)
Re			1						
If water rem	oval period wa	s < 2 hours, explain v	hy						
Water Dive	rted for Drillin	ng							
Water Source	е		Amount Taken)			Diversion Da	te & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

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GIC Well ID GoA Well Tag No.

167392

Drilling Company Well ID Date Report Received

1986/12/08

GOWN ID Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country SCOTT, WENDY **RR3 LACOMBE** T0C 1S0 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot NE 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.532706 Longitude -113.921532 m m from How Location Obtained How Elevation Obtained m from Not Obtained **Drilling Information** Type of Work Method of Drilling Unknown Chemistry Proposed Well Use Domestic Formation Log Measurement in Metric **Yield Test Summary** Measurement in Metric Recommended Pump Rate ____ L/min Depth from Water Lithology Description Water Removal Rate (L/min) ground level (m) Bearing Test Date Static Water Level (m) Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 30.48 m **Borehole** Diameter (cm) From (m) To (m) 0.00 0.00 30.48 Well Casing/Liner Surface Casing (if applicable) Size OD : Size OD: 0.00 cm 0.00 cm 0.000 cm Wall Thickness: 0.000 cm Wall Thickness: 0.00 m 0.00 m Bottom at: Top at: 0.00 m Bottom at: Perforations Diameter or Slot Hole or Slot Slot Width(cm) From (m) To (m) Length(cm) Interval(cm) Perforated by Annular Seal Placed from 0.00 m to 0.00 m Amount Other Seals At (m) Type Screen Type Size OD: From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Туре Grain Size Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

167392

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

1986/12/08

Distance From Top of Casing to Ground Level or Is Artesian Flow Is Flow Control Installed Describe Recommended Pump Rate L/min Pump Installed Depth m Make H.P. Recommended Pump Intake Depth (From TOC) m Type Make H.P. Did you Encounter Saline Water (>4000 ppm TDS) Depth m Well Disinfected Upon Completion Gas Depth m Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD	Well Identification and	Location					Measurement in Metric
NE			ИВЕ	Town	Provin	ce Country	
Latitude 52.532706 Longitude -113.921532 Elevation m Map How Location Obtained Map How Location Obtained How Elevation Obtained How Elevation Obtained Not Obtai			28 4			itional Description	
Distance From Top of Casing to Ground Level	Measured from Boundary	m from	Latitude 52.5 How Location O	32706 Longi		How Elevation Ob	
Is Artesian Flow Rate L/min Describe Recommended Pump Rate Recommended Pump Intake Depth (From TOC) m Pump Installed Depth Mithdrawn From Method of Water Removal Type Recommended Pump Intake Depth (From TOC) m Type Make H.P.	Additional Information						Measurement in Metric
Recommended Pump Rate Recommended Pump Intake Depth (From TOC) m Type	Is Artesian Flow		cm	Is Flow Con			
Did you Encounter Saline Water (>4000 ppm TDS) Gas Depth M Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Sample Collected for Potability Yield Test Test Date Start Time Static Water Level Measurement in Met Type Removal Rate Depth Withdrawn From Depth Withdrawn From Method of Water Removal Type Removal Rate Depth Withdrawn From Method of Water Removal Type Removal Rate Depth Withdrawn From Method of Water Removal Type Removal Rate Depth Withdrawn From Method Start Time Method Start T	•	ate _				Depth	Н.Р.
Test Date Start Time Static Water Level Method of Water Removal Type Removal Rate Depth Withdrawn From m		G		m	Geophysical Submitte	Log Takend to ESRD	
Type		Start Time			Taken Fron	n Ground Level	Measurement in Metric
If water removed period was a 2 hours, evaloin why	Type Removal Rate	L/min					
II water removal period was < 2 flours, explain why	If water removal period v	vas < 2 hours, explain why	,	_			
Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time		ling	Amount Taken		Divo	rsion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER Certification No

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GIC Well ID 220730 GoA Well Tag No.

Drilling Company Well ID

GOWN ID	on the report will be retained in a	public database.	Date F	Report Received	1993/10/12
Well Identification and Location				N	Measurement in Metric
Owner Name NORTHSTAR RES/BRELCO 14E Address 300, 535-7TH AVE	Towi	n	Province	Country	Postal Code
Location 1/4 or LSD SEC TWP RGE 14 22 41 28	W of MER Lot	Block Plan	Additional Des	scription	
Measured from Boundary of m from m from	GPS Coordinates in De Latitude 52.548821 How Location Obtained Map	Longitude -113	3.953918 Eleva How	ation Elevation Obtaine Dbtained	
Drilling Information					
Method of Drilling Rotary Proposed Well Use	<i>Type of Work</i> New Well	P	lugged with Cemen		
Industrial			·		
Formation Log N Depth from Water Lithology Description	leasurement in Metric	Yield Test Summ		0 L/min_	Measurement in Metric
ground level (m) Bearing			Water Removal Rate (L/min) Sta	tic Water Level (m)
8.23 Sandy Till & Clay 11.89 Gray Shale		1993/09/23	227.30		4.57
19.81 Gray Sandstone		Well Completion Total Depth Drilled	Finished Well Depth		Measurement in Metric End Date
21.34 Gray Shale		24.38 m		1993/09/23	1993/09/23
24.38 Gray Sandstone		Borehole			
		Diameter (cm 0.00	n) From 0.0		To (m) 24.38
		Surface Casing (if	f applicable)	Well Casing/Lin Steel	er
		Size OD : _ Wall Thickness :		Size OD Wall Thickness	
		Bottom at :			0.00 m
		-		Bottom at	
		Perforations	D:		
		From (m) To (Slot Length(cm)	Hole or Slot Interval(cm) 0.95
		Perforated by	Machine		
				9.75 m	
		Other Seals	уре		At (m)
		Screen Type Size OD:	0.00 cm		
		From (m)	То	(m)	Slot Size (cm)
		Attachment _ Top Fittings _		Bottom Fittings	3
		Pack			
		Type Amount		Grain Size	
	'				

Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

220730

GIC Well ID 2 GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1993/10/12

Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country NORTHSTAR RES/BRELCO 14E 300, 535-7TH AVE SW, CALGARY TWP W of MER 1/4 or LSD SEC RGE Block Plan Additional Description Location Lot 14 22 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.548821 Longitude -113.953918 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 227.30 L/min Pump Installed Yes Depth m Make GRUNDFOS Recommended Pump Intake Depth (From TOC) 13.72 m H.P. 3 Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1993/09/23 12:00 AM 4.57 m Minutes:Sec Method of Water Removal Type Pump 227.30 L/min Removal Rate 13.72 m Depth Withdrawn From If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKEN BASIN DRILLING LTD.

Certification No

1

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GIC Well ID GoA Well Tag No.

230979

Drilling Company Well ID 1993/10/20

GOWN ID

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GOWN ID	N ID									Date Report Received	1993/10/20
Well Ident	ification and L	_ocation									Measurement in Metric
Owner Name Address HALBERG, NEIL RR3, LACOMBE			Town Pr			Province	e Country	Postal Code T0C 1S0			
Location	1/4 or LSD 01	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description	
Measured from Boundary of 30.48 m from South 91.44 m from East			GPS Coordin Latitude <u>5</u> How Location	2.550864	U	es (NAD 83 tude113.9	·	Elevation How Elevation Obtain	mined		
	•				Мар					Not Obtained	
					How Location		Longi	tude <u>-113.9</u>	940888	How Elevation Obtain	

Drilling Information Method of Drilling Type of Work New Well Cable Tool Proposed Well Use Domestic & Stock Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
14.63		Yellow Sand	
16.76		Gray Shale	
17.37		Yellow Sandstone	
19.20		Green Shale	
20.12		Gray Shale	

Recommended Pump Rate 45.46 L/min_										
Test Date	Water	Removal Rate (L/min)							
1993/09/13		45.46	7.62							
Well Completio	n				Meas	urement in I	Metric			
Total Depth Drille	ed Finis	shed Well Depth	Start	Date		End Date				
20.12 m			1993/	/09/13		1993/09/13				
Borehole										
Diameter (d	cm)	From				To (m)				
0.00		0.				20.12				
Surface Casing (if applicable) Well Casing/Liner Steel Plastic Size OD:16.81 cm Size OD:11.43 cm										
				Size Ol	D :	11.43 cm				
Wall Thickness	:	0.762 cm	Wall 7							
Bottom at	:	15.24 m		Тор а	at :	14.02 m				
			E	Bottom a	at :	20.12 m				
Perforations							1			
		Diameter or Slot	Slo	\t	Нο	la or Slot				
From (m) To	n (m) To (m) Wid		Length	n(cm)	Hole or Slot Interval(cm)					
15.24 2	0.12	0.318			30.48					
Perforated by	Saw									
Annular Seal D	riven									
		00 m to	15.24	4 m						
Other Seals			_							
	Type		At (m)							
Screen Type										
Size OD	:	0.00 cm								
From (m)	То	(m)		Slo	ot Size (cm)				
Attachment										
Top Fittings	Bottom Fittings									
Pack		_								
Туре			Grain	Size						
Amount										

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID 230979 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1993/10/20

vveii identification	i and Location							weasurement in weth
Owner Name HALBERG, NEIL	Address RR3, LA0	COMBE		Town		Province	Country	Postal Code T0C 1S0
Location 1/4 or 01	LSD SEC TWP 27 041	28 4	W of MER	Lot Block		Additional	Description	
Measured from Bou	30.48 m from South 91.44 m from East	L F			grees (NAD 83) ngitude113.9	940888 E	levation ow Elevation Ob ot Obtained	
Additional Informa	ation							Measurement in Metric
Is Artesian Flow	o of Casing to Ground Level		cm_	Is Flow C		d		
Recommended Pu	•		45.46 L/min			De	epth	
Recommended Pu	mp Intake Depth (From TOC		15.24 m	Type SUB			Model (Output R	H.Pating)
Did you Encount Additional Comm	er Saline Water (>4000 ppm	TDS) Gas	_	m	Geo	nfected Upon Co	mpletion ken SRD	
Yield Test	nerits on well				Tal	ken From Grou	und Level	Measurement in Metric
Test Date 1993/09/13	Start Time 12:00 AM	Static Wa	ater Level 7.62 m	Dr	awdown (m)	Elaps	water level sed Time utes:Sec	Recovery (m)
Removal Depth Withdrawn	Removal Type Bailer Rate 45.46 L/mi From 20.12 m eriod was < 2 hours, explain	•		_				
Water Diverted for	or Drilling							
Water Source	_	Amount	Taken			Diversion D	ate & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

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Water Well Drilling Report

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238720

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

1994/03/22

Well Ident	ification and L	ocation.									Measurement in Metri
	wner NameAddressTownWENS, FREDP.O. BOX 2902 LACOMBE					Province	Country CANADA	Postal Code T0C 1S0			
Location	1/4 or LSD 8	<i>SEC</i> 15	<i>TWP</i> 41	RGE 28	W of MER 4	Lot 38	Block 5	<i>Plan</i> N1314P	Addition	al Description	
Measured f		m from m from			GPS Coordin Latitude 5 How Location Lat/Long calc	2.527433 n Obtained	Longi	es (NAD 83) itude <u>-113.94</u>	1161	Elevation How Elevation Obta	m ined

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
11.28		Clay	
22.25		Sandy Clay	
33.53		Shale	
35.05		Sandstone	
36.58		Shale	

Recommended I	Pump Ra	ate 45.4	16 L/min	_			
	Water	Removal Rate (L/min)	St	atic Water	Level (m)	
1994/03/02		136.38			10.6	7	
Well Completion					Measure		Metric
Total Depth Drill	ed Finis	shed Well Deptl				d Date	
36.58 m			1994/	/03/02	199	94/03/02	
Borehole							
Diameter (0.00	cm)	From				(m)	
0.00 0.00 36.58 Surface Casing (if applicable) Well Casing/Liner Steel Plastic							
) :	13.97 cm	i idolio	Size OL	D: 1	1.43 cm	
Wall Thickness	: :	0.620 cm	Wall 7	hicknes	s: 0	.602 cm	
Bottom at	t :	28.96 m			nt : 2		
			E	Bottom a		6.58 m	
Perforations							
		Diameter or Slot	Slo		Hole or		
	o (m) 36.58	Width(cm) 0.953	Length	n(cm)	Interva 0.9		
					0.9	7.5	
Perforated by	Hand	Drill					
Annular Seal							
_		.00 m to		5 m			
			_				
Other Seals							
	Type			At (m)			
Screen Type							
Size OD) :	0.00 cm					
From (m	1)	То	(m)		Slot Si	ze (cm)	
Attachmen	t						
			Botto	m Fitting	is		
Pack							_
Туре			Grain	Size		_	
Amount						=	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

238720

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

1994/03/22

Well Iden	tification and L	ocation_									Measure	ement in Metric
Owner Nar OWENS, F			Address P.O. BOX 2	2902 LACON	1BE	Towr)		Province	Country CANADA	٨	Postal Code T0C 1S0
Location	1/4 or LSD 8	SEC 15	<i>TWP</i> 41	<i>RGE</i> 28	W of MER 4	38	5	<i>Plan</i> N1314P		nal Description		
Measured		m from m from	<u></u>		GPS Coordin Latitude 5 How Location Lat/Long calc	2.527433 n Obtained	Longi			Elevation How Elevation Ob Not Obtained		_
Additiona	l Information										Measure	ement in Metric
	From Top of Cas an Flow Rate		_				Is Flow Con	trol Installed Describe				
	ended Pump Rat	e			45.46 L/min	Pum	p Installed			Depth	m	_
Recomme	ended Pump Inta	ike Depth (From TOC)		30.48 m	Тур	e		Make	Model (Output F	H.P Pating)	
Additio	Encounter Salin nal Comments of	n Well	(Gas	Depth		m Sample C	Geor S	ohysical Log Submitted to			_
Yield Tes		71 011 2012	- 12 00 1 1 C	02 10 10	THE THE	12412 11	1220.	Take	an From G	Ground Level	Measure	ement in Metric
Test Date		Start Time	0	Static I	Nater Level			Tan		h to water level	Measure	
1994/03/0		12:00 AM		Static	10.67 m		Draw	/down (m)		Elapsed Time Minutes:Sec	Recov	ery (m)
	of Water Remove Type <u>A</u> Removal Rate iithdrawn From	Air 13				_				0:00 1:00 2:00 120:00	18 10	.58 .29 .67
If water re	emoval period wa	as < 2 hour	s, explain wh	ny								
Water Div	verted for Drillin	ng				-						
Water Sou	ırce			Amou	nt Taken				Diversio	on Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name ALKÉN BASIN DRILLING LTD.

Certification No

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Date approval holder signed

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Measurement in Metric

GIC Well ID GoA Well Tag No. 238838

Drilling Company Well ID

GOWN ID

accuracy. The information on this report will be retained in a public database

Date Report Received 1994/06/15 Well Identification and Location Measurement in Metric Address Postal Code Town Owner Name Province Country PAN CAN OIL/SEDCO 95#RIG P.O. BOX 2850 CALGARY T2P 2S5 WELL 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location 26 04 041 4 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.552764 Longitude -113.936180 Elevation m m from How Location Obtained How Elevation Obtained m from Not Obtained Not Verified **Drilling Information**

Method of Drilling Type of Work Plugged 1994/06/23 New Well Rotary Plugged with Unknown Proposed Well Use Amount Industrial

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
0.91		Gray Shale	
4.57		Brown Sandstone	
12.50		Gray Shale	
19.20		Brown Sandstone	
20.42		Gray Sandstone	
21.95		Gray Shale	
22.56		Coal	
26.52		Gray Shale	
30.78		Gray Sandstone	
36.58		Gray Shale	

Recommended F	Pump Rate	168.2	1 L/min	_		
Test Date		moval Rate (I			c Water Level (m)	
1994/06/07		181.84			25.91	
Well Completion					easurement in N	/letric
Total Depth Drille	ed Finishe	ed Well Depth				
36.58 m			1994/	06/07	1994/06/07	
Borehole	,		, ,		T ()	
Diameter (From 0.0			To (m) 36.58	
Surface Casing	(if applica		Well Ca Steel	sing/Line	r	
Size OD	: <u> </u>	.00 cm		Size OD:	11.43 cm	
Wall Thickness	0.0	000 cm	Wall T	hickness :	0.396 cm	
Bottom at	f : 0	.00 m			0.00 m	
			E	Bottom at :	30.48 m	
Perforations		lamatar ar				
	D	iameter or Slot	Slo	ot	Hole or Slot	
From (m) T	o (m)	Width(cm)	Length			
18.29 30.48 0.953					0.95	
Perforated by	Hand Dr	ill				
Annular Seal [
Placed from _) m		
_			-			
Other Seals	Type			Λ-	t (m)	
	Турс				(111)	
Screen Type						
Size OD	: <u> </u>	.00 cm				
From (m	1)	To ((m)		Slot Size (cm)	
Attachmen	t					
Top Fittings				m Fittings		
Pack				-		_
Туре			Grain	Size		
Amount						

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

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GIC Well ID GoA Well Tag No.

238838

Drilling Company Well ID

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1994/06/15 Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country PAN CAN OIL/SEDCO 95#RIG P.O. BOX 2850 CALGARY T2P 2S5 WELL 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location 041 04 26 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.552764 Longitude -113.936180 m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 168.21 L/min Pump Installed Yes Depth m Make GOULD Recommended Pump Intake Depth (From TOC) 28.96 m Type SUB H.P. Model (Output Rating) Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Well Disinfected Upon Completion Depth m ___ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1994/06/07 12:00 AM 25.91 m Minutes:Sec 3:00 28.96 Method of Water Removal 4.00 25 91 120:00 25.91 Type Air 181.84 L/min Removal Rate 36.58 m Depth Withdrawn From If water removal period was < 2 hours, explain why

Amount Taken

Contractor	Certification

Water Diverted for Drilling

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time



Domestic & Stock

Water Well Drilling Report

Yield Test Summary

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID 242251

Measurement in Metric

GOWN ID

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Date Report Received 1994/10/28 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country RR3, LACOMBE DEGRAFF RESORT T0C 1S0 SEC TWP W of MER Block 1/4 or LSD Plan Additional Description Location Lot 80 22 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.539627 Longitude -113.944258 m 396.24 m from North How Location Obtained How Elevation Obtained 304.80 m from East Not Obtained

Drilling Information Method of Drilling Type of Work New Well Cable Tool Proposed Well Use

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
0.91		Topsoil	
1.83		Sand	
4.57		Sandy Clay	
13.72		Clay & Boulders	
18.29		Sandstone	
24.38		Shale	
25.91		Sandstone	
26.52		Shale	
27.43		Hard Sandstone	
28.96		Sandstone	
30.48		Shale	
32.92		Sandstone	
36.27		Shale	
36.58		Coal	
38.10		Shale	
48.77	Yes	Water Bearing Sandstone	
53.34		Shale	

Recommended F	Pump Rate	68.19	L/min	_		
Test Date	Water Remova	I Rate (L/	min)	n) Static Water Level (m)		
1994/09/22	90.	92			6.40	
Well Completion	on			١	Measurement in Mo	etric
Total Depth Drille	ed Finished We	II Depth	Start	Date	End Date	
53.34 m			1994/	09/21	1994/09/23	
Borehole						
Diameter (cm)	From (To (m)	
0.00		0.00	-		53.34	
Surface Casing Steel	(if applicable)		<i>Vell Ca</i> Plastic	sing/Lin	er	
Size OD	: 13.97 c				: 11.43 cm	
Wall Thickness	0.620 c	m	Wall T	hickness	. 0.602 cm	
Bottom at	∵ 26.82 n				: 22.86 m	
			Е	Bottom at	: 53.34 m	
Perforations						
	Diamet		01			
From (m) T	Slo o (m) Width		Slo		Hole or Slot	
36.58			Lengti	i(CIII)	30.48	
Perforated by	Saw					
Annular Seal						
_	0.00 m		26.82	m		
Other Seals						
	Type			ı	At (m)	-
Screen Type		'				
Size OD	: 0.00 c	<u>m_</u>				
From (m)	To (n	n)		Slot Size (cm)	
Attachmen	t					
	3			n Fittings		_
Pack						
Туре			Grain	Size		
Amount						

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

INGLIS WATER WELL DRILLING

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 9:19:32 AM Page: 1 / 2



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GIC Well ID

242251 GoA Well Tag No.

Drilling Company Well ID

1994/10/28

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country DEGRAFF RESORT RR3, LACOMBE T0C 1S0 SEC TWP 1/4 or LSD RGE W of MER Block Plan Additional Description Location Lot 80 22 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.539627 Longitude -113.944258 m 396.24 m from North How Elevation Obtained How Location Obtained 304.80 m from East Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 68.19 L/min Pump Installed Yes Depth m 48.77 m Recommended Pump Intake Depth (From TOC) Type SUB H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ___ Depth Geophysical Log Taken Gas _____ Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18". Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1994/09/22 12:00 AM 6.40 m Minutes:Sec 0:00 36.58 Method of Water Removal 1.00 28 41 Type Bailer 2:00 26.73 3:00 23.35 90.92 L/min Removal Rate 4:00 20.73 Depth Withdrawn From 0.00 m 5:00 18.35 6:00 16.52 If water removal period was < 2 hours, explain why 7:00 15.06 8:00 14.14 9:00 13.17 10:00 12.41 12:00 11.31 14:00 10.79 16:00 10.24 9.66 20:00 25:00 9.36 30:00 9.20 35:00 9.08 40:00 8.96

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

INGLIS WATER WELL DRILLING

Certification No

Copy of Well report provided to owner Date approval holder signed

50:00

60:00

75:00

90:00

105:00

120:00

8.87

8.78

8.69

8.60

8.53 8.50

Printed on 7/27/2015 9:19:32 AM Page: 2 / 2



View in Imperial Export to Excel

247492

GIC Well ID GoA Well Tag No. Drilling Company Well ID

1995/01/23

GOWN ID

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Owner Name Address Town Province Country Potential KEN RAY HLDG BLACKFALDS Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description	95/01/23
KEN RAY HLDG BLACKFALDS Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description	rement in Metric
	Postal Code
09 23 041 28 4	
Measured from Boundary of GPS Coordinates in Decimal Degrees (NAD 83) 304.80 m from South Latitude 52.546293 Longitude -113.917302 How Location Obtained How Elevation Obtained Not Verified Not Obtained	<u>n</u>

Drilling Information Method of Drilling Type of Work Cable Tool New Well Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
8.84		Till	
9.75		Blue Shale	
17.07		Gray Shale	
17.98		Green Shale	
29.57		Gray Shale	
30.78		Gray Sandstone	
32.31		Gray Shale	
37.80		Gray Sandstone	
44.20		Gray Shale	

Test Date	Recommend	Recommended Pump Rate 45.46 L/min							
Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 44.20 m 1994/10/21 1994/10/24 Borehole Diameter (cm) From (m) To (m) 0.00 0.00 44.20 Surface Casing (if applicable) Steel Well Casing/Liner Plastic Plastic Wall Thickness: 0.602 cm Bottom at: 10.36 m Bottom at: 6.10 m Bottom at: 44.20 m Perforations Diameter or Slot Slot Hole or Slot Interval(cm) 30.48 Perforated by Saw Annular Seal Driven Placed from Amount 0.00 m 10.36 m Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment									
Diameter (cm)	1994/10/2	4	68.19			8.35			
## 1994/10/21	Well Compl	etion				Measure	ment in N	/letric	
Diameter (cm)	Total Depth L	Drilled Finis	shed Well Dept	h Start	Date	En	d Date		
Diameter (cm)	44.20 m			1994	/10/21	199	94/10/24		
Surface Casing (if applicable) Steel Size OD :	Borehole								
Steel Stee									
Size OD :							1.20		
Wall Thickness : 0.556 cm Wall Thickness : 0.602 cm Bottom at : 10.36 m Top at : 6.10 m Bottom at : 44.20 m Perforations From (m) To (m) Width(cm) Slot Slot Length(cm) Hole or Slot Interval(cm) 24.38 44.20 0.318 30.48 Perforated by Saw Annular Seal Driven Placed from 0.00 m to 10.36 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm To (m) From (m) Attachment Top Fittings Bottom Fittings Pack Type Grain Size		ing (if appli	icable)		Ŭ				
Diameter or Slot Hole or Slot Interval(cm) Saw Annular Seal Type At (m)					Size OL	D :1	1.43 cm		
Perforations	Wall Thickn	iess :	0.556 cm	Wall 7					
Perforations From (m) To (m) Diameter or Slot Width(cm) Lenqth(cm) Hole or Slot Interval(cm) 24.38 44.20 0.318 30.48 Perforated by Saw Annular Seal Driven Placed from	Bottor	n at :	10.36 m		Тор а	at :	6.10 m		
Diameter or Slot Hole or Slot Interval(cm)				E	Bottom a	at:4	14.20 m		
Slot	Perforations	;							
Prom (m) 10 (m) Width(cm) Length(cm) Interval(cm) 24.38				CL		Halo or Clat			
24.38 44.20 0.318 30.48 Perforated by Saw Annular Seal Driven Placed from	From (m)	To (m)			Slot		Hole of Slot		
Annular Seal Driven Placed from 0.00 m to 10.36 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size				Longti	I(CIII)				
Annular Seal Driven Placed from 0.00 m to 10.36 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Perforated by	√ Saw							
Placed from 0.00 m to 10.36 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	•								
Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size			00 m to	10.36	S m				
Other Seals Type At (m) Screen Type Size OD:					,				
Type				_					
Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Julei Geals	Type		At (m)					
Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment		1,700		At (III)					
From (m) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Screen Type)							
Attachment	Size	OD :	0.00 cm						
Top Fittings Bottom Fittings Pack Type Grain Size	From (m) To			(m)	(m) Slot Size (cm)				
Top Fittings Bottom Fittings Pack Type Grain Size	Attachment								
Pack Type Grain Size	Top Fitt	ings		Bottom Fittings				_	
	Туре			Grain Size					

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

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Well Identification and Location

GOWN ID

Water Well Drilling Report

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247492

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1995/01/23

Measurement in Metric

Owner Name Address Postal Code Town Province Country BLACKFALDS KEN RAY HLDG 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot 09 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.546293 Longitude -113.917302 m 304.80 m from South How Location Obtained How Elevation Obtained 121.92 m from East Not Verified Not Obtained Measurement in Metric Additional Information Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 45.46 L/min Pump Installed Yes Depth m 24.38 m Recommended Pump Intake Depth (From TOC) Type SUB H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth ___ m ___ Depth Geophysical Log Taken Gas _____ Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 30". Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1994/10/24 12:00 AM 8.35 m Minutes:Sec 0:00 11.35 Method of Water Removal 1.00 10.06 Type Bailer 2:00 9.63 3:00 9.47 68.19 L/min Removal Rate 9.32 4:00 Depth Withdrawn From 24.38 m 5:00 9.22 6:00 9 15 If water removal period was < 2 hours, explain why 7:00 9.07 8:00 9.04 9:00 9.02 10:00 8.99 12:00 8.94 14:00 8.92 16:00 8.86 20:00 8.76 25:00 8.71 30:00 8.69 35:00 8.66 40:00 8.63 50:00 8.59 60:00 8.56 75:00 8.46 90:00 8.43 105:00 8.41 Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING Certification No

1

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View in Imperial Export to Excel

Not Obtained

GIC Well ID GoA Well Tag No. Drilling Company Well ID

256450

1994/08/22

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country T2P 0Y4 NORTHSTAR RES/KENTING 309 535 7 AVE SW, CALGARY CANADA 31#RIG 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location 15 41 4 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.527992 Longitude -113.941269 Elevation m m from How Location Obtained How Elevation Obtained m from

Drilling Information Method of Drilling Rotary

Type of Work New Well

Map

Proposed Well Use Industrial

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
7.62		Sandy Till & Clay	
11.28		Shale	
24.38		Sandstone	

Yield Test Summary Measurement in Metric							
Recommended P	ump Rate	295.5	50 L/mir	_			
Test Date	Water Removal Rate (L/min) Static					ater Level (r	n)
1994/09/15		409.15				3.05	
Well Completion	ı				Meas	urement in	Metric
Total Depth Drille	d Finish	ed Well Depth				End Date	
24.38 m			1994	/08/15		1994/08/15	
Borehole							
Diameter (ci	m)		n (m)			To (m)	
0.00 Surface Casing (Steel	if applic	able)	00 <i>Well Ca</i> Steel	asing/Li	iner	24.38	
Size OD :	1:	3.97 cm		Size O	D :	11.43 cn	<u>n</u>
Wall Thickness:	0	.620 cm	Wall 7	hicknes	ss :	0.396 cm	n
Bottom at :		9.45 m		Тор а	at :	0.00 m	
				Bottom a	at:	18.29 m	
Perforations							
		Diameter or	CI			l Cl-+	
From (m) To	(m)	Slot Width(cm)	Slo			le or Slot erval(cm)	
6.10	3.29	0.953	Longti	i(ciii)	1110	0.95	
	riven 0.0			5 m			
Other Seals	_						
	Гуре		At (m)				
Screen Type Size OD: From (m)			(m)		Slo	ot Size (cm)	
Attachment							
Top Fittings				m Fitting	ns.		_
Pack			20110	1 11.0119			_
			Croin	Cizo			
Type			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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256450

GIC Well ID GoA Well Tag No.

Drilling Company Well ID 1994/08/22 Date Report Received

Well Identification and Location	on						Measurement in Metric
Owner Name NORTHSTAR RES/KENTING 31#RIG	Address 309 535 7 AVE SV	V, CALGARY	Town		Province	Country CANADA	Postal Code T2P 0Y4
Location 1/4 or LSD SE 8 15		W of MER	Lot Block	Plan	Additional D	escription	
Measured from Boundary of m from m from			tes in Decimal Degre 527992 Long Obtained		Но	vation w Elevation Obta t Obtained	
Additional Information							Measurement in Metric
Distance From Top of Casing to Is Artesian Flow Rate		91.44 cm	Is Flow Cor				
Recommended Pump Rate Recommended Pump Intake De	pth (From TOC)	295.50 L/min 12.19 m	Pump Installed Type SUB	Yes	Dep Make GRUND	oth PFOS /	m H.P ing)
Did you Encounter Saline Wat			m m	Geopl		en	
Additional Comments on Well		16 TO AGREE WITH		ollected for Po	tability	Submi	tted to ESRD
Yield Test				Take	n From Grour	nd Level	Measurement in Metric
	Time S	tatic Water Level			Depth to v		
1994/09/15 12:00		3.05 m	Drav	vdown (m)		ed Time es:Sec	Recovery (m)
Method of Water Removal Type Air Removal Rate Depth Withdrawn From If water removal period was < 2	24.38 m		_		3	.00 .00 .0:00	24.38 3.05 3.05
Water Diverted for Drilling							

Amount Taken

Contractor Certification

Water Source

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner

Diversion Date & Time

Date approval holder signed



View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

256451

Drilling Company Well ID 1994/08/22

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GOWNID										Date Report Receiv	eu 1994/08/22	
Well Identi	fication and L	ocation									Measurement in Metr	ric
Owner Nam NORTHSTA	e IR RES/KENTII	NG 31E	Address 300 535 7	AVE SW,	CALGARY	Town			Province	Country	Postal Code	
Location	1/4 or LSD 8	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured fr	om Boundary o	of			GPS Coordii	nates in Deci	0					
	· ·	m from			Latitude 5	2.542326	Longi	tude <u>-113.9</u>	43339	Elevation	m	
		m from			How Location	n Obtained				How Elevation Obt	ained	
					Мар					Not Obtained		

Drilling Information			
Method of Drilling Auger	Type of Work New Well		
Proposed Well Use Industrial			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
7.62		Sandy Till & Clay	
11.28		Shale	
24.38		Sandstone	

Recommended	Recommended Pump Rate159.11 L/min_							
					Static Water Level (m)			
1994/09/15		454.61			3.05			
Well Completion	on				Meas	surement in	Metric	
Total Depth Drill	led Finis	shed Well Depth	h Start	Date		End Date		
24.38 m			1994/	/08/15		1994/08/15		
Borehole								
Diameter (From				To (m)		
0.00		0.				24.38		
Surface Casing Steel			Well Ca Steel	ŭ				
		13.97 cm				11.43 cm		
		0.620 cm	Wall 7					
Bottom a	t:	9.14 m				0.00 m	_	
			E	Bottom a	at:	18.29 m	-	
Perforations								
		Diameter or Slot	Cl-+		Hole or Slot			
From (m) 1	To (m)	Width(cm)	Slot Length(cm)		Int	Interval(cm)		
	18.29	0.953		. ,		0.95		
Perforated by	Hand	Drill						
Annular Seal								
		00 m to	9.14	4 m				
_								
Other Seals			_					
	Type		At (m)					
Screen Type								
Size OL) :	cm						
From (m) To			(m)		Sle	ot Size (cm)		
Attachment								
Top Fitting	Botto	m Fitting	gs					
Pack		_						
Туре			Grain Size					
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID 256 GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1994/08/22

GOWN ID

Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country NORTHSTAR RES/KENTING 31E 300 535 7 AVE SW, CALGARY TWP 1/4 or LSD SEC RGE W of MER Block Plan Additional Description Location Lot 8 22 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.542326 Longitude -113.943339 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level 91.44 cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 159.11 L/min Pump Installed Yes Depth 0.02 m Make GOULD 25 EJ Recommended Pump Intake Depth (From TOC) 12.19 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth Depth m ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well GIC CHANGED LOCATION ON 2013-08-29 FROM LSD 08 SEC 21 TO AGREE WITH MAP. DEPTH PUMP INSTALLED @ IS UNKNOWN, NOT 0.05'. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1994/09/15 12:00 AM 3.05 m Minutes:Sec 0:00 24.38 Method of Water Removal 3.00 3.05 120:00 3.05 Type Air 454.61 L/min Removal Rate Depth Withdrawn From 24.38 m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor	Certification
Contiductor	Continuation

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name
ALKEN BASIN DRILLING LTD.

Certification No

1

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Diversion Date & Time

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Latitude 52.548977

How Location Obtained

Not Verified

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Elevation

How Elevation Obtained

m

Drilling Company Well ID 1994/07/05

GOWINID									Dale	e Report Receiv	eu 1994/07/05
Well Ident	tification and L	ocation									Measurement in Metric
Owner Nan RUSTUM F 25#RIG	me PETRO 93/SIMN	MONS	Address 1002 DOM	IE TOWER	, CALGARY	Town	1		Province	Country	Postal Code T2P 2Z2
Location	1/4 or LSD 14	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additional D	escription	
Measured t	from Boundary o	of			GPS Coordir	ates in De	cimal Degre	es (NAD 83	3)		

Not Obtained **Drilling Information** Method of Drilling Type of Work 1994/07/18 Plugged New Well Rotary Plugged with Unknown Proposed Well Use Amount Industrial

Longitude -113.930336

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.79		Clay & Rocks	
10.97		Gray Shale	
13.11		Brownish Gray Sandstone	
15.54		Gray Sandstone	
18.29		Gray Shale	

m from

m from

Yield Test Summar	y	Measurement in Metric						
Recommended Pump	Rate272.	77 L/min_						
Test Date Wa			Static Water Level (m)					
1994/06/11 295.50 9.14								
Well Completion			Measurement in Metric					
Total Depth Drilled F	inished Well Dept							
18.29 m		1994/06/11	1994/06/11					
Borehole								
Diameter (cm)		n (m)	To (m)					
0.00		.00	18.29					
Surface Casing (if ap	opiicable)	Well Casing/ Steel	Liner					
Size OD :	0.00 cm	Size	OD: 11.43 cm					
Wall Thickness :	0.000 cm	Wall Thickn	ess: 0.396 cm					
Bottom at :	0.00 m	Тој	o at :0.00_m					
			n at :18.29 m					
Perforations								
	Diameter or Slot	Slot	Hole or Slot					
From (m) To (m)								
6.10 18.29			0.95					
Perforated by Ha	nd Drill							
		·						
Annular Seal Shale Placed from		0						
Other Seals		_						
Type	<u> </u>		At (m)					
Турс	•		710 (111)					
Screen Type								
**	0.00 cm							
From (m)		(m)	Slot Size (cm)					
,		(,	0.00 0.20 (0)					
Attachment								
Top Fittings		Bottom Fitti	ngs					
Pack								
Туре		Grain Size						
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

256452

Drilling Company Well ID Date Report Received

1994/07/05

Well Ident	ification and L	ocation									Measurement in Metric
Owner Nan RUSTUM F 25#RIG	ne PETRO 93/SIMM	MONS	Address 1002 DOM	E TOWER	R, CALGARY	Town			Province	Country	Postal Code T2P 2Z2
Location	1/4 or LSD 14	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description	
Measured t		m from			Latitude	52.548977 on Obtained	•	ees (NAD 83) gitude <u>-113.9</u>		Elevation How Elevation Ob	
Additional	Information										Measurement in Metric
Distance F Is Artesia	From Top of Cas n Flow Rate		_		cm		s Flow Co	ntrol Installed Describe			
	nded Pump Rat	е			212.11 L/IIII	_		Yes		Depth RUNDFOS	m H.P Pating)
Addition	nal Comments o	n Well		Gas		<u> </u>	m	Geo	physical Log Submitted to		mitted to ESRD
Yield Test								Tak		Ground Level	Measurement in Metric
Test Date 1994/06/1		Start Tin 12:00 Al		Sta	tic Water Level 9.14 m		Dra	wdown (m)	E	h to water level Elapsed Time Minutes:Sec	Recovery (m)
F Depth Wit	f Water Remove Type A Removal Rate _ thdrawn From _ moval period wa	Air 2	95.50 L/min 18.29 m							2:00 3:00 4:00 120:00	12.19 10.67 9.14 9.14
Water Div	erted for Drillin	ng									
Water Soul	rce			An	nount Taken				Diversio	n Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

258861

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

1995/08/31

Well Ident	ification and L	ocation									Measureme	ent in Metric
Owner Nan STEWART		Address RR3, LACOMBE		Town			Province	Country		ostal Code OC 1S0		
Location	1/4 or LSD NW	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured t	from Boundary o	of			GPS Coordi	inates in Dec	imal Degre	es (NAD 83 ₎)			
		m from			Latitude	52.547170	Longi	tude113.9	33302	Elevation	m	-
m from				How Location Obtained				How Elevation Obtained				
				ı	Not Verified					Not Obtained		

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic & Stock

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.49		Clay	
10.06		Gray Shale	
10.97		Gray Sandstone	
31.39		Gray Shale	
37.49		Gray Siltstone	
43.59		Gray Shale	

Recommended Pump Rate
1995/08/21
Well Completion Measurement in Metri Total Depth Drilled Finished Well Depth Start Date End Date 43.59 m 1995/08/21 1995/08/21 Borehole Diameter (cm) From (m) To (m) 0.00 0.00 43.59 Surface Casing (if applicable) Well Casing/Liner Steel Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.602 cm Wall Thickness: 0.602 cm
Total Depth Drilled Finished Well Depth Start Date
A3.59 m 1995/08/21 1995/08/21
Diameter (cm)
Diameter (cm) From (m) To (m) 0.00 0.00 43.59 Surface Casing (if applicable) Steel Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.602 cm
0.00 0.00 43.59 Surface Casing (if applicable) Steel Well Casing/Liner Plastic Plastic Size OD: 13.97 cm Wall Thickness: 0.602 cm Wall Thickness: 0.602 cm
Surface Casing (if applicable) Well Casing/Liner Steel Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.602 cm
Steel Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.602 cm
Wall Thickness: 0.620 cm Wall Thickness: 0.602 cm
Bottom at : 30.78 m Top at : 24.38 m
24.30 III
Bottom at: 42.67 m
Perforations
Diameter or Slot Hole or Slot
From (m) To (m) Width(cm) Length(cm) Interval(cm)
30.48 42.67 0.953 0.95
Perforated by Hand Drill
Annular Seal Driven
Placed from 0.00 m to 30.78 m
Amount
Other Seals
Type At (m)
Screen Type
Size OD: 0.00 cm
From (m) To (m) Slot Size (cm)
Attachment
Top Fittings Bottom Fittings
Pack
Type Grain Size
Amount

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

258861

Drilling Company Well ID Date Report Received

1995/08/31

Well Ident	tification and I	_ocation									Measurement in	n Metric
Owner Nar STEWART			Address RR3, LAC	ОМВЕ		Towr	1		Province	Country	Postal TOC 15	
Location	1/4 or LSD NW	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot		Plan		nal Description		
Measured	from Boundary	of			GPS Coordina							
		m from			Latitude 52			tude113.9	33302	Elevation		
		m from			How Location	Obtained				How Elevation Ob	tained	
				l	Not Verified				ļ	Not Obtained		
Additional	I Information										Measurement in	n Metric
Distance F	From Top of Ca	sing to Grour	nd Level		cm							
Is Artesia	an Flow				<u>.</u>		Is Flow Con	trol Installed				
	Rate		L/min									
	ended Pump Ra	te			90.92 L/min	Pum	p Installed			Depth	m	
Recomme	ended Pump Inta	ake Depth (F	rom TOC)		35.05 m	Тур	е		Make		H.P.	
					_					Model (Output R	Pating)	
Did you	Encounter Salir	ne Water (>4	000 ppm T	DS)	Depth		m	Well Disin	fected Upon	Completion		
		,		Gas			m			Taken		
									Submitted to			
							Cample C	allooted for F	Dodobility	Cub	mitted to ESRD	
Addition	nal Comments o	n Well					Sample Co	ollected for F	-otability	Subi	TIIILled to ESKD	
			M TOP OF	F CASING	TO GROUND LE\	/EL: 2'.						
		17.11.102.11.10		07.0								
Yield Test	t							Tak		Ground Level	Measurement in	n Metric
Test Date		Start Time		Stati	c Water Level				•	h to water level		
1995/08/2	1	12:00 AM			17.37 m		Draw	down (m)		lapsed Time Minutes:Sec	Recovery (m)	
										0:00	42.67	
Method o	f Water Remov	ral								2:00	30.48	
	Type I	Air								3:00	25.30	
ı	Removal Rate		84 I /min			_				4:00	18.59	
	_									5:00	17.37	
рерит үүн	thdrawn From	42	07 111							25:00 120:00	17.37 17.37	
If water re	moval period wa	as < 2 hours	explain w	hv						120:00	17.37	
n water re	movar ponou w	ao (2 noaro,	σχριαπτινι	,								
Water Div	erted for Drilli	ing										
Water Soul	rce			Am	ount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

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Мар

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

Estimated

GOWN ID

Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country $\mathsf{KOSTER}, \mathsf{ANDREW}$ RR3, LACOMBE SEC TWP W of MER 1/4 or LSD Block Plan Additional Description Location Lot SW 23 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation 937.26 m Latitude 52.539938 _ Longitude -113.933299 m from How Location Obtained How Elevation Obtained m from

Drilling Information	
Method of Drilling Rotary	Type of Work New Well
Proposed Well Use Stock	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
19.81		Sandy Clay & Rocks	
21.64		Shale	
27.43		Shale	
33.53	Yes	Water Bearing Sand	
39.62		Shale & Sandstone	

Yield Test Summary Measurement in Metri							Metric			
Recommended Pump Rate0.00 L/min										
Test Date V	Test Date Water Removal Rate (L/min)						Static Water Level (m)			
1969/09/08	0/09/08 54.55					0.00				
•	Well Completion						Metric			
Total Depth Drilled	Finish	ed Well Dept	h Start	Date		End Date 1969/09/08				
39.62 m	39.62 m									
Borehole	Borehole									
Diameter (cm)		n (m)		To (m)					
0.00	!! .		.00			39.62				
Surface Casing (if Steel	аррис	abie)	Well Ca	asıng/Li	inei					
Size OD:	1;	3.64 cm		Size O	D:	0.00 cm				
Wall Thickness:	0.		Wall 7			0.000 cm				
Bottom at :	2	1.64 m				0.00 m				
			1			0.00 m				
Perforations										
	[Diameter or Slot	CIA	ot		Hole or Slot				
From (m) To (m)						Interval(cm)				
Perforated by										
Annular Seal Driv	ven									
Placed from		0 m to	0.0) m						
Other Seals			_							
Ty	Type					At (m)				
Screen Type										
Size OD :	(0.00 cm								
_					(m) Slot Size (cm)					
	Attachment									
Top Fittings Bottom Fittings										
Pack										
Туре			Grain	Size						
Amount										

(Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name BROWN JIM Certification No

1

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GIC Well ID GoA Well Tag No. **Drilling Company Well ID**

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Town Province Country Postal Code KOSTER, ANDREW RR3, LACOMBE SEC TWP W of MER 1/4 or LSD RGE Block Plan Additional Description Location Lot SW 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.539938 Longitude -113.933299 937.26 m m from How Location Obtained How Elevation Obtained m from Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well ORIGINALLY NO LSD Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1969/09/08 12:00 AM 0.00 m Minutes:Sec Method of Water Removal Type Bailer 54.55 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name **BROWN JIM**

Certification No

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Date Report Received

GIC Well ID GoA Well Tag No.

274801

Drilling Company Well ID 1985/09/12

GOWN ID

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										Bato Roport Rocolive	1000/00/12
Well Ident	tification and L	ocation									Measurement in Metric
Owner Nar WHITMER			Address 116 WOOI	DSTOCK F	RD SW, CAL	Town			Province	Country CANADA	Postal Code
Location	1/4 or LSD 8	SEC 15	<i>TWP</i> 41	RGE 28	W of MER 4	Lot 39	Block 5	<i>Plan</i> N1314P	Additio	onal Description	
Measured	from Boundary o	of m from				2.528078	0	es (NAD 83) itude113.94	1017	Elevation	m
		m from			How Location Lat/Long cald		entre of lot			How Elevation Obtained	ained

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
9.14		Brown Sandy Clay & Gravel
22.25		Gray Clay & Rocks
24.38		Gray Shale
24.69		Gray Sandstone
25.91		Gray Shale
27.43		Gray Sandstone

Recommended I	Pump R	ate31.8	32 L/min	_				
Test Date	Test Date Water Removal Rate (L/m							
1985/08/29		136.38		11.28				
Well Completion	on				Measure	ement in M	letric	
Total Depth Drill	ed Fini	shed Well Depth	Start					
27.43 m			1985/	5/08/29 1985/08/29				
Borehole								
Diameter (cm)					o (m)		
0.00		0.				7.43		
Surface Casing Galvanized Stee	I		Well Ca	asing/Li	ner			
		11.43 cm				0.00 cm		
Wall Thickness	::	0.358 cm	Wall 7	hicknes	s:	0.000 cm		
Bottom at	t :	24.38 m		Тор а	nt :	0.00 m		
			E	Bottom a	nt :	0.00 m		
Perforations								
Slot		Diameter or	Slot		Hole or Slot			
				n(cm)	Interv	Interval(cm)		
_	0	.00 m to		3 m				
Other Seals			_					
	At (m)							
Screen Type								
Size OD	:	0.00 cm						
From (m) To ((m) Slot Size (cm)					
Attachmen	t							
Top Fittings	s		Botto	m Fitting	ıs		_	
Pack								
Туре			Grain Size					
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALBERTA EAGLE DRILLING LTD.

Certification No

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Water Well Drilling Report

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Date Report Received

GIC Well ID

274801

GoA Well Tag No.

Drilling Company Well ID

1985/09/12

Well Identification and	d Location										Measurement	in Metric
Owner Name WHITMER, L.		Address 116 WOOD	OSTOCK RD	SW, CAL	Town			Province		untry NADA	Posta	l Code
Location 1/4 or LSE 8	SEC 15	<i>TWP</i> 41	<i>RGE</i> 28	W of MER 4	39	5	N1314P		nal Description			
Measured from Bounda	ry of m from m from	_		GPS Coordin Latitude 5 How Locatio Lat/Long cale	52.528078 n Obtained	Long	itude <u>-113.9</u>		Elevation How Elevation Not Obtained	on Obtain		
Additional Information	n										Measurement	in Metric
Distance From Top of (Is Artesian Flow Rate	•	L/min		cm	I:	s Flow Cor	ntrol Installed Describe					
Recommended Pump I	Rate		_	31.82 L/mii	n Pump	nstalled	Yes		Depth		m	
Recommended Pump I	Intake Depth (F	from TOC)		27.43 m	Туре	SUB		Make			P. <u>1/3</u>	
									Model (Out	put Ratin	ng)	
Did you Encounter Sa	alıne Water (>4						Well Disini	ected Upon	('omnlation			
.,	amio rrator (r r		Gas		1	m	Geo	physical Log Submitted to	g Taken D ESRD			
Additional Comment	ts on Well	(Gas	Depth	1	m Sample C	Geo	physical Log Submitted to	g Taken D ESRD		_	
Additional Comment GIC CHANGED LOCA Yield Test	ts on Well TION ON 2012	-12-06 FRC	Gas	Depth AGREE WITH	1	m Sample C	Geo _l	ohysical Log Submitted to otability en From G	g Taken D ESRD	Submitte		
Additional Comment	ts on Well	-12-06 FRC	Gas	Depth	1	m Sample C	Geo _l	ohysical Log Submitted to otability en From C Dept	g Taken D ESRD Ground Level	Submitte	ed to ESRD	in Metric
Additional Comment GIC CHANGED LOCA Yield Test Test Date 1985/08/29 Method of Water Rem Type	Start Time 12:00 AM noval e Air e 136 m (0)	.12-06 FRC 6.38 L/min 0.00 m	OM SE10 TO	Depth AGREE WITH	1	m Sample C	Geo collected for F	ohysical Log Submitted to otability en From C Dept	Ground Level th to water level	Submitte	ed to ESRD	in Metric
Additional Comment GIC CHANGED LOCA Yield Test Test Date 1985/08/29 Method of Water Rem Type Removal Rate Depth Withdrawn From	Start Time 12:00 AM noval e Air e 136 m (0)	.12-06 FRC 6.38 L/min 0.00 m	OM SE10 TO	Depth AGREE WITH	1	m Sample C	Geo collected for F	ohysical Log Submitted to otability en From C Dept	Ground Level th to water level	Submitte	ed to ESRD	in Metric

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALBERTA EAGLE DRILLING LTD.

Certification No

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GIC Well ID GoA Well Tag No.

274996

GOWN ID	his report will be retained in a public database.	Drilling Company Date Report Rece	
Well Identification and Location		1,11	Measurement in Metric
Owner Name Address CALIF STD CO#390	Town	Province Country	
Location 1/4 or LSD SEC TWP RGE 07 14 041 28	W of MER Lot Block Plan	Additional Description	
Measured from Boundary of 19.51 m from North 128.02 m from West	GPS Coordinates in Decimal Degrees (NAD & Latitude 52.528915 Longitude -113 How Location Obtained Not Verified	· ·	
Drilling Information			
Method of Drilling Drilled Proposed Well Use Industrial	Type of Work Structure Test Hole		
-	surement in Metric Yield Test Summ	narv	Measurement in Metric
Depth from ground level (m) Water Bearing Lithology Description	Recommended Pur	•	Static Water Level (m)
	280.42 m Borehole Diameter (cm 0.00 Surface Casing (if Size OD: Wall Thickness: Bottom at: Perforations From (m) To (Perforated by Annular Seal Placed from Amount Other Seals	Finished Well Depth Start Date	1953/10/06 To (m) 280.42 g/Liner te OD: 0.00 cm top at: 0.00 m om at: 0.00 m Hole or Slot Interval(cm)
	From (m) Attachment		Slot Size (cm)

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Town Province Country Postal Code CALIF STD CO#390 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot 07 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.528915 Longitude -113.925575 912.27 m 19.51 m from North How Location Obtained How Elevation Obtained 128.02 m from West Not Verified Survey-Air Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Depth Geophysical Log Taken Electric Gas Submitted to ESRD Electric Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why

Amount Taken

Contractor Certification

Water Diverted for Drilling

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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Diversion Date & Time

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275000

Drilling Company Well ID Date Report Received

1973/11/09

Measurement in Metric

GOWN ID Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country 6790-52 AVE, RED DEER **BRUINS PLUMBING** SEC TWP 1/4 or LSD RGE W of MER Block Plan Additional Description Location Lot SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic

Yield Test Summary

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	
20.42		Clay & Rocks	
27.43		Gray Shale	
30.48		Gray Sandstone	

Recommended F	Pump Ra	ate0.0	00 L/min	_			
Test Date	Water	Removal Rate (L/min)	Static Water Level (m))
1973/10/04		68.19		11.58			
Well Completion	n				Measu	rement in	Metric
Total Depth Drille	ed Finis	shed Well Depth	Start	Date		End Date	
30.48 m						1973/10/04	
Borehole							
Diameter (d	cm)					To (m)	
0.00		0.				30.48	
Surface Casing Steel	(if appl	icable)	Well Ca	sing/Li	ner		
		13.34 cm				0.00 cm	
Wall Thickness	:	0.000 cm	Wall T				-
Bottom at	:	23.77 m		Тор а	at :	0.00 m	_
			E	Bottom a	at:	0.00 m	-
Perforations							
		Diameter or Slot	Slo		امار	o or Slot	
From (m) T	o (m)	Width(cm)	Lenath(cm)		Hole or Slot Interval(cm)		
	0.	.00 m to) m_			
Other Seals			_				
	Type				At (m)		
	. , , ,				(,		
Screen Type							
Size OD	:	0.00 cm					
From (m)	То	(m)		Slo	t Size (cm)	
Attachment							_
Top Fittings			Bottoi	n Fitting	ys		_
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Water Well Drilling Report

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. 275000

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well identification and Loc						weasurement in wethic
Owner Name BRUINS PLUMBING	Address 6790-52 AVE, RED	DEER	Town	Province	Country	Postal Code
Location 1/4 or LSD SW	SEC TWP RGE 14 041 28	4		lan Additional D	escription	
Measured from Boundary of			in Decimal Degrees (N	· · · · · · · · · · · · · · · · · · ·		
	n from	Latitude 52.52 How Location Ob			vation w Elevation Obta	
m	n from	Not Verified	tamea		t Obtained	anica
Additional Information						Measurement in Metric
	g to Ground Level	cm				
Is Artesian Flow				nstalled		
Rate	<u>L/min</u>			escribe		
Recommended Pump Rate		0.00 L/min	Pump Installed			<u>m</u>
Recommended Pump Intake	e Depth (From TOC)	18.29 m	Type		lodel (Output Ra	H.P
						<u> </u>
Did you Encounter Saline	Water (>4000 ppm TDS)			ell Disinfected Upon Com Geophysical Log Tak		
	Gas	Depth	m	Submitted to ESF		
			Cample Callage			itted to ECDD
Additional Comments on	Well		Sample Collecti	ed for Potability	Subm	itted to ESRD
DRILLER REPORTS SOFT	WATER.					
Yield Test				Taken From Grour	ad Lovol	Measurement in Metric
	O				vater level	weasurement in weth
	Start Time St 12:00 AM	atic Water Level 11.58 m	Drawdowr		ed Time es:Sec	Recovery (m)
Method of Water Removal						
Type Pu	mp					
Removal Rate	68.19 L/min					
Depth Withdrawn From	0.00 m					
If water removal period was	< 2 hours, explain why					
Water Diverted for Drilling]					
Water Source		mount Taken L		Diversion Da	te & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275002

GOWN	

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SOWN ID					contained in this re this report will be				sidility for its	Drilling Compa Date Report R) 1971/09/15
Well Identification	on and Lo	cation									M	easurement in Metric
Owner Name LACOMBE, COU	NTY OF		Address LACOMBE			Tow	n		Province	Соц	ıntry	Postal Code
Location 1/4 SW	or LSD	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan		nal Description		
Measured from B	oundary of						ecimal Degree	•	<i>'</i>	[[
		n from			Latitude 5	52.525475		uae <u>-11</u>	13.933391	Elevation	n Obtainor	<u>m</u>
	r	n from			Map	iii Obtaiiiet	4			Not Obtained		4
				· ·					•	1101 021011100		
Drilling Informat	tion											
Method of Drilling Rotary	ng				Type of Wo New Well	rk						
Proposed Well U Municipal	<i>l</i> se											
Formation Log				Me	easurement in	Metric	Yield Tes	st Sumr	mary		Me	easurement in Metric
Depth from	Water	Litholo	gy Descriptio	n			Recomme		-	0.00 L/mir		
ground level (m)	Bearing						Test Da		Water Removal		Stati	c Water Level (m)
6.10		Sand					1971/07	7/01	54.5	5		9.45
21.64			& Rocks				Well Con	•				easurement in Metric
32.00		Shale					32.00 m	th Drille	d Finished Well	Depth Start	Date	End Date 1971/07/01
							Borehole					197 1/07/01
								neter (cr	m)	From (m)		To (m)
							Didii	0.00		0.00		32.00
							Surface C Steel	Casing ((if applicable)	Well Ca	asing/Line	r
								ize OD :		_	Size OD:	
							Wall Thi			_	Thickness :	
							Boi	ttom at :	27.43 m	_	Top at : Bottom at :	
							Perforation	ons		,	solioni ai .	0.00 111
									Diamete			
							From (m) To	Slot (m) Width(Hole or Slot Interval(cm)
							Perforated	d by		'		
							Annular S				_	
							Placed	_	0.00 m t	0.00	0 m	
							Other Sea	nount				
							Other oca		Туре		A	t (m)
							Screen Ty	•	0.00 cn	n		
								om (m)		To (m)		Slot Size (cm)
							Attac	chment				
										Botto	m Fittings	
							Pack			_	- <u>-</u>	
										Grain	Size	
							Amount					

Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Water Well Drilling Report

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275002

GIC Well ID 279 GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1971/09/15

Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country LACOMBE, COUNTY OF LACOMBE SEC TWP 1/4 or LSD RGE W of MER Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Yes Depth m Recommended Pump Intake Depth (From TOC) 21.34 m Type HAND H.P. Model (Output Rating) Did you Encounter Saline Water (>4000 ppm TDS) m___ Well Disinfected Upon Completion Depth m ____ Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1971/07/01 12:00 AM 9.45 m Minutes:Sec Method of Water Removal Type Pump 54.55 L/min Removal Rate 0.00 m Depth Withdrawn From If water removal period was < 2 hours, explain why Water Diverted for Drilling Diversion Date & Time Water Source Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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View in Imperial Export to Excel

275003

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

JOWN ID				L	Date Report Receiv	red 1972/11/14
Well Identification and Location	า					Measurement in Metri
Owner Name BRUINS, R.C.	Address RED DEER	Town		Province	Country	Postal Code
Location 1/4 or LSD SEC SW 14	TWP RGE 041 28	W of MER Lot	Block Plan	Additiona	al Description	
Measured from Boundary of m from m from		GPS Coordinates in Dec Latitude 52.525475 How Location Obtained Map	cimal Degrees (NAD Longitude <u>-11</u>	3.933391	Elevation How Elevation Ob. Not Obtained	m_tained
Drilling Information						
Method of Drilling Unknown Proposed Well Use Domestic		Type of Work New Well				
Formation Log	N	Measurement in Metric	Yield Test Sumr	marv		Measurement in Metri
-	logy Description		Recommended Pu	-	0.00 L/min	
ground level (m) Bearing	logy Description			Water Removal R	ate (L/min)	Static Water Level (m)
12.80 San	d		1972/08/28	45.46		7.32
21.95 Blue	Shale		Well Completion			Measurement in Metri
			Total Depth Drilled 21.95 m Borehole	d Finished Well [Depth Start Date	End Date 1972/08/28
			Diameter (cr 0.00	m)	From (m) 0.00	To (m) 21.95
			Perforated by Annular Seal Dr Placed from Amount Other Seals Screen Type Size OD : From (m) Attachment Top Fittings	12.70 cm 0.000 cm 12.80 m Diameter Slot Width(cr	Wall Thickri To Botton or Slot Length(cm) 0.00 m To (m) Bottom Fitt	OD: 0.00 cm pess: 0.000 cm pat: 0.00 m mat: 0.00 m Hole or Slot Interval(cm) At (m) Slot Size (cm)
			Type Amount		Grain Size	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. 275003

1972/11/14 Date Report Received

Drilling Company Well ID

Well Identification and Location				Measurement in Metric
Owner Name Address BRUINS, R.C. RED DEER	Town	Provin	ce Country	Postal Code
Location 1/4 or LSD SEC TWP RGE SW 14 041 28	4		tional Description	
Measured from Boundary of m from m from	GPS Coordinates in Decima Latitude 52.525475 How Location Obtained Map	• • •	Elevation How Elevation Ol Not Obtained	
Additional Information				Measurement in Metric
Distance From Top of Casing to Ground Level Is Artesian Flow Rate L/min	Is FI	ow Control Installed Describe		
Recommended Pump Rate Recommended Pump Intake Depth (From TOC)	0.00 L/min Pump Ins	stalled Make	Depth	т Н.Р
				Rating)
Did you Encounter Saline Water (>4000 ppm TDS) Gas	Depth r		Log Taken d to ESRD	mitted to ESRD
Additional Comments on Well DRILLER REPORTS SOFT WATER.		· · · · · ·		
Yield Test		Taken From	Ground Level	Measurement in Metric
Test Date Start Time S 1972/08/28 12:00 AM	Static Water Level 7.32 m	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal Type Pump Removal Rate 45.46 L/min Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why				
Water Diverted for Drilling Water Source	Amount Taken	Diver	sion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

Copy of Well report provided to owner

Date approval holder signed



View in Imperial Export to Excel GIC Well ID

275004

GoA Well Tag No. Drilling Company Well ID

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30WIN ID					Date Report Received							
Well Iden	tification and L	ocation									Measurement i	n Metric
Owner Nar BC PLUME			Address LACOMBE	.		Town			Province	Country	Postal	l Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured	from Boundary o	of			GPS Coordin	nates in Dec	imal Degree	es (NAD 83)			
modod.ou		m from			Latitude 5	2.525475	Longi	ude <u>-113.9</u>	33391	Elevation	m	
		m from			How Location	n Obtained				How Elevation Ob	tained	
					Мар					Not Obtained		
Daillia at Ind								•				

Method of Drilling Unknown Proposed Well Use Industrial	Type of Work New Well		
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log	Measurement in Metric		
Depth from ground level (m)	Water Bearing	Lithology Description	
0.61		Topsoil	
15.24		Clay & Sand	
20.12		Blue Shale	

Recommended	l Pump Ra	ate0.0	00 L/min	_		
Test Date	Water	Removal Rate ((L/min) Static Water Level (m)			
1972/05/16		45.46			6.71	
Well Complet					Measurement in Me	ric
Total Depth Dri	illed Finis	shed Well Depth	Start	Date	End Date	
20.12 m					1972/05/16	
Borehole						
Diameter	(cm)	From	n (m)		To (m)	
0.00			00		20.12	
Surface Casin Steel	g (if appl		Well Ca Plastic	sing/Li	iner	
		12.70 cm			D: 10.80 cm	
			Wall T	hicknes	ss: 0.000 cm	
Bottom a	at:	15.24 m		Тор а	at : 0.00 m	
			Ε	Bottom a	at: 0.00 m	
Perforations						
		Diameter or				
From (m)	To (m)	Slot Width(cm)	Slo Length		Hole or Slot Interval(cm)	
Perforated by	Unkno	own				
Annular Seal	Driven					
Placed from	0.	00 m to	0.00) m_		
Amount			_			
Other Seals						
	Type				At (m)	
Screen Type						
Size O	D :	0.00 cm				
From (m)	То	(m)		Slot Size (cm)	7
Attachme	nt					
			Bottom Fittings			
Top Fitting	gs		Bottor	ท Fitting	gs	
Top Fitting Pack	gs		Bottor	n Fitting	gs	
Pack					gs	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

Copy of Well report provided to owner Date approval holder signed

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GIC Well ID GoA Well Tag No. **Drilling Company Well ID**

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received Well Identification and Location Measurement in Metric Address Owner Name Town Province Country Postal Code BC PLUMBING LACOMBE SEC TWP 1/4 or LSD RGE W of MER Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS MEDIUM HARD WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1972/05/16 12:00 AM 6.71 m Minutes:Sec Method of Water Removal Type Pump 45.46 L/min Removal Rate 0.00 m Depth Withdrawn From If water removal period was < 2 hours, explain why

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

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GIC Well ID GoA Well Tag No.

Drilling Company V

275006

SOWN ID	accuracy. The information on this report will be	e retained in a public datab	ase.	Date Report Rece	
Well Identification and Location				·	Measurement in Metric
Owner Name FREEMAN, JEAN	Address P.O. BOX 1000 DIDSBURY	Town	Provin	nce Country	y Postal Code
Location 1/4 or LSD SEC SW 14	TWP RGE W of MER 041 28 4	Lot Block	Plan Add	litional Description	
Measured from Boundary of m from m from	Latitude	dinates in Decimal Degi 52.525475 Lon ion Obtained	rees (NAD 83) ngitude113.933391	Elevation How Elevation C	908.30 m Obtained
Dulling Information					
Drilling Information Method of Drilling Unknown Proposed Well Use Domestic	Type of Wo Chemistry	'ork			
Formation Log	Measurement in	n Metric Yield T	est Summary		Measurement in Metric
Depth from ground level (m) Water Bearing Lithold	ogy Description		mended Pump Rate Date Water Remo	L/min oval Rate (L/min)	Static Water Level (m)
		Well C	ompletion	<u> </u>	Measurement in Metric
			epth Drilled Finished V n	Well Depth Start Dat	
			iameter (cm)	From (m)	To (m)
			0.00	0.00	32.61
		Surface	e Casing (if applicable	e) Well Casir	ng/Liner
			Size OD: 0.00	cm Siz	ze OD: 0.00 cm
		Wall T	Thickness: 0.000		
		1 1	Bottom at : 0.00		Top at : 0.00 m
					om at : 0.00 m
		Perfora	ntions		
		From		neter or Slot Slot dth(cm) Length(cr	Hole or Slot Interval(cm)
		Perfora Annula	,		
		1 1	O.00 m Amount Seals	to0.00 m	<u>1</u>
			Туре		At (m)
		Screen	Type Size OD: 0.00	cm_	
			From (m)	To (m)	Slot Size (cm)
			ttachment op Fittings	Bottom F	
		Pack Type			re
		Amou	unt		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Certification No

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275006

Drilling Company Well ID

Date Report Received 1977/05/30

Well Identification and Location Measurement in Metric Address Town Postal Code Owner Name Province Country FREEMAN, JEAN P.O. BOX 1000 DIDSBURY 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 908.30 m m from How Location Obtained How Elevation Obtained m from Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed



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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN ID

Well Iden	tification and L	ocation									Measu	rement in Metric
Owner Name Address SCARLETT, RALPH BENTLEY			Town Provin			Province	e Cour	ntry	Postal Code			
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additi	ional Description		
Measured	from Boundary o	of			GPS Coordii	nates in Dec	imal Degre	es (NAD 83)			
		m from		- 1	Latitude 5	2.525475	Longi	tude -113.9	33391	Elevation	906.78	<u>m</u>
m from			How Location	n Obtained				How Elevation	Obtained			
					Not Verified					Estimated		

Method of Drilling Rotary	Type of Work New Well		
Proposed Well Use Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric
		1	

Formation Log	Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description
12.19		Sandy Clay & Gravel
21.34		Shattered Shale
27.43		Shale & Sandstone

Recommended Pump Rate 18.18 L/min										
		Removal Rate								
1978/06/20	0	15.91			7.62					
Well Compl	etion				Measurem	ent in N	/letric			
Total Depth I	Drilled Finis	shed Well Depti	h Start	Date	End I	Date				
27.43 m			1978	06/20	1978	/06/20				
Borehole										
	er (cm)				To (r					
0.			00		27.4	.3				
Surface Cas Galvanized S		icable)	Well Ca	asing/Lii	ner					
		11.43 cm) : <u> </u>					
		0.358 cm	Wall 7	hickness	s : 0.0	00 cm				
Bottor	m at :	22.25 m		Тор а	t :0.	00 m				
			E	Bottom a	t: 0.	00 m				
Perforations	3									
		Diameter or	Slot		Hole or Slot					
From (m)	To (m)	Slot Width(cm)		n(cm)	Interval(cm)					
	(,			iqui(ciii)						
Perforated by	У									
Annular Sea	l Driven									
		.00 m to	22.25	5 m						
		_								
Other Seals			_							
	Type		At (m)							
			711 (117)							
Screen Type	9									
Size	OD :	0.00 cm								
			(m)		Slot Size	(cm)				
Attachr	ment	'								
			Botto	m Fitting	s					
Pack										
Type			Grain Size							
Amount										

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

RICHMOND WW DRLG

Certification No

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275007

GIC Well ID 27 GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN ID

Well Ident	tification and L	ocation									Measur	ement in Metric
Owner Nan SCARLETT			Address BENTLEY			Town			Province	Country	,	Postal Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot		Plan		nal Description		
Measured f	from Boundary (of m from m from			GPS Coordin Latitude 52 How Location Not Verified	2.525475				Elevation How Elevation O Estimated		_
Additional	Information										Measur	ement in Metric
	From Top of Cas in Flow Rate		_			Is	s Flow Con					
	nded Pump Rai nded Pump Inta	te			18.18 L/min		Installed \(\) SUB	/es		Depth Model (Output I	m H.P. <u>1/3</u> Rating)	
Addition	Encounter Salir nal Comments o REPORTS SOF	on Well	(Gas			m	Geo				RD
Yield Test								Tak		Ground Level h to water level	Measur	ement in Metric
Test Date 1978/06/20		Start Time 12:00 AM		Stati	c Water Level 7.62 m		Draw	down (m)	E	lapsed Time Minutes:Sec	Recov	very (m)
Depth Wit	f Water Remov Type [Removal Rate _ thdrawn From _ moval period wa	Pump 1:	0.00 m									
Water Div	erted for Drilli	ng										
Water Sour	rce			Am	ount Taken				Diversion	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

RICHMOND WW DRLG

Certification No

1

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Drilling Information Method of Drilling

31.09

42.67

Rotary

GOWN ID

Water Well Drilling Report

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Type of Work

New Well

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GIC Well ID GoA Well Tag No.

275008

Drilling Company Well ID Date Report Received 1980/05/02

Well Identification and Location Measurement in Metric Address Town Postal Code Owner Name Province Country HODGSON, RON **LACOMBE** 1/4 or LSD SEC TWP W of MER RGE Lot Block Plan Additional Description Location SW 14 041 28 3 5600MC GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525475 Longitude -113.933391 Elevation 906.78 m m from How Location Obtained How Elevation Obtained m from Мар Estimated

Proposed Well Use Domestic Formation Log Measurement in Metric Depth from Water Lithology Description ground level (m) Bearing 12.50 Clay 30.48 Shale

Sandstone

Shale

Yield Test Sumr		Measurement in Metric			
Recommended Pu	ımp Rate	0.00	L/min	_	
Test Date	Water Ren	noval Rate (L/	min)		Static Water Level (m)
1980/03/18		36.37			9.14
Well Completion					Measurement in Metric
Total Depth Drilled	l Finished	Well Depth	Start	Date	End Date

1980/03/18	3	36.37	9.14						
Well Compl	etion			M	easurement in Metric				
Total Depth L	Drilled Fini	shed Well Depth	Start E	End Date					
42.67 m			1980/0	3/18	1980/03/18				
Borehole									
	er (cm)	From			To (m)				
0.0		0.0			42.67				
Surface Casing (if applicable) Steel Well Casing/Liner Steel									
Size	OD :	13.97 cm		Size OD :	11.43 cm				
Wall Thickn	ess:	0.396 cm			0.318 cm				
Bottor		13.72 m		Top at:	0.00 m				
			В	ottom at :	30.48 m				
Perforations	;								
		Diameter or Slot			Hole or Slot				
From (m) 24.38	To (m) 30.48	Width(cm) 0.635	Length	(cm)	Interval(cm) 20.32				
Annular Seal Driven Placed from 0.00 m to 13.72 m Amount									
Other Seals			-						
	Type		At (m)						
Screen Type		0.00 cm							
	OD :								
From	n (m)	To (111)		Slot Size (cm)				
Attachn	nent								
Top Fitt	ings		Bottom Fittings						
Pack									
Туре			Grain S	Size					
Amount	0.00								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275008

Drilling Company Well ID 1980/05/02

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country HODGSON, RON LACOMBE SEC TWP 1/4 or LSD RGE W of MER Lot Block Plan Additional Description Location SW 14 041 28 3 Α 5600MC GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Longitude -113.933391 Latitude 52.525475 906.78 m m from How Location Obtained How Elevation Obtained m from Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 18.29 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ___ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS SOFT WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1980/03/18 12:00 AM 9.14 m Minutes:Sec Method of Water Removal Type Air 36.37 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275010

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Drilling Company Well ID Date Report Received

1935/08/06

OWN ID		Date Report Received 1935/08/06
Well Identification and Location		Measurement in Me
Owner Name Address WILSON, A. LACOMBE	Town Provinc	e Country Postal Code
Location 1/4 or LSD SEC TWP RGE SW 14 041 28	W of MER Lot Block Plan Addit 4	ional Description
Measured from Boundary of m from m from	GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.525475 Longitude -113.933391 How Location Obtained Field	Elevation 914.40 m How Elevation Obtained Estimated
Drilling Information		
Method of Drilling Drilled Proposed Well Use Unknown	Type of Work Federal Well Survey	
	Measurement in Metric Yield Test Summary	Measurement in Me
Depth from Water Lithology Description	Recommended Pump Rate	L/min_
ground level (m) Bearing	Test Date Water Remove	al Rate (L/min) Static Water Level (m)
	Well Completion Total Depth Drilled Finished W.	Measurement in Me
	27.43 m Borehole	
	Diameter (cm) 0.00	From (m) To (m) 0.00 27.43
	Surface Casing (if applicable)	-
	Size OD :0.00	
	Bottom at : 0.00	m
	Perforations	Bottom at : 0.00 m
	SI	eter or lot Slot Hole or Slot h(cm) Length(cm) Interval(cm)
	Perforated by	
	Annular Seal Placed from 0.00 m Amount	to
	Other Seals Type	At (m)
	Screen Type Size OD: 0.00 From (m)	CM Slot Size (cm)
	Attachment Top Fittings	Bottom Fittings
	Pack Type	Grain Size

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID

275010 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1935/08/06

Well Iden	tification and	Location									Measu	rement in Metric
Owner Nar WILSON, A			Address LACOMBE			Town			Province	Country	Y	Postal Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	<i>RGE</i> 28	W of MER 4	Lot	Block	Plan		nal Description		
Measured	from Boundary	of m from m from			GPS Coordinat Latitude 52. How Location (Field	525475	•	es (NAD 83) tude113.9	· .	Elevation How Elevation C		n
Additional	I Information										Measu	rement in Metric
	From Top of Ca an Flow Rate				cm	Is	Flow Con	trol Installed	d 			
	ended Pump Ra ended Pump Int				L/min m					Depth	m	
Necomme	гнава ғатр т	ake Depuii (i	110111100)			туре			wake	Model (Output		
Did you	Encounter Sali	ne Water (>		OS) Gas						Completion g Taken g ESRD		
	nal Comments o					,	Sample Co	ollected for I	Potability	Su	bmitted to ES	SRD
Yield Test	t							Та	ken From G	Ground Level	Measu	rement in Metric
Test Date	•	Start Time	е	Stat	tic Water Level m							
Method o	of Water Remov											
	Type _ Removal Rate _					_						
	ithdrawn From											
If water re	emoval period w	as < 2 hours	s, explain wh)y								
Water Div	verted for Drill	ling										
Water Sou	ırce			An	nount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Date approval holder signed



Water Well Drilling Report

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View in Imperial Export to Excel

Date Report Received

GIC Well ID GoA Well Tag No.

275011

Drilling Company Well ID

1980/09/29

Measurement in Metric

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country **BRUINS PLUMBING** RED DEER SEC TWP W of MER Block 1/4 or LSD RGE Plan Additional Description Location Lot SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 914.40 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
9.45		Clay	
11.28		Gray Clay	
24.38		Shale	

		ate0.0					
Test Date	Water	Static Water Level (m)					
1980/09/15		31.82				5.49	
Well Complete Total Depth Drie 24.38 m		shed Well Depth		Measurement in Metri rt Date End Date 0/09/15 1980/09/15			
Borehole							
Diameter 0.00		From 0.	n (m) 00			To (m) 24.38	
Surface Casing Steel	g (if appl	icable)	Well Ca Steel	asing/L	iner		
Size O	D :	13.97 cm		Size O	D :	11.43 cm	_
Wall Thicknes	s:	0.478 cm	Wall 7				_
Bottom a	at :	14.94 m		Тор а	at :	0.00 m	-
			I	Bottom a	at:	24.38 m	_
Perforations							
	Diameter or Slot rom (m) To (m) Width(cm) 21.34 24.38 0.635				Int	le or Slot erval(cm) 20.32	
Perforated by	Torch						
Annular Seal Placed from	Driven 0	.00 m to			At (m)	
	. ,,,,		7.6 (111)				
Screen Type Size Of		0.00 cm	(m)		Slo	ot Size (cm)	
					,		
Attachment							
Top Fitting	Botto	m Fitting	gs		_		
Pack							
Туре			Grain Size				
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Water Well Drilling Report

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Date Report Received

GIC Well ID 275

GoA Well Tag No. Drilling Company Well ID

1980/09/29

Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country **BRUINS PLUMBING** RED DEER 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 914.40 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Yes Depth m Recommended Pump Intake Depth (From TOC) 16.76 m Type SUB H.P. 1/2 Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth Depth ____ m ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS SOFT WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1980/09/15 12:00 AM 5.49 m Minutes:Sec Method of Water Removal Type Air 31.82 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name SCHMIDT DRILLING LTD. Certification No

1

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GIC Well ID 275014 GoA Well Tag No.

Drilling Company Well ID

1980/10/27

GOWN ID

Date Report Received Well Identification and Location Measurement in Metric Address Owner Name Town Postal Code Province Country OTTO, W. **EDMONTON** 1/4 or LSD SEC TWP W of MER Block RGE Plan Additional Description Location Lot SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude _-113.933391 914.40 m m from How Elevation Obtained How Location Obtained m from Estimated

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Measurement in Metric

Test Date	Recommended Pump Rate0.00 L/min_										
Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth 24.38 m Start Date 1980/10/01 End Date 1980/10/02 Borehole Diameter (cm) From (m) To (m) 24.38 Surface Casing (if applicable) Steel Well Casing/Liner Steel Size OD: 13.97 cm Steel Size OD: 11.43 cm Wall Thickness: 0.478 cm Wall Thickness: 0.318 cm Bottom at: 14.33 m Top at: 0.00 m Bottom at: 24.38 m Perforations Diameter or Slot Slot Length(cm) Interval(cm) 21.34 24.38 0.635 Slot Length(cm) Interval(cm) 20.32 Perforated by Torch Annular Seal Driven Placed from 0.00 m to 14.33 m Amount At (m) Other Seals Type At (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Test Date	Water	Removal Rate (L/min)	Static Water Level (m)						
Diameter (cm)	1980/10/02		45.46 4.27								
## Diameter (cm) From (m) To (m) 0.00 0.00 0.00 24.38 Surface Casing (if applicable) Steel Size OD :							Metric				
Diameter (cm)	,	rilled Fini	shed Well Depth								
Diameter (cm)	24.38 m			1980/	/10/01	1980/10/02					
Surface Casing (if applicable) Steel Size OD : 13.97 cm Size OD : 11.43 cm Wall Thickness : 0.478 cm Wall Thickness : 0.318 cm Bottom at : 14.33 m Top at : 0.00 m Bottom at : 24.38 m Perforations	Borehole										
Surface Casing (if applicable) Steel Size OD :											
Size OD :					asing/Lin						
Wall Thickness : 0.478 cm Wall Thickness : 0.318 cm Bottom at : 14.33 m Top at : 0.00 m Bottom at : 24.38 m Perforations From (m) To (m) Width(cm) Length(cm) Interval(cm) 21.34 24.38 0.635 20.32 Perforated by Torch Annular Seal Driven Placed from				Steel							
Diameter or Slot Hole or Slot Interval(cm) 21.34 24.38 M	Size ()D :	13.97 cm		Size OD	11.43 cm					
Perforations Diameter or Slot Hole or Slot Interval(cm) 21.34 24.38 0.635 20.32	Wall Thickne	ess:	0.478 cm								
Perforations From (m) To (m) Diameter or Slot Slot Length(cm) Hole or Slot Interval(cm) 21.34 24.38 0.635 20.32 Perforated by Torch Annular Seal Placed from 0.00 m to 14.33 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Pack Type Grain Size	Bottom	at :	14.33 m		Top at	t: 0.00 m	•				
Diameter or Slot Hole or Slot Interval(cm)	Portorations			Bottom at : 24.38 m							
Slot Slot Hole or Slot Interval(cm)	renorations		Diameter or								
From (m) To (m) Width(cm) Length(cm) Interval(cm) 21.34 24.38 0.635 20.32 Perforated by Torch Annular Seal Driven Placed from			Slot		ot	Hole or Slot					
Perforated by Torch Annular Seal Driven Placed from 0.00 m to 14.33 m Amount Other Seals Type At (m) Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size				Length	n(cm)	Interval(cm)					
Annular Seal Driven Placed from 0.00 m to 14.33 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	21.34	24.38	0.635			20.32					
Placed from 0.00 m to 14.33 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Perforated by	Torch	ı								
Amount Other Seals Type At (m) Screen Type Size OD :	Annular Seal	Driven									
Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Placed from	70	.00 m to	14.33	3 m						
Type	Amoun	t		_							
Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment	Other Seals										
Size OD :		Type		At (m)							
Size OD :											
From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Screen Type										
Attachment Bottom Fittings Pack Type Grain Size	Size C	DD :	0.00 cm								
Top Fittings Bottom Fittings Pack Type Grain Size	From	(m)	То	(m)		Slot Size (cm)					
Top Fittings Bottom Fittings Pack Type Grain Size	Attachme	ent									
Pack Type Grain Size											
			_								
	Type			Grain Size							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Water Well Drilling Report

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275014

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1980/10/27

Well Identi	fication and L	_ocation									Measu	rement in Metric
Owner Nam OTTO, W.	1e		Address EDMONTO	N		Town			Province	Country	′	Postal Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan		nal Description		
Measured fr	rom Boundary (m from m from			GPS Coordina Latitude 52. How Location Map	.525475	•	es (NAD 83) tude <u>-113.9</u> 3		Elevation How Elevation O Estimated		n
Additional	Information										Measu	rement in Metric
Distance Fr Is Artesian	rom Top of Cas n Flow Rate					I	s Flow Cont					
Recommer	nded Pump Rat	te			0.00 L/min	Pump	o Installed				m	
Recommer	nded Pump Inta	ake Depth (I	From TOC)		12.19 m	Туре	9		Make		H.P.	
										Model (Output	Rating)	
Did you E	Encounter Salin	ne Water (>4	4000 ppm TL G	OS) Gas	Depth _ Depth _		m m	Geo	fected Upon physical Log Submitted to	Completion Taken ESRD		
	al Comments o						Sample Co	llected for F	Potability	Sul	bmitted to ES	SRD
Yield Test								Tak		Fround Level In to water level	Measu	rement in Metric
Test Date 1980/10/02	2	Start Time 12:00 AM		Static	Water Level 4.27 m		Draw	down (m)	E	lapsed Time Minutes:Sec	Reco	overy (m)
R	Water Remov Type _F Removal Rate _ hdrawn From _	Air 4										
If water ren	moval period wa	as < 2 hours	s, explain wh	у								
Water Dive	erted for Drilli	ng										
Water Source				Amo	ount Taken L				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

1

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Proposed Well Use Domestic

Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275015

Drilling Company Well ID Date Report Received 1980/10/27

GOWN ID		a	iccuracy. The i	illoillialloil oi	i tilis report will be i	etaineu iii a	public databas	c.	Da	ate Report Receiv	ed 1980/10/27	
Well Iden	tification and L	ocation									Measurement in N	/letric
Owner Nar MERRICK			Address EDMONT	ON		Town	1		Province	Country	Postal Co	de
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additional	Description		
Measured	from Boundary (m from m from			GPS Coordir Latitude 5 How Location Map	2.525475	Longi	es (NAD 83 tude <u>-113.</u> 9	933391 E	Elevation How Elevation Obt	914.40 m	
Drilling In	formation											
Method of Rotary	Drilling				Type of Wor New Well	rk						

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
4.57		Sand	
11.58		Clay	
25.91		Shale	

Yield Test Sun	nmary				Me	asurement in M	letric
Recommended	Pump Rat	е	0.00 L/mir	<u> </u>			
Test Date	Water F	Removal Ra	te (L/min)	S	Static Water Level (m)		
1980/09/13		45.46				4.88	
Well Completion					Me	asurement in M	letric
Total Depth Drill	ed Finish	ned Well De	,			End Date	
25.91 m			1980	/09/13		1980/09/13	
Borehole							
Diameter (0.00		F	rom (m) 0.00			To (m) 25.91	
Surface Casing Steel		able)	Well Co	asing/Li	iner		
) : 1	3.97 cm	Sieei	Size O	D:	11.43 cm	
			Wall			0.318 cm	
Bottom a					_	0.00 m	
						25.91 m	
Perforations							
From (m) T	o (m)	Diameter o Slot Width(cm) 0.635	Slo	ot h(cm)		Hole or Slot Interval(cm) 25.40	
Perforated by	Torch						
Annular Seal Placed from Amount	0.0	0 m_ to		3 m			
Other Seals							
	Type				At	(m)	
Screen Type		0.00 am					
		0.00 cm	T- ()			Cl-+ Cl ()	
From (m	1)		To (m)			Slot Size (cm)	
Attachmen	t						
Top Fittings				m Fitting	gs _		_
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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GIC Well ID GoA Well Tag No.

275015

Drilling Company Well ID 1980/10/27

GOWN ID

GOWN ID	accuracy: The ini	omaton on the report will be ret	anica in a public database	•	Date Report Rece	ived 1980/10/27
Well Identification and	d Location					Measurement in Metric
Owner Name MERRICK, D.	Address EDMONTO	N	Town	Provi	nce Country	Postal Code
Location 1/4 or LSE SW	SEC TWP 14 041	RGE W of MER 28 4	Lot Block		ditional Description	
Measured from Bounda	ry of m from m from	I	tes in Decimal Degrees 525475 Longitu Obtained	* * * * * * * * * * * * * * * * * * *	Elevation How Elevation Of Estimated	
Additional Information	า					Measurement in Metric
Distance From Top of 0 Is Artesian Flow	Casing to Ground Level	cm	Is Flow Contro	ol Installed Describe		
Recommended Pump I Recommended Pump I	Rate Intake Depth (From TOC)	0.00 L/min 11.58 m	Pump Installed Ye	es	Depth	m
Did you Encounter Sa Additional Comment DRILLER REPORTS S	s on Well	OS) Depth _ Gas Depth _	<u>m</u>	Geophysical	lpon Completion I Log Taken ed to ESRD Sub	omitted to ESRD
Yield Test				Taken Fro	m Ground Level	Measurement in Metric
Test Date 1980/09/13	Start Time 12:00 AM	Static Water Level 4.88 m	Drawd	own (m)	Depth to water level Elapsed Time Minutes:Sec	Recovery (m)
Removal Rate Depth Withdrawn Fron	Pump	y	_			
Water Diverted for Di	rilling					
Water Source	-	Amount Taken L		Dive	ersion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Date approval holder signed



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GIC Well ID 27 GoA Well Tag No.

275016

Drilling Company Well ID
Date Report Received 1982/07/28

GOWN ID

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country SKAVBERG, ERIC CALGARY SEC TWP RGE W of MER 1/4 or LSD Block Plan Additional Description Location Lot SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525475 Elevation Latitude __ Longitude _-113.933391 m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained

Drilling Information			
Method of Drilling Rotary	Type of Work New Well		
Proposed Well Use Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
20.42		Clay	
27.74		Shale	
32.00		Sandstone	

Recommended F	Pump Ra	ate0.0	0 L/min	_			
Test Date	Water	Removal Rate (L/min) Static Water Level (n			ater Level (m)
1982/07/12		90.92	9.45				
Well Completion	n				Meas	urement in I	Metric
Total Depth Drille	ed Finis	shed Well Depth	Start	Date		End Date	
32.00 m			1982	07/12		1982/07/12	
Borehole							
Diameter (cm)					To (m)	
0.00		0.0				32.00	
Surface Casing Steel	(if appl	icable)	Well Ca	asing/Li	ner		
		11.43 cm				0.00 cm	
Wall Thickness	:	0.396 cm	Wall 7	hicknes	s:	0.000 cm	_
Bottom at	:	24.38 m		Тор а	at :	0.00 m	
		E	Bottom a	at:	0.00 m	_	
Perforations							
		Diameter or Slot	Slo		Ца	le or Slot	
From (m) T	o (m)	Width(cm)		n(cm)	Int	erval(cm)	
Perforated by Annular Seal Placed from		.00 m_to	24.38	3 m_			
Amount _			_				
Other Seals							
	Type				At (m)	
Screen Type							
Size OD	:	0.00 cm					
From (m)	То	(m)		Slo	ot Size (cm)	
Attachmen	t						_
Top Fittings	3		Botto	m Fitting	ys		
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

1

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275016

Drilling Company Well ID Date Report Received

1982/07/28

Well Iden	tification and I	Location							Measurement in N	∕ letric
Owner Nar SKAVBER			lress .GARY		Town		Province	Country	Postal Co	ide
Location	1/4 or LSD SW		WP RGE 41 28	4	Lot Block			al Description		
Measured	from Boundary	of m from m from	<u>_</u>	GPS Coordinate Latitude 52.5 How Location C		grees (NAD 83) ngitude <u>-113.93</u>	33391	Elevation How Elevation Ob Not Obtained		
Additional	Information								Measurement in M	/letric
Distance I Is Artesia	an Flow	sing to Ground L L/m	evel		Is Flow C	Control Installed Describe				
Recomme	ended Pump Ra	te		0.00 L/min	Pump Installe				m	
Recomme	ended Pump Inte	ake Depth (From	TOC)	24.38 m	Type <u>JET</u>		Make		H.P. 1/2	_
									ating)	
Did you	Encounter Salii	ne Water (>4000		Depth	m m	Geop		Taken		_
	nal Comments o				Sample	Collected for Po	otability	Subr	mitted to ESRD	_
Yield Test	t					Take	en From Gr		Measurement in M	/letric
Test Date 1982/07/1		Start Time 12:00 AM	S	tatic Water Level 9.45 m	Di	rawdown (m)	Ela	npsed Time inutes:Sec	Recovery (m)	
Depth Wi	thdrawn From	90.92 0.00	m		-					
		as < 2 hours, exp	olain why							
	erted for Drill	ing								
Water Sou	rce		,	Amount Taken			Diversion	Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

SCHMIDT DRILLING LTD.

Certification No

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GIC Well ID

275018

GoA Well Tag No. **Drilling Company Well ID**

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1982/06/11 Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country LACOMBE FISH & GAME ASSOC LACOMBE TWP 1/4 or LSD SEC RGE W of MER Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Obtained **Drilling Information** Type of Work Method of Drilling Unknown Chemistry Proposed Well Use Municipal Formation Log Measurement in Metric **Yield Test Summary** Measurement in Metric Recommended Pump Rate L/min Depth from Water Lithology Description Water Removal Rate (L/min) ground level (m) Bearing Test Date Static Water Level (m) Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 18.29 m **Borehole** Diameter (cm) From (m) To (m) 0.00 0.00 18.29 Well Casing/Liner Surface Casing (if applicable) Size OD : Size OD: 0.00 cm 0.00 cm Wall Thickness: 0.000 cm Wall Thickness: 0.000 cm 0.00 m 0.00 m Bottom at: Top at: 0.00 m Bottom at: Perforations Diameter or Slot Hole or Slot Slot Width(cm) From (m) To (m) Length(cm) Interval(cm) Perforated by Annular Seal Placed from 0.00 m to 0.00 m Amount Other Seals At (m) Type Screen Type Size OD: From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Туре Grain Size Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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275018

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received 1

1982/06/11

Well Iden	tification and	Location									Meas	urement in Metric
Owner Nar LACOMBE	me : FISH & GAME	ASSOC	Address LACOMBE			Town			Province	Count	ry	Postal Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4		Block	Plan		nal Description		
Measured	from Boundary	m from			GPS Coordinat Latitude 52. How Location (Map	525475	_			Elevation How Elevation Not Obtained		m
Additional	I Information										Meas	urement in Metric
	From Top of Ca an Flow Rate		_		cm	Is F			d 			
Recomme	ended Pump Ra				L/min	Pump Ir				Depth	m	
Recomme	ended Pump Int	take Depth	(From TOC)		m	Type _			Make	Model (Outpu	H.P.	
Did you	Encounter Sali	ine Water (>4000 nnm T	D.S.I	Denth		m	Well Disir	nfected I Inon	Completion		
Dia you	Endounter Gan	no water (Gas				Geo		g Taken		
Addition	nal Comments	on Well				S	ample Co	ollected for I	Potability	Si	ubmitted to E	ESRD <u>Yes</u>
Yield Test	t							Ta	ken From C	Ground Level	Meas	urement in Metric
Test Date		Start Tir	me	Sta	tic Water Level m							
Method o	f Water Remo											
I	Removal Rate		L/min			_						
Depth Wi	thdrawn From		<u>m</u>									
If water re	emoval period w	vas < 2 hou	ırs, explain wh	iy								
Water Div	erted for Dril	ling										
Water Sou	rce			An	nount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

1

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275019

GoA Well Tag No. Drilling Company Well ID

GIC Well ID

GOWN ID 1984/07/13 Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country BIRK, ROBERT RR3, LACOMBE 14/ - 4 1 1 5 0

Method of Drilling Juknown Proposed Well Use Juknown Formation Log Measurement in Metric Depth from Water Lithology Description Type of Work Chemistry Yield Test Summary Recommended Pump Rate L/min	Unknown Formation Log Depth from ground level (m) Bearing Water ground level (m) Bearing Well Campletion Total Depth Drilled Finished Well Depth Start Date Borehole Diameter (cm) From (m) 0.00 0.00 Surface Casing (if applicable) Well Casing/Liner Size OD: 0.00 cm Wall Trickness: 0.000 cm Wall Trickness: 0.000 cm Wall Trickness: 0.000 cm Bottom at: 0.00 m To (m) Width(cm) Length(cm) inter Perforated by Annular Seal Placed from 0.00 m to 0.00 m Amount Other Seals Type At (m) Sice OD: 0.00 cm From (m) 10 0.00 cm Type At (m) Sice OD: 0.00 cm From (m) To (m) Slot	Measured from Boundary of m from m from	GPS Coordinates in De Latitude 52.525475 How Location Obtained Map		891 Elevation How Elevation Not Obtained	
Depth from ground level (m) Water Bearing Lithology Description Recommended Pump Rate	Depth from ground level (m) Water ground level (m) Water ground level (m) Water ground level (m) Bearing Water Removal Rate (L/min) Static Water Removal Rate (L	Method of Drilling Unknown Proposed Well Use				
Diameter (cm) From (m) To (m) 0.00	Diameter (cm)	Depth from Water Lithology Description	Measurement in Metric	Recommended Pump Ra Test Date Water Well Completion Total Depth Drilled Finis	Removal Rate (L/min)	Static Water Level (m) Measurement in M
Bottom at : 0.00 m Top at : 0.00 m	Bottom at :			Diameter (cm) 0.00 Surface Casing (if appl.	0.00 Well Cas	0.00 sing/Liner
	From (m) To (m) Slot Slot Hole			Bottom at :	0.00 m	Top at : 0.00 m
	Attachment Bottom Fittings Bottom Fittings			Size OD : From (m) Attachment	To (m)	Slot Size (cm)

Contractor	Certification
Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

Amount

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View in Imperial Export to Excel

275019

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received 1984/07/13

OWN ID		а	iccuracy. The in	iormation of	n this report will be	retained in a	public databa	se.		Date Report Re		1984/07/13
Well Iden	tification and	Location									M	easurement in M
Owner Nar BIRK, ROE			Address RR3, LAC	OMBE		Town	7		Province	Coun	ntry	Postal Cod
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4			Plan		nal Description		
Measured	from Boundary	of m from m from			GPS Coordin Latitude 5 How Location Map	2.525475	Long			Elevation How Elevation Not Obtained		
Additional	I Information										М	easurement in M
	From Top of Ca an Flow Rate				cm		Is Flow Cor		d e			
Recomme	ended Pump Ra	ate			L/mir					Depth	r	
Recomme	ended Pump Int	take Depth	(From TOC)		m	Тур	e		Make	Model (Outpu	H.P. ut Rating)	
Did you	Encounter Sali	ine Water (:		DS) Gas	Depth Depth	1	m m	Well Disi	nfected Upon ophysical Log Submitted to	Completion g Taken		
Addition	nal Comments (on Well					Sample C	ollected for	Potability	S	Submitted	to ESRD
Yield Test	t							Та	ıken From C	Ground Level	M	easurement in M
Test Date		Start Tin	ne	Stat	ic Water Level m							
Method o	of Water Remo											
	I ype Removal Rate					_						
	ithdrawn From											
If water re	emoval period w	/as < 2 hou	ırs, explain wl	hy								
Water Div	erted for Drill	ling										
Water Sou	ırce			Am	nount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID

275020

GoA Well Tag No. Drilling Company Well ID Date Report Received

1984/08/27

Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country CURZON, JACK 4216-12 ST NE, CAL T2E 6K9 1/4 or LSD SEC TWP W of MER Block RGE Lot Plan Additional Description Location SW 14 041 28 4 24 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
6.10		Sand	
21.34		Clay	
30.48		Gray Shale	
36.58		Green Shale	
41.15		Sandstone	

		ate 0.0					
		Removal Rate (L/min)	Static Water Level (m)			
1984/08/1	6	59.10		12.19			
Well Compl					Measuremen		
,	Drilled Finis	shed Well Depth			End Da		
41.15 m			1984/	08/16	1984/08	3/16	
Borehole							
	er (cm) 00	From	n (m) 00	-	To (m) 41.15		
Surface Cas			Well Ca Plastic	sing/Li			
Size		14.12 cm			D:11.43		
Wall Thickn	iess :	0.478 cm	Wall T				
Bottor	n at :	24.38 m		Тор а	at : 22.86	m	
			E	Bottom a		m	
Perforations	;						
		Diameter or Slot	Slo	.+	Hole or Slot		
From (m)	To (m)	Width(cm)	Length	n(cm)	Interval(cm	1)	
28.96	41.15	0.635			20.32		
Perforated by	/ Mach	ine					
Annular Sea	/ Driven						
		.00 m to	0.00) m			
Other Seals			_				
	Type				At (m)		
Screen Type	•						
	OD :	0.00 cm					
From	n (m)	То	(m)		Slot Size (d	:m)	
Attachr	nent						
				n Fitting	IS		
Pack				3			
			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name JRBT DRILLING LTD. Certification No

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View in Imperial Export to Excel

GIC Well ID 275020

GoA Well Tag No.
Drilling Company Well ID

ID 1984/08/27

Measurement in Metric

GOWN ID

Date Report Received

Well Identification and Location

Owner Name

Address

Town

Province

Country

Owner Nan CURZON, .			Address 4216-12 S	ST NE, CAL		Town			Province	Country	Postal Code T2E 6K9
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	<i>RGE</i> 28	W of MER 4	24		Plan		al Description	
Measured f	from Boundary (m from m from				2.525475	U	es (NAD 83) itude <u>-113.93</u>	3391	Elevation How Elevation Ob Not Obtained	
Additional	Information										Measurement in Metric
	From Top of Cas n Flow Rate	_			cm	1	's Flow Con	trol Installed Describe			
	nded Pump Rai nded Pump Inta	te			0.00 L/mir 21.34 m	Pump Type	o Installed			Depth	m H.P 'ating)
Addition	nal Comments o REPORTS MEI	n Well		Gas			m	Geop	hysical Log Submitted to	ESRD	nitted to ESRD
Yield Test								Take		ound Level to water level	Measurement in Metric
Test Date 1984/08/10		Start Tim 12:00 AN		Statio	Water Level 12.19 m		Draw	vdown (m)	Ela	apsed Time inutes:Sec	Recovery (m)
Pepth Wit	f Water Remov Type <u>F</u> Removal Rate _ thdrawn From _ moval period wa	Air 5	0.00 m			_					
Water Div	erted for Drilli	ng									
Water Soul					unt Taken					Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name JRBT DRILLING LTD. Certification No

1

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Мар

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Not Obtained

275023

Drilling Company Well ID Date Report Received 1985/05/06

GOWN ID Well Identification and Location Measurement in Metric Address Postal Code Town Owner Name Province Country RR3, LACOMBE WILSON, DAN T0C 1S0 1/4 or LSD SEC TWP W of MER Lot Block Plan Additional Description Location SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from

Drilling Information				
Method of Drilling Unknown	Type of Work Chemistry			
Proposed Well Use Unknown				
Formation Log	Measurement in Metric	Yield Test Summary		Measurement in Metric
Depth from Water Lithology Description		Recommended Pump Rate	L/min	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

Recommende	ed Pump R	late	L/min	_	
Test Date	Water	Removal Rate	(L/min)	Sta	tic Water Level (m)
Well Compl					Measurement in M
,	Drilled Fin	ished Well Dept	h Start	Date	End Date
30.48 m					
Borehole			, ,		_ , ,
	er (cm) 00		n (m) .00		To (m) 30.48
		licable)			
Size		0.00 cm		Size OD	: 0.00 cm
Wall Thickn	ess:	0.000 cm	Wall T	hickness	: 0.000 cm
Botton		0.00 m			0.00 m
			E	Bottom at	0.00 m
Perforations		D'			
		Diameter or Slot	Slo	ıt	Hole or Slot
From (m)	To (m)	Width(cm)	Length	n(cm)	Interval(cm)
	<i>I</i> m0	0.00 m to) m_	
Other Seals			_		
	Type				At (m)
Screen Type)				
Size	OD :	0.00 cm			
From	(m)	То	(m)		Slot Size (cm)
Attachn	nent				
				n Fittings	3
Pack					
Type			Grain	Size	
Amount					

1	Con	tract	or (Cer	tifica	atic	n

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

275023

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1985/05/06

Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country WILSON, DAN RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot SW 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.525475 Longitude -113.933391 m m from How Elevation Obtained How Location Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling Diversion Date & Time Water Source Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

1

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275024

Drilling Company Well ID 1981/07/16 Data Papart Pagaiyad

GOWN ID		ä	iccuracy. The in	iormation on t	nis report will be	retained in a p	ublic databas	se.		Date Report Received	1981/07/16
Well Ide	ntification and L	ocation								N	Measurement in Metric
Owner Na SAFEWA	a <mark>me</mark> Y CREDIT UNIOI	N	Address 16011-116	AVE, EDM		Town			Province	Country	Postal Code
Location	1/4 or LSD SW	<i>SEC</i> 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description	
Measured	from Boundary o	of m from			Latitude	inates in Dec 52.525475	U	es (NAD 83) tude113.9		Elevation	m
		m from			How Location	on Obtained				How Elevation Obtaine	ed
				ı	Мар				<u>l</u>	Not Obtained	

				v Elevation Obtai Obtained	ned
known Cher	of Work nistry				
mestic	out in Matria World Took				Management in N
pth from Dund level (m) Bearing Measurem Measurem Lithology Description			ate Removal Rate		Measurement in Material Mater Level (m)
	Well Com Total Depth 30.48 m Borehole	•	shed Well Dept	th Start Date	Measurement in M End Date
	Diam	eter (cm)		m (m)	To (m)
		0.00 asing (if appl		.00 Well Casing/Li	30.48 iner
	Wall Thic	ze OD : kness :	0.00 cm 0.000 cm 0.00 m	Wall Thicknes	0.00 cm ss: 0.000 cm at: 0.00 m
	Perforation			Bottom a	
	From (m)	To (m)	Diameter or Slot Width(cm)	Slot Length(cm)	Hole or Slot Interval(cm)
		eal from 0.	00 m to	0.00 m	At (m)
	Screen Ty,	pe ze OD :	0.00 cm		
	Fro	om (m)	То	(m)	Slot Size (cm)

Contractor	Certification
Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Pack Туре

Amount

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Grain Size

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View in Imperial Export to Excel

GIC Well ID 278 GoA Well Tag No.

275024

Drilling Company Well ID
Date Report Received 1981/07/16

OWNID					Date Report Re	ceived 1981/07/16
Well Identification and Location	on					Measurement in Metric
Owner Name SAFEWAY CREDIT UNION	Address 16011-116 AVE, EDM	1	Town	Prov	rince Coun	try Postal Code
Location 1/4 or LSD SE SW 14		W of MER L	Lot Block	Plan Ad	dditional Description	
Measured from Boundary of		GPS Coordinates Latitude 52.52	s in Decimal Degree	es (NAD 83) ude -113.933391	Elevation	m
m froi		How Location Ob		-113.933391	How Elevation	
m froi	m	Мар			Not Obtained	
Additional Information						Measurement in Metric
Distance From Top of Casing to		cm				
Is Artesian Flow	I /main		IS Flow Cont	rol Installed		
Rate	L/min				5 1	
Recommended Pump Rate Recommended Pump Intake De	enth (From TOC)	L/min		Mak	Depth e	m
кесоптепава Ритр таке Бе	pui (Fioni 100)	m	Туре	IVIAK		H.Put Rating)
Did you Encounter Saline Wat	ter (>4000 ppm TDS)	Depth		Well Disinfected	Upon Completion	
	Gas	Depth	m	Geophysica	al Log Taken	
				Submit	ted to ESRD	
			Sample Co	llected for Potabilit	y S	Submitted to ESRD Yes
Additional Comments on Well						
Yield Test				Taken Fro	om Ground Level	Measurement in Metric
Test Date Start	t Time Statio	c Water Level m				
Method of Water Removal			_			
Туре						
Removal Rate						
Depth Withdrawn From	m					
If water removal period was < 2	hours, explain why					
Water Diverted for Drilling						

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

Water Source

UNKNOWN DRILLER

Certification No

1

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Diversion Date & Time

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275026

Drilling Company Well ID

GOWN ID

1987/04/14 Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country NIEVIADONY, LES P.O. BOX 253 LACOMBE

Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot 9	Block A	Plan 5600MC	Additional D	escription	
Measured fr	om Boundary	of m from m from	<u> </u>			52.525475		s (NAD 83) de <u>-113.933</u>	Но	vation w Elevation (di Obtained	m Dbtained
Orilling Info Method of L Unknown Proposed V	Drilling				Type of Wo	rk					
Domestic Formation	Log			Me	asurement in	Motric	Yield Test	Summany			Measurement in N
Depth from	Water Bearing		y Description		asurement iii	Wethe		ded Pump R	ate Removal Rate	L/min (L/min)	Static Water Level (m)
							Well Comp Total Depth 54.86 m		ished Well Dep	th Start Da	Measurement in N te End Date
							Borehole				
								eter (cm) 0.00		m (m) 0.00	To (m) 54.86
								sing (if app		Well Casii	
							Wall Thick		0.00 cm 0.000 cm	Siz Wall Thic	ze OD : 0.00 cm ckness : 0.000 cm
							Botto Perforation	om at :	0.00 m		Top at : 0.00 m tom at : 0.00 m
							From (m)	To (m)	Diameter or Slot Width(cm)	Slot Length(ci	Hole or Slot m) Interval(cm)
							Perforated of Annular Sea Placed for Annular Sea Other Seals	eal rom C	0.00 m to _	0.00 n	1
								Type			At (m)
							Screen Typ Siz	oe re OD :	0.00 cm		
							Fro	m (m)	To) (m)	Slot Size (cm)
								nment ittings		Bottom F	- -ittings
							Pack Type				ze

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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View in Imperial Export to Excel

275026

GIC Well ID

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GoA Well Tag No. Drilling Company Well ID 1987/04/14 Date Report Received

Well Identi	fication and L	ocation.										Measure	ement in Metric
Owner Nam NIEVIADON	ie IY, LES		Address P.O. BOX	253 LACO	MBE		Town			Province	Country	у	Postal Code
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	<i>RGE</i> 28	4		Lot 9	Α	5600MC		nal Description		
Measured fr		m from m from	<u> </u>		Latitude	52.5		•	es (NAD 83) itude <u>-113.93</u>		Elevation How Elevation C		_
Additional	Information											Measure	ement in Metric
Distance Fi Is Artesian	rom Top of Cas n Flow Rate				cm	_	Is	s Flow Con	trol Installed Describe				
	nded Pump Rat					_/min	Pump	Installed			Depth	m	_
Recommen	nded Pump Inta	ke Depth (From TOC)		r	<u>m</u>	Type			Make	Model (Output	H.P	
Did you E	Encounter Salin	e Water (>		ΓDS) Gas		epth epth		m m	Geop	ected Upon ohysical Log Submitted to	Completion g Taken		
Additiona	al Comments o	n Well						Sample Co	ollected for P	otability	Su	bmitted to ESR	?D
Yield Test									Tak	en From C	Ground Level	Measure	ment in Metric
Test Date		Start Time	е	Stat	tic Water Lev r	rel m							
							_						
	emoval Rate _												
	hdrawn From			hy			_						
Water Dive	erted for Drillin	ng											
Water Source	ce			Am	nount Taken	L				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

UNKNOWN DRILLER

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

275028

C	A/A/	IГ

Well Ident	ification and L	ocation									Measure	ment in Metric
Owner Nan KAMLAH, V			Address RR3, LAC	OMBE	Town				Province Country			Postal Code
Location	1/4 or LSD NW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Addition	al Description		
Measured from Boundary of m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.532706 Longitude -113.933394			′	Elevation	910.74 m				
		m from			How Location Map	on Obtained				How Elevation Ob Estimated	otained	

Drilling Information				
Method of Drilling Rotary	Type of Work New Well			
Proposed Well Use Domestic				
Formation Log	Measurement in Metric	Yield Test Summary		Measurement in Metric
Depth from Water Lithology Descripti	on	Recommended Pump Rate	0.00 L/min	

Formation Log		weasurement in wether
Depth from ground level (m)	Water Bearing	Lithology Description
12.19		Clay
14.33		Shale
27.43		Shale & Sandstone
33.53	Yes	Water Bearing Sandstone
39.62		Shale & Sandstone
		,

Recommended	Pump Ra	ate0.0	00 L/min	<u>_</u>			
Test Date	Water	Removal Rate (L/min)	S	tatic W	ater Level (m	1)
1967/06/28		54.55		6.10			
Well Completion	on				Meas	urement in	Metric
Total Depth Drill	led Finis	shed Well Depth	Start	Date		End Date	
39.62 m						1967/06/28	
Borehole							
Diameter (n (m)			To (m)		
0.00		0.				39.62	
Surface Casing Unknown	(if appl	icable)	Well Ca	asing/Li	iner		
		13.97 cm				0.00 cm	_
Wall Thickness	3:	0.000 cm	Wall 7	hicknes	ss:	0.000 cm	
Bottom at : 14.33 m				Тор а	at:	0.00 m	_
						0.00 m	
Perforations							
		Diameter or					
From (m) 1	-o (m)	Slot Width(cm)	Slo Length			le or Slot terval(cm)	
Perforated by							
Annular Seal							
Placed from	0.	.00 m to	0.00) m			
Amount _			_				
Other Seals							
	Type		At (m)				
Screen Type							
Size OL) :	0.00 cm					
From (n	n)	То	(m)		Sle	ot Size (cm)	
Attachmen	nt						
Top Fitting	S		Botto	m Fitting	gs		
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name BROWN JIM

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID

275028 Date Report Received

GOWN ID

Well Identification and Location						Mea	surement in Metric
Owner Name KAMLAH, W.H.	Address RR3, LACOMBE		Town	P	rovince	Country	Postal Code
Location 1/4 or LSD SEC NW 14	<i>TWP RGE</i> 041 28	4	Lot Block		Additional Descrip	otion	
Measured from Boundary of m from m from		GPS Coordinate Latitude 52.5: How Location Of Map		es (NAD 83) tude -113.93339		n 910.74 vation Obtained d	4 m
Additional Information						Mea	surement in Metric
Distance From Top of Casing to Gro Is Artesian Flow Rate		cm			_		
Recommended Pump Rate		0.00 L/min	Pump Installed		Depth	m	
Recommended Pump Intake Depth	(From TOC)	0.00 m	Туре	M	lake	H.P.	
					Model	(Output Rating)	
Did you Encounter Saline Water (S-4000 ppm TDS) Gas	Depth	m m	Subi	mitted to ESRD		
Additional Comments on Well DRILLER REPORTS MEDIUM HAF	RD WATER.		Sample Co	ollected for Potal	bility	Submitted to	ESRD
Yield Test				Taken	From Ground Le		surement in Metric
Test Date Start Tir 1967/06/28 12:00 Al		c Water Level 6.10 m	Draw	down (m)	Depth to water	ne R	ecovery (m)
Method of Water Removal Type Bailer Removal Rate Depth Withdrawn From If water removal period was < 2 hou	0.00 m		_		Minutes:Se		
Water Diverted for Drilling							
Water Source	Am	ount Taken L			Diversion Date & 7	- Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name BROWN JIM

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275029

Drilling Company Well ID Date Report Received 1935/08/06

GOWN ID Well Identification and Location Measurement in Metric Address Owner Name Town Postal Code Province Country WILSON, A. **LACOMBE** 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot NW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.532706 Longitude -113.933394 914.40 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated

Drilling Information Method of Drilling Type of Work Federal Well Survey Unknown Proposed Well Use Unknown Vield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

rieid rest c					ieasurement in N
		ate			
Test Date	Water	Removal Rate	(L/min)	Stat	tic Water Level (m)
Well Compl	etion			N	leasurement in N
		ished Well Dept	h Start	Date	End Date
25.91 m					
Borehole					
	er (cm)				To (m)
0.			.00		25.91
Surface Cas	ing (it app	licable)	well Ca	ising/Line	er
Size	OD:	0.00 cm		Size OD	. 0.00 cm
			Wall T		0.000 cm
Bottoi	m at :	0.00 m			: 0.00 m
			Е	Bottom at	0.00 m
Perforations	5				
		Diameter or Slot	Slo	t	Hole or Slot
From (m)	To (m)	Width(cm)			
Amou	al m C	0.00 m to) m_	
Other Seals					
	Type			F	At (m)
Screen Type	e				
Size	OD :	0.00 cm			
From	n (m)	То	(m)		Slot Size (cm)
Attachr	ment				
Top Fitt	tings		Bottor	n Fittings	
Pack					
Туре			Grain	Size	
Amount					

Contractor	Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275029

Drilling Company Well ID Date Report Received

1935/08/06

Well Ident	ification and	Location									Measu	rement in Metric
Owner Nan WILSON, A			Address LACOMBE			Town			Province	Coul	ntry	Postal Code
Location	1/4 or LSD NW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot				nal Description		
Measured i	from Boundary	of m from m from	<u> </u>		GPS Coordina Latitude 52 How Location Not Verified	2.532706	_			Elevation How Elevation Estimated	914.40 in Obtained	m
Additional	Information										Measu	rement in Metric
	From Top of Ca In Flow Rate	_	_			ı	ls Flow Cor	ntrol Installed Describe				
	nded Pump Ra Inded Pump Int	ate			L/min					Depth	m	
Addition	Encounter Salii nal Comments o	on Well		OS) Gas	Depth Depth		m	Geo	physical Log Submitted to	g Taken D ESRD		SRD
Yield Test								Tak	ken From C	Ground Level	Measu	rement in Metric
Test Date		Start Time	е	Stat	tic Water Level m							
F	f Water Remov Type Removal Rate thdrawn From		<u>L/mi</u> n			_						
If water re	moval period w	/as < 2 hour	s, explain wh	ny								
Water Div	erted for Drill	ing										
Water Soul	rce			An	nount Taken				Diversion	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER Certification No

Copy of Well report provided to owner

Date approval holder signed



Contractor Certification

UNKNOWN NA DRILLER Company Name

UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

GOWN ID

Water Well Drilling Report

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View in Imperial Export to Excel

Date Report Received

275043

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

1987/06/22

Well Identification and Location				Measurement in Metri
Owner NameAddressETHIER, R.RR3, LACOMBE	Town	Provi	ince Country	Postal Code T0C 1S0
Location 1/4 or LSD SEC TWP RGE 00 14 041 28	W of MER Lot	Block Plan Ad	ditional Description	
Measured from Boundary of m from m from	GPS Coordinates in Dec. Latitude 52.529091 How Location Obtained Not Verified	imal Degrees (NAD 83) Longitude -113.927462	Elevation How Elevation Obtain	m ned
S 1111				
Drilling Information Method of Drilling Unknown	Type of Work Chemistry			
Proposed Well Use Domestic	,			
	leasurement in Metric	Yield Test Summary		Measurement in Metric
Depth from ground level (m) Water Bearing Lithology Description		Recommended Pump Rate	L/min oval Rate (L/min) S	tatic Water Level (m)
		Well Completion Total Depth Drilled Finished 32.61 m	Well Depth Start Date	Measurement in Metric End Date
		Borehole	5 (.)	T. ()
		Diameter (cm) 0.00	From (m) 0.00	To (m) 32.61
		Surface Casing (if applicable	le) Well Casing/L	iner
		Sizo OD : 0.0	0 om Sizo 0	D: 0.00 cm
			0 cm Size 0 0 cm Wall Thicknes	
				at: 0.000 m
			Bottom a	
		Perforations		
			meter or Slot Slot idth(cm) Length(cm)	Hole or Slot Interval(cm)
		Perforated by	 	
			m to 0.00 m	
		AmountOther Seals		
		Type		At (m)
		,,		
		Screen Type Size OD: 0.0	0 cm	
		From (m)	 To (m)	Slot Size (cm)
		Attachment	B E	
		Top Fittings	Bottom Fitting	gs
		Pack	0 / 0/	
		Type	Grain Size	
		Amount		

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Certification No

Copy of Well report provided to owner

Date approval holder signed



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View in Imperial Export to Excel

275043

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

1987/06/22

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country ETHIER, R. RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot 00 14 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.529091 Longitude -113.927462 m m from How Elevation Obtained How Location Obtained m from Not Verified Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor Certification

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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Diversion Date & Time

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275044

Drilling Company Well ID

SOWN ID	accuracy. The information of	i triis report wiii be retained in a p	ublic database.		Date Report Red	ceived 1987/06/22
Well Identification and Lo	cation					Measurement in Metric
Owner Name HIGHBERG, DAVE	Address RR3, LACOMBE	Town		Province	Count	try Postal Code T0C 1S0
Location 1/4 or LSD 00	SEC TWP RGE 14 041 28	W of MER Lot 4 28	Block Plai	n Addition	nal Description	
Measured from Boundary of	n from	GPS Coordinates in Dec Latitude 52.529091 How Location Obtained Not Verified	imal Degrees (NAI Longitude -1		Elevation How Elevation Not Obtained	m Obtained
Deilling Information						
Drilling Information Method of Drilling Unknown Proposed Well Use Domestic		Type of Work Chemistry				
Formation Log	Me	easurement in Metric	Yield Test Sum	nmary		Measurement in Metric
Depth from Water ground level (m) Bearing	Lithology Description		Recommended F	Pump Rate Water Removal	L/min Rate (L/min)	Static Water Level (m)
3 4 4 4 7 7 7					, ,	· · · · · · · · · · · · · · · · · · ·
			33.53 m	on led Finished Well	Depth Start Da	Measurement in Metric ate End Date
			Borehole Diameter ((cm)	From (m)	To (m)
			0.00 Surface Casing	ı (if applicable)	0.00 Well Cas	ing/Liner
			Size OD Wall Thickness Bottom at	0.000 cn	n Wall Thi	ize OD : 0.00 cm ickness : 0.000 cm Top at : 0.00 m
			Perforations			o.00 m
			From (m) T	Diamete Slot o (m) Width(Slot	Hole or Slot Interval(cm)
			Perforated by Annular Seal Placed from Amount Other Seals	0.00 m _ t	0.00	mAt (m)
			Screen Type Size OD):0.00 cn	n	
			From (m		To (m)	Slot Size (cm)
			Attachment Top Fittings	s	Rottom	Fittings
			Pack Type Amount			ize

Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

275044

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received

1987/06/22

Well Identific	cation and L	ocation									Meas	surement in Metric
Owner Name HIGHBERG, D	DAVE		Address RR3, LAC	OMBE		Town)		Province	Count	try	Postal Code T0C 1S0
	1/4 or LSD 00	SEC 14	<i>TWP</i> 041	<i>RGE</i> 28	W of MER 4	Lot 28		Plan		nal Description		
Measured from		m from m from			GPS Coordina Latitude 52 How Location Not Verified	2.529091	Long			Elevation How Elevation Not Obtained		m
Additional Int	formation										Meas	urement in Metric
Distance Fror Is Artesian F					cm		ls Flow Con		d =			
Recommende	,				L/min	Pum	p Installed			Depth	m	
Recommende	ed Pump Inta	ke Depth (I	From TOC)		m	Тур	e		Make	Model (Outpu	H.P It Rating)	
	counter Salin			DS) Gas			m	Geo	ophysical Log Submitted to			ESRD
Yield Test								Ta	ken From C	Ground Level	Meas	urement in Metric
Test Date		Start Time	9	Statio	water Level m							
						_						
If water remo	oval period wa	ns < 2 hours	s, explain wl	hy								
Water Divert	ted for Drillir	ng										
Water Source				Amo	ount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

1

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275045

Drilling Company Well ID 1985/08/20

GOWN	16

Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country LACOMBE FISH & GAME ASSOC LACOMBE TWP RGE W of MER 1/4 or LSD Block Plan Additional Description Location Lot 8 15 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.526170 Longitude -113.940956 m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained

Drilling Information	
Method of Drilling Cable Tool	Type of Work Deepened
Proposed Well Use Domestic	

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
21.34		Old Well	
30.18		Gray Shale	
30.78		Gray Sandstone	
43.28		Blue Gray Shale	
44.20		Gray Sandstone	

Recommended Pump Rate
1985/05/09 68.19 10.06
Well Completion Measurement in Metri Total Depth Drilled Finished Well Depth 44.20 m Start Date End Date End Date 1985/05/07 1985/05/09 Borehole Diameter (cm) From (m) To (m) 0.00 44.20 Surface Casing (if applicable) Steel Well Casing/Liner Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.318 cm Bottom at: 22.86 m Top at: 0.00 m Bottom at: 44.20 m Perforations Diameter or Slot Slot Slot Hole or Slot Interval(cm) 1 Interval(cm) 1 Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine Machine
Total Depth Drilled Finished Well Depth Start Date 44.20 m 1985/05/07 1985/05/09
A4.20 m 1985/05/07 1985/05/09
Diameter (cm)
Diameter (cm)
Surface Casing (if applicable) Well Casing/Liner
Surface Casing (if applicable) Well Casing/Liner Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.318 cm Bottom at: 22.86 m Top at: 0.00 m Bottom at: 44.20 m Perforations Diameter or Slot Slot Slot Hole or Slot Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine
Steel Size OD : 13.97 cm Size OD : 11.43 cm
Wall Thickness : 0.620 cm Wall Thickness : 0.318 cm Bottom at : 22.86 m Top at : 0.00 m Bottom at : 44.20 m Perforations From (m) To (m) Width(cm) Length(cm) Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine
Diameter or Slot Slot Hole or Slot Interval(cm) 28.96 44.20 0.318 45.72
Perforations Diameter or Slot Slot Hole or Slot Interval(cm) 28.96 44.20 0.318 45.72 Bottom at: 44.20 m Slot Slot Hole or Slot Interval(cm) 45.72 Perforated by Machine
Perforations Diameter or Slot Slot Hole or Slot Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine Properties Propert
Diameter or Slot Slot Hole or Slot Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine
Slot Slot Hole or Slot Length(cm) To (m) Width(cm) Length(cm) Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine
From (m) To (m) Width(cm) Length(cm) Interval(cm) 28.96 44.20 0.318 45.72 Perforated by Machine
28.96 44.20 0.318 45.72 Perforated by Machine
Annular Seal Driven
Placed from 0.00 m to 22.86 m
Amount
Other Seals
Type At (m)
Screen Type
Size OD: 0.00 cm
From (m) To (m) Slot Size (cm)
Attachment
Top Fittings Bottom Fittings
Pack
Type Grain Size
Amount

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FLINN DRILLING LTD. Certification No

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GIC Well ID GoA Well Tag No.

275045

Drilling Company Well ID Date Report Received

1985/08/20

GOWN ID Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country LACOMBE FISH & GAME ASSOC LACOMBE TWP 1/4 or LSD SEC RGE W of MER Block Plan Additional Description Location Lot 8 15 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.526170 Longitude -113.940956 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Yes 0.02 m Depth Recommended Pump Intake Depth (From TOC) 19.20 m Make HAND H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DEPTH PUMP SET @ IS UNKNOWN, NOT 0.05'. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1985/05/09 12:00 AM 10.06 m Minutes:Sec Method of Water Removal Type Bailer 68.19 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FLINN DRILLING LTD.

Water Source

Amount Taken

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time



View in Imperial Export to Excel

GIC Well ID

GoA Well Tag No.

275048

Drilling Company Well ID

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OVVIN ID										Date Report Rece	ivea	
Well Ident	ification and L	ocation									Measur	ement in Metric
Owner Nan CALIF STD	ne) CO#W-420				Town Province			Country	′	Postal Code		
Location	1/4 or LSD 16	SEC 15	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured t	from Boundary o	of			GPS Coordin	nates in Dec	imal Degre	es (NAD 83)			
158.50 m from North				Latitude <u>52.534543</u> Longitude <u>-113.940041</u>			940041	Elevation 911.96 m				
3.66 m from East					How Location Obtained				How Elevation Obtained			
3.00 III IIOIII East					Not Verified				Survey-Air			

Drilling Information			
Method of Drilling Drilled	Type of Work Structure Test Hole		
Proposed Well Use Industrial			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	

Recommend	ed Pump R	ate	L/mir	<u>.</u>		
Test Date		Removal Rate			atic Water Le	vel (m)
Well Compl		ished Well Dept	h Stort		Measureme End D	
271.27 m	Jillieu Tilli	isried Well Dept	II Start	Date	End D 1952/	
Borehole						
Diamet	er (cm)	Fror	m (m)		To (m	1)
0.0	00	0	.00		271.2	7
Surface Cas	ing (if app	licable)	Well Ca	asing/Li	ner	
Size	OD :	0.00 cm		Size O	D: 0.0	00 cm
Wall Thickn	ess:	0.000 cm	Wall 7	hicknes	s: 0.00	00 cm
Botton	n at :	0.00 m			at : 0.0	
			1	Bottom a	at: 0.0	00 m
Perforations	•					
		Diameter or	CI			
From (m)	To (m)	Slot Width(cm)		ot n(cm)		
Perforated by Annular Sea	ı	1.00 m ±0	0.00) m		
		0.00 m to) III		
Other Seals			_			
	Type				At (m)	
Coroon Tuno						
Screen Type Size		0.00 cm				
	n (m)		(m)		Slot Size	(cm)
					3.31 3120	()
Attachn	nent					
Top Fitt	ings		Botto	m Fitting	ys	
Pack						
Туре			Grain	Size		
Amount						

C	ontractor	Certification	n

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

UNKNOWN DRILLER

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID

275048 Date Report Received

GOWN ID

					Date Report Rece	vou
Well Identification and L	ocation					Measurement in Metric
Owner Name CALIF STD CO#W-420	Address		Town	Provin	ce Country	Postal Code
Location 1/4 or LSD 16	SEC TWP 15 041	RGE W of MER 28 4	Lot Block	Plan Addi	itional Description	
	f m from North m from East	GPS Coordinate Latitude 52.5 How Location O Not Verified		es (NAD 83) itude113.940041	Elevation How Elevation O	
Additional Information						Measurement in Metric
Distance From Top of Cas Is Artesian Flow Rate		cm		trol Installed		
Recommended Pump Rate	e _	L/min				m
Recommended Pump Inta	ke Depth (From TOC)	m	Туре	Make		Н.Р.
					Model (Output I	Rating)
Did you Encounter Salin		S) Depth as Depth	m 		oon Completion Log Taken Electric	
					d to ESRD Electric	
Additional Comments or	n Well		Sample Co	ollected for Potability	Sub	mitted to ESRD
Yield Test				Taken From	n Ground Level	Measurement in Metric
Test Date	Start Time	Static Water Level m				
Method of Water Remova						
Type	L/min		-			
Depth Withdrawn From						
If water removal period wa		,	_			
Water Diverted for Drillin	ng					
Water Source		Amount Taken L		Diver	sion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Date approval holder signed



View in Imperial Export to Excel 275050

GIC Well ID GoA Well Tag No. Drilling Company Well ID

Date Report Received

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GOWN ID

Date Report Received												
Well Ident	ification and L	ocation									Measu	ement in Metric
Owner Nam DEGRAFF,			Address BENTLEY			Town			Province	Countr	у	Postal Code
Location	1/4 or LSD SE	SEC 22	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured t	from Boundary o	of			GPS Coordir	nates in Dec	imal Degre	es (NAD 83)			
		m from		1	Latitude 5	2.539573	Longi	tude <u>-113.9</u>	945696	Elevation	914.40 m	<u> </u>
	m from			1	How Location	How Location Obtained				How Elevation (Obtained	
				- 1	Мар					Estimated		

Drilling Information			
Method of Drilling Cable Tool	<i>Type of Work</i> New Well		
Proposed Well Use Unknown			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
0.30		Blue Topsoil	
8.53		Sandy Clay	
9.14		Gravel	
15.85		Till	
19.20		Shale	
20.12		Sandstone	
35.05		Shale	

Recommende	ed Pump Ra	ate0.0	0 L/min	<u>_</u>			
	Removal Rate (
1978/04/05	5	68.19	8.53				
Well Comple	etion				Me	easurement in M	1etric
Total Depth D	Drilled Finis	shed Well Depth				End Date	
35.05 m			1978	/04/03		1978/04/05	
Borehole							
	er (cm)					To (m)	
0.0		0.0			_	35.05	
Surface Case Steel	ing (if appl	icable)	Well Ca	asing/L	ine	,	
Size	OD :	14.12 cm		Size C)D :	0.00 cm	
Wall Thickn	ess:	0.478 cm	Wall 7	hickne	ss :	0.000 cm	
Botton	n at :	20.12 m		Тор	at :	0.00 m	
			I	Bottom	at:	0.00 m	
Perforations							
		Diameter or Slot	Cla	\ +		Hole or Slot	
From (m)	To (m)	Width(cm)					
		()		, ,		, , ,	
	Driven	.00 m to	19.5 ⁻	1 m			
Other Seals							
	Type		At (m)				
Screen Type		0.00					
		0.00 cm	, \			Cl + C' - (-)	
From	(m)	То	(m)	-		Slot Size (cm)	
Attachn	nent						
Top Fitti	ings		Botto	m Fittin	gs_		_
Pack	<u> </u>				-		_
Туре			Grain	Size			
Amount				_			

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALBERTA WW SERVICE

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 9:33:31 AM Page: 1 / 2



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GIC Well ID GoA Well Tag No. **Drilling Company Well ID**

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Town Province Country Postal Code DEGRAFF, JIM **BENTLEY** 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot SE 22 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.539573 Longitude -113.945696 914.40 m m from How Location Obtained How Elevation Obtained m from Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 18.29 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas _____ Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well DRILLER REPORTS SOFT WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1978/04/05 12:00 AM 8.53 m Minutes:Sec Method of Water Removal Type Bailer 68.19 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALBÉRTA WW SERVICE

Certification No

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275052

Drilling Company Well ID Date Report Received

1989/05/19

Well Ident	ification and L	ocation									Measurement in	Metri
Owner Name Address DEGRAFF, MARGETE GULL LK				Town			Province	Country	Postal (Code		
Location	1/4 or LSD SE	SEC 22	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured t	from Boundary o	of			GPS Coordin	ates in Dec	cimal Degree	es (NAD 83)			
		m from			Latitude 5	2.539573	Longi	tude <u>-113.9</u>	945696	Elevation	<u>m</u>	
m from					How Location Obtained How Ele			How Elevation Ob	tained			
					Мар					Not Obtained		

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
14.94		Till & Clay	
15.54		Hard Sandstone	
20.73		Shale	
22.25		Sandstone	
29.26		Shale	
36.88		Sandstone	
43.59		Shale	
52.12		Sandstone	
53.64		Shale	
54.86		Sandstone	

Recommended	Pump Ra	ate113.6	65 L/min	<u> </u>			
		Removal Rate (
1989/04/28		113.65				7.62	
Well Completi	on				Meas	urement in I	Metric
Total Depth Dril	lled Finis	shed Well Deptl	h Start	Date		End Date	
54.86 m			1989/	/04/28		1989/04/28	
Borehole							
Diameter		Fron				To (m)	
0.00			.00			54.86	
Surface Casing (if applicable) Steel Well Casing/Liner Plastic							
		13.97 cm				11.43 cm	
		0.620 cm	Wall 7				
Bottom a	at :	24.99 m		Тор а	at :	24.38 m	•
			E	Bottom a	at:	54.86 m	
Perforations							
		Diameter or Slot	Slo	\t	Цо	le or Slot	
From (m)	To (m)	Width(cm)				erval(cm)	
	54.86	0.953		. ,		0.00	
Perforated by	Mach	ine					
Annular Seal	Drive Sh	oe					
Placed from	0.	.00 m to	24.99	9 m_			
Amount							
Other Seals							
	Type		At (m)				
Screen Type							
Size OI	D :	0.00 cm					
From (r	n)	То	(m)		Slo	ot Size (cm)	
Attachmer	nt						
Top Fitting	IS		Bottom Fittings				_
Pack							
Туре			Grain	Size			
Amount						_	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

275052

GIC Well ID 27 GoA Well Tag No.

Drilling Company Well ID
Date Report Received 1

1989/05/19

Well Identification and Location				Measurement in Metric
Owner NameAddressDEGRAFF, MARGETEGULL LK	Town	Provin	ce Country	Postal Code
Location 1/4 or LSD SEC TWP RGB SE 22 041 28	4		itional Description	
Measured from Boundary of	GPS Coordinates in Decimal	0 (Floretion	m
m from	Latitude 52.539573 How Location Obtained	Longitude <u>-113.945696</u>	Elevation How Elevation Ob	
m from	Map		Not Obtained	nameu
Additional Information				Measurement in Metric
Distance From Top of Casing to Ground Level				
Is Artesian Flow	Is Flor	w Control Installed		
RateL/min		Describe		
Recommended Pump Rate	113.65 L/min Pump Insta	alled	Depth	m
Recommended Pump Intake Depth (From TOC)	0.00 m Type	Make		Н.Р.
			Model (Output F	Rating)
Did you Encounter Saline Water (>4000 ppm TDS)	Depth m	Well Disinfected Up	oon Completion	
Gas	Depth m	Geophysical	Log Taken	
		Submitte	d to ESRD	
	Sam	ple Collected for Potability	Sub	mitted to ESRD
Additional Comments on Well		•		
Yield Test			n Ground Level	Measurement in Metric
Test Date Start Time S	Static Water Level		epth to water level	5 ()
1989/04/28 12:00 AM	7.62 m	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal				
Type Air				
Removal Rate 113.65 L/min				
Depth Withdrawn From 0.00 m				
If water removal period was < 2 hours, explain why				
Water Diverted for Drilling				

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

1

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275055

Drilling Company Well ID 1001/00/07

JOWN ID										Date Report Rece	eived 198	31/08/07
Well Ident	tification and L	ocation									Measu	ement in Metric
Owner Nan STEWART			Address RR3, LAC	OMBE	Town Provin		Province	Country	/	Postal Code		
Location	1/4 or LSD 14	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured t	from Boundary o	of			GPS Coordin	ates in Dec	imal Degre	es (NAD 83)			
mododi od i		m from			Latitude 5	2.548339	Longi	tude <u>-113.9</u>	953207	Elevation	905.87 m	<u> </u>
		m from			How Location	n Obtained				How Elevation C	btained	
					Мар					Estimated		

Drilling Information			
Method of Drilling Unknown	Type of Work Chemistry		
Proposed Well Use Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	

Recommende	ed Pump R	ate	L/min			
	Water			atic Water L	evel (m)	
Well Compl	etion				Measurem	nent in M
Total Depth D						
21.34 m						
Borehole						
Diamete		Fror			To (
0.0					21.	34
Surface Cas	ing (if app	licable)	Well Ca	asing/Li	ner	
Size	OD :	0.00 cm		Size OL	D: 0	.00 cm
Wall Thickn	ess:	0.000 cm	Wall 7	hicknes	s: 0.0	000 cm
Botton	n at :	0.00 m			nt : 0	
			L		nt : 0	
Perforations						
	Diameter or Slot Slot		ot	Hole or	Clot	
From (m)	To (m)	Width(cm)				
Amoui Other Seals	m C	0.00 m to) m_	At (m)	
	туре				At (III)	
Screen Type						
		0.00 cm				
	(m)		(m)		Slot Size	e (cm)
170111	(11)	10	(111)		3101 312	5 (6111)
Attachn	nent					
Top Fitti	ings		Botto	m Fitting	is	
Pack						
Туре			Grain	Size		
Amount						

1	Cont	racto	or C	erti	tica	tion

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275055

Drilling Company Well ID Date Report Received

1981/08/07

Well Identi	ification and I	_ocation									Meas	urement in Metric
Owner Nam STEWART,			Address RR3, LACC	OMBE		Towr	1		Province	Coui	ntry	Postal Code
Location	1/4 or LSD 14	SEC 22	<i>TWP</i> 41	<i>RGE</i> 28	W of MER 4	Lot		Plan		nal Description		
Measured f	rom Boundary	of m from m from			GPS Coordin Latitude 5. How Location Map	2.548339	Long			Elevation How Elevation Estimated		m
Additional	Information										Meas	urement in Metric
Distance F Is Artesia	rom Top of Ca n Flow Rate				cm		Is Flow Con		d 			
Recomme	nded Pump Ra				L/min	Pum	p Installed				m	
Recomme	nded Pump Inte	ake Depth (I	From TOC)		m	Тур	e		Make	Model (Outp	H.P out Rating)	
Did you l	Encounter Salii	ne Water (>4		DS) Gas	Depth Depth		m	Geo		g Taken D ESRD		
Addition	al Comments o	on Well										
Yield Test								Та	ken From G	Ground Level	Meas	urement in Metric
Test Date		Start Time	9	Statio	c Water Level m							
Method of	Water Remov	ral .										
	Removal Rate		L/min									
Depth Wit	hdrawn From		<u>m</u>									
If water rer	moval period w	as < 2 hours	s, explain wl	ny								
Water Dive	erted for Drill	ing										
Water Sour	се			Amo	ount Taken				Diversio	on Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Date approval holder signed



Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID

275056 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1985/03/15

Well Ident	ification and L	ocation									Measurem	ent in Metric
Owner Nan STEWART			Address RR3, LAC	OMBE	Town Province			e Countr	y P	ostal Code		
Location	1/4 or LSD 14	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured t	from Boundary o	of			GPS Coordin	nates in De	•	•	*			
		m from			Latitude 5	2.548339	Longi	itude <u>-113.9</u>	953200	Elevation	m	_
		m from			How Location	n Obtained				How Elevation C	Obtained	
				l	Мар					Not Obtained		

Drilling Information Method of Drilling Type of Work Cable Tool New Well Proposed Well Use Domestic & Stock

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
0.61		Topsoil
1.83		Brown Soft Clay
2.44		Yellow Sandy Clay
4.57		Brown Clay & Sand
10.36		Brown Sandy Clay
11.89		Gray Clay & Sand
14.02		Gray Shale & Gravel
15.54		Blue Caving Shale
17.98		Gray Silty Shale
20.73		Gray Shale & Sandy Stringers
22.56		Blue Gray Shale & Sandy Stringers
27.13		Blue Hard Shale
28.65		Gray Bentonitic Shale & Sandy Stringers
34.14		Gray Shale & Sandy Stringers

Yield Test Summary				Meas	urement	in Metric
Recommended Pump	Rate 0.	00 L/mir	<u>1</u>			
Test Date Water	er Removal Rate	(L/min)	S	tatic W	ater Level	(m)
1985/01/15	127.29				4.57	
Well Completion				Meas	urement	in Metric
Total Depth Drilled Fi	nished Well Dept				End Date	
34.14 m		1985	/01/14		1985/01/1	15
Borehole						
Diameter (cm)		n (m)			To (m)	
0.00 Surface Casing (if applications) Steel	olicable)	.00 Well Ca Steel	asing/Li	iner	34.14	
Size OD :	17.78 cm		Size O	D :	14.12	<u>cm</u>
Wall Thickness :	0.805 cm	Wall	Thicknes	ss:	0.396	cm
Bottom at :	17.68 m		Тор а	at :	15.24	m_
			Bottom a	at:	34.14	m_
Perforations						
	Diameter or Slot	SI	ot	Шо	le or Slot	
From (m) To (m)						
17.68 34.14	0.953		, ,		15.24	
Perforated by Tork	ch					
Annular Seal Driven Placed from Amount			8 m			
Other Seals						
Туре				At (m)	
Screen Type						
Size OD :	0.00 cm					
From (m)	То	(m)		Slo	ot Size (cm	1)
Attachment						
Top Fittings			m Fitting	gs		_
Pack						_
Туре		Grain	Size			
Amount					_	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

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Water Well Drilling Report

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GoA Well Tag No.

275056

Drilling Company Well ID Date Report Received

GIC Well ID

1985/03/15

Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country STEWART, W.W. RR3, LACOMBE 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot 14 22 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.548339 Longitude -113.953200 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS MEDIUM HARD WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1985/01/15 12:00 AM 4.57 m Minutes:Sec Method of Water Removal Type Bailer 127.29 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

FORRESTER WATER WELL DRILLING (1981) LTD.

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID

275059

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SOWN ID		u.	couracy. The iii	ormation o	Trans report will be r	otamoa iii a pi	abilo databac			Date Report	Received		
Well Ident	ification and L	ocation										Measuren	nent in Metric
Owner Nan BEFUX, PE			Address LACOMBE			Town			Province		ountry ANADA	F	Postal Code
Location	1/4 or LSD NE	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description	n		
Measured t		m from			GPS Coordin	2.546804	•	es (NAD 83) tude113.9		Elevation _		908.30 m	_
		m from			Map	, opiamod				Estimated	ion obtain	100	

Drilling Information			
Method of Drilling Rotary	Type of Work New Well		
Proposed Well Use			
Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Recommended Pump Rate

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.66		Sandy Clay	
8.23		Brown Clay & Boulders	
10.67		Blue Clay & Boulders	
16.46		Blue Shale & Sandstone	
17.37		Gray Shale	
22.86		Gray Shale	
27.43		Gray Shale	

Test Date	Water	Removal Rate ((L/min)	Sta	atic Water Level (m)
1960/06/12		45.46			3.66	
1960/06/12		31.82			3.66	
Well Comple	etion			-	Measurement ir	n Metric
Total Depth D	rilled Finis	shed Well Depth	n Start	Date	End Date	
27.43 m					1960/06/12	<u> </u>
Borehole						
	er (cm)	From			To (m)	
0.0		0.			27.43	
Surface Casi Unknown	ng (if appli	icable)	Well Ca	asing/Lin	ner	
Size		11.43 cm			0.00 cr	
Wall Thickne	ess:	0.000 cm	Wall 7	hickness	0.000 cr	<u>n</u>
Bottom	at:				t: 0.00 m	
			I	Bottom a	t: 0.00 m	ı
Perforations						
		Diameter or Slot	CI		Hole or Slot	
From (m)	To (m)	Siot Width(cm)		ot n(cm)	Interval(cm)	
	10 ()	7776417(0111)	Longe	.(0)	o. var(o)	
Perforated by Annular Seal Placed from	Driven	00 m to	0.00) m_		
Amoun	nt		_			
Other Seals						
	Type				At (m)	
Screen Type						
Size	OD :	0.00 cm				
From	(m)	То	(m)		Slot Size (cm)	
Attachm	ent					_
				m Fittings	S	
Pack						
Туре			Grain	Size		
Amount						

0.00 L/min

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

CHIPMUNK HOLDING LTD

Certification No

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GIC Well ID GoA Well Tag No.

275059

GOWN ID	accurac	y. The information of	on this report will be re	etained in a p	ublic databas	se.		Date Report Recei	
Well Identification	and Location								Measurement in Metric
Owner Name BEFUX, PETER		lress COMBE		Town			Province	Country CANADA	
Location 1/4 or NE	LSD SEC T 22 4	<i>WP RGE</i> 1 28	W of MER 4	Lot	Block	Plan		nal Description	
Measured from Bou	undary of m from m from	_	GPS Coordina Latitude 52 How Location Map	2.546804	•	es (NAD 83) itude <u>-113.9</u> 4		Elevation How Elevation Observation Observation	
Additional Informa	ation								Measurement in Metric
Is Artesian Flow	o of Casing to Ground L L/n		cm	Is	s Flow Con	trol Installed Describe			
Recommended Pu Recommended Pu	mp Rate mp Intake Depth (From	TOC)	0.00 L/min 0.00 m		_			Depth	m H.P Rating)
Did you Encount Additional Comr DRILLER REPOR		ppm TDS) Gas <u>Yes</u>			m	Geo	physical Log Submitted to	n Completion g Taken o ESRD	
Yield Test						Tok	on From (Ground Level	Measurement in Metric
Test Date	Start Time	C+o	tic Water Level			Idk		th to water level	weasurement in weth
1960/06/12	12:00 AM	Sta	3.66 m		Draw	vdown (m)		Elapsed Time Minutes:Sec	Recovery (m)
Method of Water	Removal					3.66		0:00 10:00	4.57 3.66
Removal	Rate 45.46 From 0.00					4.57		20:00	
If water removal pe	eriod was < 2 hours, exp	olain why							
Yield Test		_				Tak		Ground Level	Measurement in Metric
Test Date 1960/06/12	Start Time 12:00 AM	Sta	tic Water Level 3.66 m		Draw	vdown (m)	E	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water	Removal Type Bailer					3.66 5.18		0:00 20:00	5.18 3.66
Removal Depth Withdrawn If water removal pe	Rate 31.82			_					
Water Diverted for	or Drilling								
Water Source		Ar	nount Taken L				Diversio	on Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

CHIPMUNK HOLDING LTD

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN ID

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Well Identi	fication and L	ocation									Measur	ement in Metric
Owner Nam BEFUX, PE			Address LACOMBE			Town			Province	Countr CANAL	,	Postal Code
Location	1/4 or LSD NE	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Addition	al Description		
Measured fi		m from m from			Latitude	linates in Dec 52.546804 on Obtained	•	es (NAD 83 itude ₋ -113.9	<i>'</i>	Elevation How Elevation C	908.30 m Obtained	_

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.66		Sandy Clay	
8.23		Brown Clay & Boulders	
10.67		Blue Clay & Boulders	
16.46		Blue Shale & Sandstone	
17.37		Gray Shale	
22.86		Gray Shale	
27.43		Gray Shale	

Yield Test Sum	nmary			Measurement in Metric
Recommended I	Pump Rate	9 0.00	L/min	
Test Date	Water R	emoval Rate (L	/min)	Static Water Level (m)
1960/06/12		45.46		3.66
1960/06/12		31.82		3.66
Well Completion	n			Measurement in Metric
Total Depth Drille	ed Finish	ed Well Depth	Start Date	End Date
27.43 m				1960/06/12
Borehole				
Diameter (cm)	From	(m)	To (m)

	er (cm)				To (m)
	00		.00		27.43
S<i>urface Cas</i> Unknown	ing (if app	olicable)	Well Casing/L	iner	
Size	OD :	11.43 cm	Size C	D :	0.00 cm
		0.000 cm	Wall Thickne	ss:	0.000 cm
Bottoi	n at :	14.02 m	Тор	at :	0.00 m
			Bottom	at:	0.00 m
Perforations	•				
From (m)	To (m)	Diameter or Slot	Slot	ŀ	Hole or Slot
FIOIII (III)	10 (111)	Width(cm)	Length(cm)	-	miervar(cm)
Placed fro	m	0.00 m to			
Placed fro Amou	Driven	0.00 m to			
Placed fro Amou	Driven			At ((m)
Placed fro Amou	Driven m			At ((m)
Placed fro Amou Other Seals	Driven m Type			At ((m)
Amou Other Seals Screen Type	Driven m Type			At ((m)
Placed fro Amou Other Seals Screen Type Size	Driven m Type	0.00 cm			(m) Slot Size (cm)
Placed fro Amou Other Seals Screen Type Size From	Type OD: (m)	0.00 cm	(m)		` <i>'</i>
Placed fro Amou Other Seals Screen Type Size From	Type OD: n (m)	0.00 cm	(m)		` <i>'</i>
Placed fro Amou Other Seals Screen Type Size From Attachr Top Fitt	Type OD: n (m)	0.00 cm	(m)		Slot Size (cm)
Placed fro Amou Other Seals Screen Type Size From Attachr Top Fitt	Type OD: n (m) ment ings	0.00 cm	(m)	gs	Slot Size (cm)

Contractor	Certification
Contiductor	Continuation

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

CHIPMUNK HOLDING LTD

Certification No

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

275059

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147 11 1 1 1										Date Report Recei		
Well Identi	ification and L	ocation.									Measureme	ent in Metric
Owner Nam BEFUX, PE			Address LACOMBE			Town			Province	Country CANADA		ostal Code
Location	1/4 or LSD NE	SEC 22	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured fi	rom Boundary o	of			GPS Coordin	ates in Dec	cimal Degre	es (NAD 83)				
		m from			Latitude 52	2.546804	Long	itude <u>-113.94</u>	5697	Elevation	908.30 m	
		m from			How Location	Obtained				How Elevation Ob	otained	
					Мар				l	Estimated		
Additional	Information										Measureme	ent in Metric
	rom Top of Cas n Flow				cm		ls Elow Cor	ntrol Installed				
is Aitesiai	Rate					4						
			L/111111					Describe				
	nded Pump Rat				0.00 L/min		_			Depth	<u>m</u>	
Recommen	nded Pump Inta	ke Depth	(From TOC)		0.00 m	Тур	9		Make		Н.Р.	
										Model (Output F	Rating)	
Did vou E	Encounter Salin	e Water (>4000 ppm TE)S)	Depth		m	Well Disinfe	ected Upor	Completion		
		,		as Yes			m			g Taken		
									Submitted to			
							0 1 0				5000	
A -1-1:1:	-10	14/- //					Sample C	collected for Po	otability	Sub	mitted to ESRD	
	al Comments o											
DRILLER F	REPORTS SOF	T WATER	₹.									
Yield Test								Take		Ground Level th to water level	Measureme	ent in Metric
Test Date 1960/06/12	2	Start Tin		Stat	ic Water Level 3.66 m		Drav	vdown (m)		Elapsed Time	Recovery	(m)
								3.66		Minutes:Sec 0:00	4.57	
Method of	Water Remov	al						0.00		10:00	3.66	
	Type E	Bailer				_		4.57		20:00		
R	Removal Rate		45.46 L/min									
Depth With	hdrawn From		0.00 m									
If water ren	moval period wa	as < 2 hou	rs, explain wh	У								
Yield Test								Take	en From (Ground Level	Measureme	ent in Metric
Test Date		Start Tin	20	Ctct	ic Water Level					th to water level		
1960/06/12	,	12:00 Al		Stat	3.66 m		Drav	vdown (m)	1	Elapsed Time	Recovery	(m)
	-	.2.007	•							Minutes:Sec		
Method of	Water Remov	al						3.66	_	0:00	5.18	
metriod or	Type E							5.18		20:00	3.66	
	Removal Rate		31.82 L/min			_						
	_											
Depth vviti	hdrawn From _		0.00 m									
If water ren	moval period wa	as < 2 hou	rs, explain wh	У								
Water Dive	erted for Drilli	ng										
		3		Δ	ount Toles				Discours!	on Data & Time		
Water Sour	ce			Am	nount Taken L				Diversion	on Date & Time		

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

CHIPMUNK HOLDING LTD

Certification No

Copy of Well report provided to owner Date approval holder signed

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Contractor Certification

UNKNOWN NA DRILLER Company Name

UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275062

Drilling Company Well ID Date Report Received

GOWN ID			locaracy. The line	mation	on this report will be retained i	ii a public datac	ase.		Date Report Recei	
Well Identif	ication and L	ocation							·	Measurement in Me
Owner Name JUNEL			Address LACOMBE		To	own		Province	Country	Postal Code
Location	1/4 or LSD NE	SEC 22	<i>TWP</i> 041	RGE 28	W of MER Lot	Block	Plan	Addition	nal Description	
Measured fro		f m from m from			GPS Coordinates in Latitude 52.54680 How Location Obtain Not Verified	04 Lon	rees (NAD 83) ogitude -113.94		Elevation	914.40 m otained
Drilling Info	rmation									
Method of D Drilled Proposed W	rilling				Type of Work Federal Well Survey					
Unknown				N /	locaurement in Matria	Viold T	ant Cumman	,		Macaurament in Ma
Formation I		I	5	IV	leasurement in Metric		est Summar		L/min	Measurement in Me
Depth from ground level	(m) Water Bearing	Litholo	gy Description				mended Pump Date Wat		Rate (L/min)	Static Water Level (m)
						Well C	ompletion			Measurement in Me
							epth Drilled F า	inished Well	Depth Start Date	
							iameter (cm)		From (m)	To (m)
							0.00		0.00	27.43
						Surface	e Casing (if ap	oplicable)	Well Casing	g/Liner
							Size OD :	0.00 cm	<u>n</u> Size	e OD : 0.00 cm
						Wall 7	Thickness :	0.000 cm	<u>Wall Thick</u>	ness: 0.000 cm
						I.	Bottom at :	0.00 m	_	op at : 0.00 m
						Perfora	ations		Botto	om at : 0.00 m
						From		Diamete Slot Width(c	Slot	Hole or Slot) Interval(cm)
						Perfora	ted by		·	
							er Seal ed from Amount	0.00 m	0.00 m	_
						Other S	Seals Type)		At (m)
						Screen				
							Size OD :	0.00 cm	_	
							From (m)		To (m)	Slot Size (cm)
							ttachment pp Fittings		Bottom Fit	ttinas
						Раск Туре) 			·
						Amou	unt			

Printed on 7/27/2015 9:34:11 AM Page: 1 / 2

Certification No

Copy of Well report provided to owner Date approval holder signed



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View in Imperial Export to Excel

275062

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1935/08/06 Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country JUNEL LACOMBE 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot NE 22 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.546804 Longitude -113.945697 914.40 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 9:34:11 AM Page: 2 / 2



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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275063

Drilling Company Well ID

accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1985/10/24 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country STEWART, W.W. RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER Block Plan Additional Description Location RGE Lot NE 22 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.546804 Longitude -113.945697 m m from How Location Obtained How Elevation Obtained m from Not Obtained **Drilling Information** Type of Work Method of Drilling Unknown Chemistry Proposed Well Use Domestic Formation Log Measurement in Metric **Yield Test Summary** Measurement in Metric Recommended Pump Rate L/min Depth from Water Lithology Description Water Removal Rate (L/min) ground level (m) Bearing Test Date Static Water Level (m) Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 34.14 m **Borehole** Diameter (cm) From (m) To (m) 0.00 0.00 34.14 Well Casing/Liner Surface Casing (if applicable) Size OD : Size OD: 0.00 cm 0.00 cm Wall Thickness: 0.000 cm Wall Thickness: 0.000 cm 0.00 m 0.00 m Bottom at: Top at: 0.00 m Bottom at: Perforations

Amount Other Seals At (m) Type Screen Type Size OD: From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Туре Grain Size ___ Amount

Slot

Length(cm)

0.00 m

Hole or Slot

Interval(cm)

Diameter or

Slot Width(cm)

0.00 m to

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

From (m)

Perforated by Annular Seal Placed from

To (m)

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275063

Drilling Company Well ID

1985/10/24 Date Report Received

Well Ident	ification and L	Location									Meas	surement in Metric
Owner Nan STEWART			Address RR3, LACOM	ИВЕ		Town)		Province	Count	try	Postal Code T0C 1S0
Location	1/4 or LSD NE	SEC 22	<i>TWP</i> 041	RGE 28	W of MER 4			Plan		nal Description		
Measured f	from Boundary (of m from m from	_		GPS Coordin Latitude 5 How Location Map	2.546804	Longi		·	Elevation How Elevation Not Obtained		m
Additional	Information										Meas	surement in Metric
Distance F Is Artesia	From Top of Cas n Flow Rate				cm		ls Flow Con	trol Installed	d 			
	nded Pump Rai nded Pump Inta	te	_		L/mir	<u>Pum</u>	p Installed			Depth	m H.P.	
										Model (Outpu		
Did you	Encounter Salir	ne Water (>40		S) as				Geo		Completion g Taken o ESRD		
Addition	nal Comments o	on Well					Sample Co	ollected for I	Potability	S	ubmitted to E	ESRD <u>Yes</u>
Yield Test								Tal	ken From C	Ground Level	Meas	surement in Metric
Test Date		Start Time		Static	Water Level m							
Method of	f Water Remov	/al										
	_											
	Removal Rate _ thdrawn From _											
If water rea	moval period wa	as < 2 hours,	explain why									
Water Div	erted for Drilli	ing										
Water Sou	rce			Δποι	ınt Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Date approval holder signed



View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN ID

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Well Ident	ification and L	ocation									Measur	ement in Metric
	Owner Name Address WILSON, MARTIN			Town F			Province	Countr	У	Postal Code		
Location	1/4 or LSD SE	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured t	from Boundary o	of			GPS Coordinates in Decimal Degrees (NAD 83)				*			
		m from			Latitude <u>52.539938</u> Longitude <u>-113.921436</u>			921436	Elevation 923.54 m			
	m from				How Location	How Location Obtained				How Elevation Obtained		
					Мар				Estimated			

Drilling Information Method of Drilling Type of Work Cable Tool New Well Proposed Well Use Stock Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.49		Clay	
6.40		Hard Sandstone	
12.50		Shale	
13.72		Hard Sandstone	
14.63		Sandstone	
18.59		Shale	
19.81		Sandstone	
22.86		Shale	_
30.48		Shale & Sandstone Ledge	es

Recommend	ed Pump Ra	ate0.0	00 L/min	1			
Test Date	Water	Removal Rate ((L/min)		tatic	Water Level (m)	
1977/08/1	0	54.55				4.88	
Well Compl	etion				Me	asurement in N	/letric
Total Depth I	Drilled Finis	shed Well Depti	h Start	rt Date End Date			
30.48 m			1977	/08/09		1977/08/10	
Borehole							
	er (cm)		n (m)			To (m)	
	00		00			30.48	
Surface Cas Steel	ing (if appl	icable)	Well Ca Plastic	asing/Li	iner		
		14.12 cm				0.00 cm	
Wall Thickn	iess :	0.478 cm	Wall 7	Thicknes	ss:	0.000 cm	
Bottor	n at :	14.94 m		Тор а	at:	0.00 m	
			I	Bottom a	at:	30.48 m	
Perforations	6				-		
		Diameter or					
From (m)	To (m)	Slot Width(cm)	Slo Lengtl	ot h(cm)		Hole or Slot Interval(cm)	
14.33	30.48	0.000	Lengu	II(CIII)		0.00	
D = uf = u = t = = 1 f =							
Perforated by	/ iviacn	ine					
Annular Sea							
		.00 m to		3 m			
	nt		_				
Other Seals							
	Type				At	(m)	
Screen Type	•						
Size	OD :	0.00 cm					
From	n (m)	То	(m)			Slot Size (cm)	
Attachr	ment	'					
			Botto	m Fitting	gs _		_
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

Copy of Well report provided to owner Date approval holder signed

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GIC Well ID GoA Well Tag No. Drilling Company Well ID

275064

GOWN ID										Date Report Rece	eived	
Well Identi	fication and I	ocation									Measurement in M	etric
Owner Nam WILSON, M			Address			Town			Province	Countr	y Postal Coo	le
Location	1/4 or LSD SE	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan		nal Description		
Measured fr	rom Boundary	of m from m from			GPS Coordin Latitude 5: How Location Map	2.539938		es (NAD 83) itude113.92		Elevation How Elevation (Estimated		
Additional	Information										Measurement in M	etric
	rom Top of Ca n Flow Rate				cm	Is		trol Installed				
Docommon	nded Pump Ra		2,111111		0.00 L/min	Duman						
	,		(From TOC)		15.24 m				Make	Depth	<u>т</u> Н.Р.	
Recommen	iaca i amp inte	ике Верит (110111100)		10.24 111	Турс			mano		Rating)	_
Did you E	S) as				Geop				_			
Additiona	al Comments o	on Well					Sample C	ollected for Po	otability	Su	bmitted to ESRD	_
Yield Test								Take	en From G	Fround Level	Measurement in Measurement	etric
		Start Tim		Ctatia	Materia			ranc		th to water level		
Test Date 1977/08/10)	12:00 AM		Static	Water Level 4.88 m		Draw	vdown (m)		lapsed Time Minutes:Sec	Recovery (m)	
Method of	Water Remov											
R	emoval Rate	;	54.55 L/min									
Depth With	hdrawn From		0.00 m									
If water ren	noval period w	as < 2 houi	rs, explain why	′								
Water Dive	erted for Drill	ina										

Amount Taken

Contractor Certification

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

AL'S WATER WELLS LTD

Certification No

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Diversion Date & Time

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275065

GIC Well ID GoA Well Tag No. Drilling Company Well ID

1988/12/19

Measurement in Metric

GOWN ID

accuracy. The information on this report will be retained in a public database

Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country RR3, LACOMBE WILSON, MARTIN T0C 1S0 SEC TWP W of MER Block 1/4 or LSD Plan Additional Description Location Lot SE 23 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.539938 Longitude _-113.921436 m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic & Stock

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
6.10		Clay	
9.75		Sandstone	
14.63		Shale	
23.77		Sandstone	
24.08		Shale	
27.43		Sandstone	
30.48		Shale	

Test Date Water Removal Rate (L/min) Static Water Level (m) 1988/11/03 181.84 4.57	Recommended Pump Rate181.84 L/min										
Well Completion Total Depth Drilled Finished Well Depth Start Date End Date 30.48 m 1988/11/02 1988/11/03 Borehole Diameter (cm) From (m) To (m) 0.00 0.00 30.48 Surface Casing (if applicable) Steel Plastic											
Total Depth Drilled Finished Well Depth Start Date 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/03 1988/11/02 1988/11/03	/11/03										
30.48 m 1988/11/02 1988/11/03 Borehole Diameter (cm) From (m) To (m) 0.00 30.48 Surface Casing (if applicable) Well Casing/Liner Plastic	Well Completion Measurement in Metric										
Diameter (cm) From (m) To (m)											
Diameter (cm) From (m) To (m)	n										
0.00 0.00 30.48 Surface Casing (if applicable) Steel Well Casing/Liner Plastic	ole										
Surface Casing (if applicable) Steel Well Casing/Liner Plastic											
Steel Plastic											
Size OD: 13.97 cm Size OD: 11.43 cm	e Casing (if										
Wall Thickness: 0.620 cm Wall Thickness: 0.396 cm	Thickness :										
Bottom at: 10.97 m Top at: 6.10 m	Bottom at :										
Bottom at: 30.48 m											
Perforations	ations										
Diameter or Slot Slot Hole or Slot											
From (m) To (m) Width(cm) Length(cm) Interval(cm)	(m) To (
12.19 30.48 0.953 0.00											
Perforated by Machine	ted by										
Annular Seal Driven											
Placed from 0.00 m to 10.97 m											
Amount	· · · · · · · · · · · · · · · · · · ·										
Other Seals											
Type At (m)											
. 190											
Screen Type	Туре										
Size OD : 0.00 cm	Size OD:										
From (m) To (m) Slot Size (cm)											
Attachment	ttachment _										
Top Fittings Bottom Fittings											
Pack	_										
Type Grain Size	Туре										
Amount	7										

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 9:34:24 AM Page: 1 / 2



Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275065

Drilling Company Well ID Date Report Received

1988/12/19

Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country WILSON, MARTIN RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot SE 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.539938 Longitude -113.921436 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe 181.84 L/min Recommended Pump Rate Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1988/11/03 12:00 AM 4.57 m Minutes:Sec Method of Water Removal Type Air 181.84 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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GIC Well ID GoA Well Tag No.

Drilling Company V 275067

GOWN ID	accuracy. The information of	n this report will be retained in a	public database.		e Report Received	1952/11/22
Well Identification and Lo	ocation				<u>·</u>	Measurement in Metric
Owner Name CALIF STD CO#E400	Address	Town	n	Province	Country	Postal Code
Location 1/4 or LSD 01	SEC TWP RGE 23 041 28	W of MER Lot	Block Plan	Additional E	Description	
	m from m from	GPS Coordinates in De Latitude 52.538130 How Location Obtained Not Verified	ecimal Degrees (NAD 8. Longitude -113.	918470 Ele Ho	evation 93 w Elevation Obtain rvey-Air	24.15 m
Drilling Information						
Method of Drilling Drilled		Type of Work Structure Test Hole				
Proposed Well Use Industrial						
Formation Log	M	easurement in Metric	Yield Test Summa	ary		Measurement in Metric
Depth from Water	Lithology Description		Recommended Pur		L/min_	
ground level (m) Bearing			Test Date W	/ater Removal Rate	e (L/min) Sta	atic Water Level (m)
			Well Completion		<u> </u>	Measurement in Metric
			Total Depth Drilled 281.03 m	Finished Well Dep		End Date
			Borehole			
l			Diameter (cm) 0.00		om (m) 0.00	To (m) 281.03
l			Surface Casing (if		Well Casing/Lir	
l			Size OD :	0.00 cm	Size OL	0.00 cm
			Wall Thickness :	0.000 cm	Wall Thickness	
			Bottom at :	0.00 m	Top a	
			Perforations		Bottom a	t: 0.00 m
				Diameter or	CL	
			From (m) To (r	Slot m) Width(cm)	Slot Length(cm)	Hole or Slot Interval(cm)
			Perforated by			
			Annular Seal Placed from Amount	0.00 m to	0.00 m	
			Other Seals			
			Туре		At (m)	
			Screen Type Size OD:	0.00 cm		
			From (m)		o (m)	Slot Size (cm)
			Attachment		Bottom Fittings	
			Top Fittings Pack		DUMUITI FIMING	
			Раск Туре		Grain Size	
			Amount			

Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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GIC Well ID 275067 GoA Well Tag No.

Drilling Company Well ID

accuracy. The information on this report will be retained in a public database **GOWN ID**

Date Report Received 1952/11/22 Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country CALIF STD CO#E400 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot 01 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.538130 Longitude -113.918470 924.15 m m from How Location Obtained How Elevation Obtained m from Not Verified Survey-Air Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Electric Gas Submitted to ESRD Electric Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Ground Level Measurement in Metric Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Water Source

Name of Journeyman responsible for drilling/construction of well

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time



View in Imperial Export to Excel

275068

Measurement in Metric

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

GOWN ID

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OWN ID					n this report will be i	etained in a pi	udiic datadas		0 , ,			
Well Identif	fication and L	ocation									Measurement in	n Metric
	-		Address LACOMBE			Town			Province	Country	Postal	Code
Location	1/4 or LSD SW	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured fr							0			Elevation	914.40 m	
m from			How Location Obtained Map					How Elevation Obtained Estimated				
i	Owner Nam GUSTAFSO Location	Well Identification and L Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SW Measured from Boundary of	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC SW 23 Measured from Boundary of m from	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC SW 23 Measured from Boundary of m from	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC SW 23 Measured from Boundary of m from	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC TWP RGE W of MER Measured from Boundary of m from GPS Coordin Latitude 5	OWN ID Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC SW 23 041 28 Measured from Boundary of m from GPS Coordinates in Decident Control of Section 1/2 (Section 1/4) (Sec	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC SW 23 041 28 GPS Coordinates in Decimal Degree Latitude 52.539938 Longin	Well Identification and Location Owner Name GUSTAFSON, W.R. LACOMBE Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan SW 23 041 28 4 Measured from Boundary of GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.539938 Longitude -113.9	Well Identification and Location Owner Name GUSTAFSON, W.R. LACOMBE Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Addition SW 23 041 28 4 Measured from Boundary of GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.539938 Longitude -113.933299	Well Identification and Location Owner Name GUSTAFSON, W.R. Location 1/4 or LSD SEC TWP RGE SW 23 041 28 4 Measured from Boundary of m from Measured from Boundary of Latitude 52.539938 Longitude -113.933299 Elevation	Well Identification and Location Owner Name GUSTAFSON, W.R. LACOMBE Town Province Country Postal Province Country Postal Results of the index of m from SW 23 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.539938 Longitude -113.933299 Elevation 914.40 m

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic & Stock

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.49		Sandy Clay & Boulders	
15.85		Blue Clay & Boulders	
19.20		Blue Shale	
26.21		Gray Sandy Shale	
26.52		Hard Sandstone	
28.96		Green Shale	
30.48		Gray Shale & Sandstone	

Recommended Pu	mp Rate	0.00 L/mii	<u>1</u>					
	Water Removal R			atic Water Level (m	1)			
1960/06/21	38.64			4.88				
Well Completion				Measurement in	Metric			
Total Depth Drilled	Finished Well L	Depth Start	Date	End Date				
30.48 m				1960/06/21				
Borehole								
Diameter (cn	n)	From (m)		To (m)				
0.00		0.00		30.48				
Surface Casing (in Unknown	f applicable)	Well C	asing/Lii	ner				
	12.70 cm			0.00 cm				
Wall Thickness:	0.000 cm	Wall	Thickness	s: 0.000 cm	<u> </u>			
Bottom at:	19.51 m		Тор а	t: 0.00 m	_			
			Bottom a	t: 0.00 m	_			
Perforations					_			
	Diameter		.					
From (m) To	(m) Slot	n) Lengt	ot h(cm)	Hole or Slot Interval(cm)				
,	(,	,	,	,				
Perforated by								
Annular Seal Dri	iven							
	0.00 m to	0.0	0 m					
Other Seals								
Т	ype		At (m)					
Screen Type								
Size OD:	0.00 cm	_						
From (m)		To (m)		Slot Size (cm)				
Attachment								
Top Fittings		Botto	m Fitting	s	_			
Pack	· · · · · ·				_			
Туре		Grair	Size					
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

CHIPMUNK HOLDING LTD

Certification No

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GIC Well ID GoA Well Tag No. 275068

Drilling Company Well ID accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1960/12/28 Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country GUSTAFSON, W.R. **LACOMBE** 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot SW 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation _ Latitude 52.539938 Longitude -113.933299 914.40 m m from How Location Obtained How Elevation Obtained m from Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS SOFT WATER. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1960/06/21 12:00 AM 4.88 m Minutes:Sec 4.88 0:00 11.58 Method of Water Removal 11 58 30.00 4 88 Type Bailer 38.64 L/min Removal Rate Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why

Water Brented for Briting		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Water Diverted for Drilling

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

CHIPMUNK HOLDING LTD

Certification No

Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275069

Drilling Company Well ID Date Report Received

1989/09/26

Well Identification and Location							IV	leasurement in Metric
	A <i>ddress</i> RR3, LACOMBE		Town			Province	Country	Postal Code
Location 1/4 or LSD SEC SW 23	TWP RGE 041 28	W of MER 4	Lot	Block	Plan	Additional De	escription	
Measured from Boundary of				imal Degrees (
m from			2.539938	Longitude	e <u>-113.933</u>		ration	
m from		How Location	Obtained			I .	/ Elevation Obtaine	d
		Мар				I Not	Obtained	
Drilling Information								
Method of Drilling Unknown		Type of Worl	k					
Proposed Well Use Domestic		Chomical						
Formation Log	Me	asurement in N	Metric	Yield Test S	Summary		N	leasurement in Metric
Depth from Water Lithology	Description			Recommende	ed Pump R	Rate	L/min_	
ground level (m) Bearing				Test Date	Wate	r Removal Rate	(L/min) Stat	ic Water Level (m)
				Well Comple				leasurement in Metric
				Total Depth D 0.00 m	Orilled Fin	ished Well Dept	h Start Date	End Date
				Borehole				
				Diamete 0.0			n (m) .00	To (m) 0.00
				Surface Cas			Well Casing/Line	
				Size	OD :	0.00 cm	Size OD	0.00 cm
				Wall Thickn	ess:	0.000 cm	Wall Thickness	0.000 cm
				Botton	n at :	0.00 m	Top at	
				Doufouctions			Bottom at	0.00 m
				Perforations	•	Diameter or		
				_ ,	_ ,	Slot	Slot	Hole or Slot
				From (m)	To (m)	Width(cm)	Length(cm)	Interval(cm)
				Perforated by	/			
				Annular Sea	ı			
				Placed from		0.00 m to	0.00 m	
				Amour Other Seals	nt		_	
				Oli lei Seals	Type			At (m)
					,			
				Screen Type)			
				Size	OD :	0.00 cm		
					n (m)		(m)	Slot Size (cm)
				Δttachm	nent			
							Bottom Fittings	
				Pack	J-			
							Grain Size	
				Amount			0.0	
			-					
Contractor Certification								

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Certification No

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Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER Company Name

UNKNOWN DRILLER



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View in Imperial Export to Excel

275069

GIC Well ID GoA Well Tag No.

Drilling Company Well ID 1989/09/26

OWN ID							Date	Report Receive	u 1989/09/26
Well Identification	and Location								Measurement in Metric
Owner Name HARTLEY, RON		Address RR3, LACOM	1BE		Town		Province	Country	Postal Code
Location 1/4 or I	LSD SEC 23		28 4		Lot Block		Additional D	escription	
Measured from Bour	m from m from		Latit	ude <u>52.5</u> Location (es in Decimal Degre 539938 Long Obtained		Но	evation w Elevation Obta t Obtained	
Additional Informa	tion								Measurement in Metric
Distance From Top Is Artesian Flow				cm	Is Flow Con				
Recommended Pun	mn Doto	L/min_		L/min	Dumm Installed			246	
Recommended Pun	,	(From TOC)			Pump Installed _ Type		Make		m H.P iing)
Did you Encounte	er Saline Water (:		S)		m m	Geop		en	_
Additional Comm	ents on Well				Sample C	ollected for Po	otability	Submi	tted to ESRD
Yield Test						Take	en From Grou	nd Level	Measurement in Metric
Test Date	Start Tin	пе	Static Water	Level m					
Method of Water R									
	Гуре Rate				-				
Depth Withdrawn F									
If water removal per	riod was < 2 hou	rs, explain why			_				
Water Diverted for	r Drilling								
Water Source			Amount Tal	ken			Diversion Da	te & Time	

Contractor Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Certification No

Copy of Well report provided to owner Date approval holder signed



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GIC Well ID GoA Well Tag No.

275070

Drilling Company Well ID
Date Report Received 1935/08/06

GOWINID										Date Report Rece	ivea 1935/08	/06
Well Iden	tification and L	ocation									Measureme	ent in Metric
Owner Nar GUSTAFS			Address LACOMBE			Town			Province	e Country	Po	ostal Code
Location	1/4 or LSD 04	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured	from Boundary o	of m from			_	52.538130	U	es (NAD 83 tude113.9		Elevation	917.45 m	
m from					How Location Obtained Field					How Elevation Obtained Survey-Air		

04	23 041 28	GPS Coordinates in D	ecimal Degrees (NA	D 83)		
Measured from Boundary of		Latitude 52.538130			Elevation	917.45 m
	m from	How Location Obtained			How Elevation	
	m from	Field	u		Survey-Air	T Obtained
		I leiu		<u>'</u>	Survey-All	
rilling Information						
lethod of Drilling		Type of Work				
Prilled		Federal Well Survey				
Proposed Well Use						
Inknown			V. 11T. 10			
ormation Log		Measurement in Metric	Yield Test Sun	•	0.00 1 /	Measurement in N
Pepth from Water round level (m) Bearing	Lithology Description		Test Date	Pump Rate Water Removal		Static Water Level (m)
ound level (III) bearing				water Removal	Rate (L/IIIII)	
			1925/01/01			4.27
			Well Completion		II D = = 41=	Measurement in I
			29.26 m	led Finished Wei	прерип запти	Date End Date 1925/01/01
			Borehole			1323/01/01
			Diameter ((cm)	From (m)	To (m)
			0.00	(CITI)	0.00	29.26
			Surface Casing Unknown	(if applicable)	Well Ca	sing/Liner
			Size OE	5.08 cr	<u>m</u>	Size OD: 0.00 cm
			Wall Thickness	0.000 cr	m Wall Ti	hickness: 0.000 cm
			Bottom a	t: 0.00 m	<u></u>	Top at : 0.00 m
					В	Bottom at : 0.00 m
			Perforations			
				Diamete Slot		t Hole or Slot
			From (m) T	o (m) Width		
			Perforated by			
			Annular Seal			
			Placed from	0.00 m	to 0.00	m
			Amount			
			Other Seals			
				Type		At (m)
			Screen Type			
			Size OE	0.00 cr	<u>m</u>	
			From (m	1)	To (m)	Slot Size (cm)
			Attachre	.4		
				nt		n Fittings
				s	Botton	n Fittings
			Pack			
		1	Туре		Grain .	Size

Contractor	Certification
Continuotor	Continuation

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Amount

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Water Well Drilling Report

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GIC Well ID 275070 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1935/08/06

weii ideniiiicali	ion and Lo	ocation									Measurement	in weind
Owner Name GUSTAFSON			dress COMBE			Town			Province	Country	Posta	al Code
Location 1/4 04	or LSD		<i>WP</i> 41	RGE 28	W of MER 4	Lot		Plan		Description		
Measured from B	Boundary of	:			GPS Coordina		•		I .	-lovetion	017.45 m	
		m from	_		Latitude 52 How Location		Long	-113.9		Elevation How Elevation Ob	-	
	r	n from	_		Field	Obtainou				Survey-Air	taniou	
Additional Infor	mation										Measurement	in Metric
Distance From 7					cm							
Is Artesian Flov						ı	s Flow Cor					
	e		nin									
Recommended	,		TO 01		0.00 L/min					epth		
Recommended I	Pump Intak	e Depth (From	10C) _		0.00 m	Туре	9			Model (Output P	H.Pating)	
Did you Encou	unter Saline	Water (>4000								ompletion		
			Ga	is	Deptn		m		Submitted to E			
							0 / 0				··· / . 5000	
Additional Col	mments on	Well					Sample C	ollectea for F	Potability	Subr	mitted to ESRD	
OWNER REPOR												
Yield Test								Tal	ken From Gro	und Lovel	Measurement	in Motric
		O(, , T'		0, ,;	147-7-1			Tar		water level	Measurement	III WEUIC
Test Date 1925/01/01		Start Time 12:00 AM		Static	Water Level 4.27 m		Drav	wdown (m)		sed Time outes:Sec	Recovery (m)
Method of Wate	er Remova	I										
	Туре											
Remov	val Rate		L/min									
Depth Withdraw	vn From	0.00	m									
If water removal	period was	s < 2 hours, ex	plain why									
Water Diverted	l for Drillin	g										
Water Source		_		Атог	ınt Taken				Diversion L	Date & Time		
					L							

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

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GIC Well ID GoA Well Tag No.

275071

Drilling Company Well ID 1985/10/24

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country RR3, LACOMBE STEWART, S. T0C 1S0 1/4 or LSD SEC TWP W of MER Block Plan Additional Description Location Lot NW 23 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.547170 Longitude -113.933302 m m from How Location Obtained How Elevation Obtained m from Not Obtained

Drilling Information Method of Drilling Type of Work Unknown Chemistry Proposed Well Use Domestic Measurement in Metric tatic Water Level (m)

Formation Log			Measurement in Metric		Yield Test Sum	nmary		
Depth from ground level (m)	Water Bearing	Lithology Description			Recommended I		L/min oval Rate (L/min)	S
				Ī	Well Completion	n		

Well Comp					easurement in
Total Depth I 19.81 m	Drilled Fin	ished Well Depti	h Start	Date	End Date
Borehole					
	er (cm)				To (m)
	00	0.			19.81
Surtace Cas	sing (if app	licable)	Well Ca	ising/Line	r
Size	OD :	0.00 cm		Size OD :	0.00 cm
			Wall T	hickness :	0.000 cm
Botto	m at :	0.00 m		Top at:	0.00 m
			Е	Bottom at :	0.00 m
Perforations	5				
From (m)	To (m)	Diameter or Slot Width(cm)		it n(cm)	
Perforated b	У				
Annular Sea Placed fro	al om <u>(</u>	0.00 m to) m_	
Annular Sea Placed fro Amou	al om <u>(</u>	0.00 m to) m	
Annular Sea Placed fro Amou	al om <u>(</u>				t (m)
Annular Sea Placed fro Amou Other Seals	al community of the com				t (m)
Annular Sea Placed fro Amou Other Seals Screen Type Size	Type OD:	0.00 cm			
Annular Sea Placed fro Amou Other Seals	Type OD:				t (m) Slot Size (cm)
Annular Sea Placed fro Amou Other Seals Screen Type Size	Type OD: (m)	0.00 cm	(m)		
Annular Sea Placed fro Amou Other Seals Screen Type Size Fron	Type OD:	0.00 cm	(m)	A	
Amou Other Seals Screen Typp Size Fron Attachi	Type OD:	0.00 cm	(m)	A	Slot Size (cm)

Screen Type Size OD:	0.00 cm	
From (m)	To (m)	Slot Size (cm)
Attachment		
Top Fittings	Bottom Fitt	ings
Pack		
Туре	Grain Size	
Amount		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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GIC Well ID 275071 GoA Well Tag No.

Drilling Company Well ID 1985/10/24

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country STEWART, S. RR3, LACOMBE T0C 1S0 SEC TWP W of MER 1/4 or LSD RGE Block Plan Additional Description Location Lot NW 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.547170 Longitude -113.933302 m m from How Elevation Obtained How Location Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

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Contractor Certification

UNKNOWN NA DRILLER Company Name

UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

275072

Drilling Company Well ID Date Report Received

1935/08/06

GOWN ID	on this report will be retained in a pu	ubiic database.	Date Report Received	1935/08/06
Well Identification and Location				Measurement in Metr
Owner Name Address KAMLAH, H. LACOMBE	Town	Provi	ince Country	Postal Code
Location 1/4 or LSD SEC TWP RGE 14 23 041 28	W of MER Lot	Block Plan Ad	lditional Description	
Measured from Boundary of m from m from	GPS Coordinates in Decil Latitude 52.548977 How Location Obtained Not Verified	mal Degrees (NAD 83) Longitude -113.930336	Elevation 9. How Elevation Obtain Estimated	29.64 m ned
Drilling Information				
Method of Drilling Drilled Proposed Well Use	Type of Work Federal Well Survey			
Unknown Formation Log N	Measurement in Metric	Yield Test Summary		Measurement in Metr
	leasurement in Metric	Recommended Pump Rate		Measurement in Meti
Depth from ground level (m) Water Bearing Lithology Description				atic Water Level (m)
	<u> </u>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
		Well Completion Total Depth Drilled Finished 24.38 m		Measurement in Metr End Date
		Borehole Diameter (cm)	From (m)	To (m)
		0.00 Surface Casing (if applicable	0.00 Well Casing/Lin	24.38 ner
		Size OD : 0.0	0 cm Size OL	D: 0.00 cm
			0 cm Wall Thickness	s: 0.000 cm
		Bottom at : 0.0	00 m Top a Bottom a	at: 0.00 m
		Perforations		
			meter or Slot Slot idth(cm) Length(cm)	Hole or Slot Interval(cm)
		Perforated by		
		Annular Seal Placed from 0.00 r Amount	m_ to 0.00 m_	
		Other Seals Type		At (m)
		Screen Type Size OD:0.0	0 cm_	
		From (m)	To (m)	Slot Size (cm)
		Attachment Top Fittings	Bottom Fitting	10
		Pack Type	Grain Size	
		Amount	Grain Size	

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Certification No

Copy of Well report provided to owner

Date approval holder signed



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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275072

Drilling Company Well ID Date Report Received

1935/08/06

OWN ID		а	iccuracy. The in	iormation of	n this report will be r	etained in a publi	.c databas	se.		Date Report Red		1935/08/06
Well Ident	tification and l	Location									Mea	asurement in Metr
Owner Nan KAMLAH, H			Address LACOMBE			Town			Province	Count	try	Postal Code
Location	1/4 or LSD 14	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured t	from Boundary	of m from m from				nates in Decima 2.548977 n Obtained	_			Elevation How Elevation Estimated		4 m
Additional	Information				Trot voliniou					Edimatod	Mea	asurement in Metr
	From Top of Ca an Flow				cm	ls F	low Con	trol Installe	d			
	Rate											
Recomme	ended Pump Ra	te			L/min						m	
Recomme	ended Pump Int	ake Depth	(From TOC)		m	Type			Make	Model (Outpu	H.P It Rating)	
Did vou	Encounter Salii	ne Water (:	>4000 ppm Ti	DS)	Depth			Well Disi	nfected Upon	Completion		
		,		Gas								
									Submitted to			
						Sa	ample Co	ollected for	Potability	S	ubmitted to	ESRD
	nal Comments on REPORTS HAR											
Yield Test	i							Ta	ken From C	Bround Level	Mea	surement in Met
Test Date		Start Tin	ne	Stat	ic Water Level m							
Method o	f Water Remov											
	Removal Rate											
рерит үүн	thdrawn From		<u>m</u>									
If water rea	moval period w	as < 2 hou	ırs, explain wl	ny								
Water Div	rerted for Drill	ina										
2.0. 210		9										

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Water Source

Copy of Well report provided to owner

Certification No

Diversion Date & Time

Date approval holder signed

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275073

GIC Well ID GoA Well Tag No. Drilling Company Well ID

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GOWN ID	accuracy. The information	Ton this report will be retained in a public database.	Date Report Received 1935/08/05
Well Identification and Location	n		Measurement in Metric
Owner Name CARTER, C.M.	Address LACOMBE	Town	Province Country Postal Code
Location 1/4 or LSD SEC 09 23	<i>TWP RGI</i> 041 28	W of MER Lot Block F	Plan Additional Description
Measured from Boundary of		GPS Coordinates in Decimal Degrees (N	IAD 83)
m from		Latitude <u>52.545362</u> Longitude	-113.918470
m from		How Location Obtained	How Elevation Obtained
•		Field	Estimated

leasured from Bounda	ry of m from m from	Latitude 52.545362 How Location Obtaine Field		Hov	vation w Elevation Obtainated	929.64 m ined
rilling Information lethod of Drilling and Dug roposed Well Use nknown		Type of Work Federal Well Survey				
ormation Log		Measurement in Metric	Yield Test Summary	,		Measurement in
epth from Water round level (m) Bearing			Recommended Pump I		L/min (L/min) S	Static Water Level (m
1	I		Well Completion Total Depth Drilled Fin 4.57 m Borehole	nished Well Dept	th Start Date	Measurement in End Date
			Diameter (cm)	Fror	m (m)	To (m)
			0.00 Surface Casing (if app		0.00 Well Casing/L	4.57
				ŕ	_	
			Size OD : Wall Thickness :			0.00 cm ss: 0.000 cm
			Bottom at :			at: 0.000 m
			Doufovations			at: 0.00 m
			Perforations From (m) To (m)	Diameter or Slot Width(cm)	Slot Length(cm)	Hole or Slot Interval(cm)
			Perforated by Annular Seal Placed from Amount Other Seals Type	_	0.00 m	At (m)
			Screen Type Size OD:	0.00 cm		
			From (m)	То) (m)	Slot Size (cm)
			Attachment Top Fittings			gs
			Pack			

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Certification No

Amount

Copy of Well report provided to owner Date approval holder signed



Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Imperial Export to Excel

GIC Well ID 275073 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1935/08/05

Well Ident	tification and I	ocation									Measu	rement in Metric
Owner Nar CARTER, 0			Address LACOMBE			Town			Province	Country	Y	Postal Code
Location	1/4 or LSD 09	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot		Plan		nal Description		
Measured i	from Boundary	of m from m from			GPS Coordin Latitude 52 How Location Field	2.545362	•			Elevation How Elevation C		1
Additional	Information										Measu	rement in Metric
	From Top of Cas an Flow Rate				cm	Is	s Flow Con		d 			
	ended Pump Ra ended Pump Inta				L/min	Pump	Installed			Depth	т Н.Р.	
										Model (Output		
Did you	Encounter Salir	ne Water (>4		DS) Gas	Depth Depth			Geo	nfected Upon ophysical Log Submitted to	Completion g Taken o ESRD		
Addition	nal Comments o	on Well					Sample Co	ollected for I	Potability	Sui	bmitted to ES	RD
Yield Test	t							Tal	ken From C	Fround Level	Measu	ement in Metric
Test Date		Start Time)	Stat	ic Water Level m							
Method o	of Water Remov											
	Removal Rate _ ithdrawn From _		<u>L/mi</u> n									
If water re	emoval period wa	as < 2 hours	, explain wh	ny								
Water Div	erted for Drilli	ing										
Water Soul	rce			An	nount Taken				Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Copy of Well report provided to owner Date approval holder signed

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID

275076

OWN ID										Date Report Receiv	/ea
Well Iden	tification and L	ocation									Measurement in Metric
Owner Nar FISH & GA			Address			Town RIMBE	Υ		Province AB	Country CA	Postal Code
Location	1/4 or LSD SE	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description	
Measured		m from				nates in Deci 52.543554 on Obtained	•	es (NAD 83) tude113.9		Elevation How Elevation Ob.	m
	-	m from			Not Verified					Not Obtained	tanio a

Drilling Information			
Method of Drilling	Type of Work	Plugged	1970/02/01
Rotary	New Well-Abandoned	Plugged with	Cement
Proposed Well Use Domestic		Amount	

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
2.44		Clay
3.66		Sandstone
6.10		Yellow Shale
24.38		Yellow Shale & Sandstone

	ry		Me	asurement in N	/letric
Recommended Pump	Rate	L/min			
Test Date Wa	iter Removal Rate	(L/min)	Static	Water Level (m)	
Well Completion				asurement in N	∕letric
Total Depth Drilled F	Finished Well Dep	th Start L	Date	End Date	
24.38 m				1970/02/01	
Borehole					
Diameter (cm)		m (m)		To (m)	
0.00 Surface Casing (if a			sing/Liner	24.38	
Unknown		Unknow			
Size OD :	0.00 cm		_	0.00 cm	
Wall Thickness :	0.000 cm	Wall Th	nickness : _	0.000 cm	
Bottom at :	0.00 m		Top at :	0.00 m	
Perforations		В	ottom at :	0.00 m	
- () - (Diameter or Slot	Slot		Hole or Slot	
From (m) To (m) Width(cm)	Length	(cm)	Interval(cm)	
Perforated by Ur Annular Seal Unkni	nknown	0.00		Interval(cm)	
Perforated by Ur Annular Seal Unknown Placed from Amount	own 0.00 m to	0.00	m_	Interval(cm) (m)	
Perforated by Annular Seal Placed from Amount Other Seals Type Screen Type	nknown own 0.00 m to e	0.00	mAt		
Perforated by Ur Annular Seal Placed from Amount Other Seals Type Screen Type Size OD: From (m)	nknown own 0.00 m to e	0.00	mAt	(m)	
Perforated by Ur Annular Seal Placed from Amount Other Seals Type Screen Type Size OD: From (m) Attachment	nknown own 0.00 m to e	0.00 	m_At	(m) Slot Size (cm)	
Perforated by Ur Annular Seal Placed from Amount Other Seals Screen Type Size OD: From (m) Attachment	nknown own 0.00 m to e	0.00 	m_At	(m)	
Perforated by Ur Annular Seal Unknown Placed from Amount Other Seals Type Size OD: From (m) Attachment Top Fittings	nknown own 0.00 m to e	0.00 — 0 (m)	m_At	(m) Slot Size (cm)	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\bf UNKNOWN\ NA\ DRILLER}$

Company Name BROWN JIM

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 10:16:36 AM Page: 1 / 2



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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. **Drilling Company Well ID** Date Report Received

275076

GOWN ID Well Identification and Location Measurement in Metric Owner Name Province Country Address Town Postal Code FISH & GAME#1 RIMBEY AΒ CA SEC TWP W of MER Additional Description 1/4 or LSD RGE Block Plan Location Lot SE 23 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.543554 Longitude -113.927368 m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well 30FT OF 5.5" CASING PULLED. NO LOCATION GIVEN IN SECTION SO SE USED Yield Test Taken From Ground Level Measurement in Metric Static Water Level Test Date Start Time m Method of Water Removal Туре Removal Rate L/min Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name **BROWN JIM**

Water Source

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time

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View in Imperial Export to Excel

Drilling Company Well ID

275088

GIC Well ID GoA Well Tag No.

GOWN ID

Date Report Received 1962/06/11 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country RR3, LACOMBE JOHNSON, JALMER SEC TWP W of MER 1/4 or LSD Lot Block Plan Additional Description Location SW 24 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.539359 __ Longitude _-113.909159 923.24 m m from How Location Obtained How Elevation Obtained m from Мар Estimated

Drilling Information Method of Drilling Type of Work Unknown Chemistry Proposed Well Use Domestic

Formation Log	Measurement in Metric		
Depth from ground level (m)	Water Bearing	Lithology Description	

Yield Test S	Summary			Measurement in Met				
		ate						
Test Date	Water	Removal Rate	(L/min)	Stati	c Water Level	(m)		
Well Compl					easurement	in Me		
	Drilled Fini	shed Well Dept	h Start Da	te	End Date	Э		
18.29 m								
Borehole								
	er (cm)	Fror			To (m)			
0.		0			18.29			
Surface Cas	ing (if app	licable)	Well Casii	ng/Line	r			
Size	OD:	0.00 cm	Siz	ze OD :	0.00	cm		
					0.000			
		0.00 m			0.00			
					0.00			
Perforations	6							
		Diameter or						
From (m)	To (m)	Slot Width(cm)	Slot Length(ci	m)	Hole or Slot Interval(cm)			
Perforated by Annular Sea	nl	.00 m to	0.00 n	2				
				<u>'</u>				
Other Seals			_					
Other Godie	Type			A	t (m)			
Screen Type)							
Size	OD :	0.00 cm						
From	n (m)	То	(m)		Slot Size (cr	n)		
Attachr	nent							
				ittings				
Pack								
Туре			Grain Siz	ze				
Amount	· · · · · · · · · · · · · · · · · · ·				_			

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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View in Imperial Export to Excel

275088

GIC Well ID GoA Well Tag No.

1962/06/11 Date Report Received

Drilling Company Well ID

Well Ident	tification and	Location									Meas	urement in Metric
Owner Nan JOHNSON	<mark>me</mark> , JALMER		<i>Address</i> RR3, LACC	MBE		Town	1		Province	Cou	ntry	Postal Code
Location	1/4 or LSD SW	SEC 24	<i>TWP</i> 041	RGE 28	W of MER 4	Lot		Plan		nal Description		
Measured t	from Boundary	of m from m from			GPS Coordin Latitude <u>5</u> How Location Map	2.539359	Long	ees (NAD 83 itude113.9		Elevation How Elevation Estimated		<u>m</u>
Additional	Information										Meas	urement in Metric
	From Top of Ca an Flow Rate	-	nd Level		cm		Is Flow Cor		d 			
Recomme	ended Pump Ra				L/min	Pum	p Installed			Depth	m	
Recomme	ended Pump Inte	ake Depth (F	rom TOC)		m	Тур	e		Make	Model (Outp	H.P out Rating)	
	Encounter Salii			OS) Gas	Depth Depth		m	Geo		g Taken o ESRD		_
		on vvon										
Yield Test Test Date		Start Time		Statio	c Water Level m			Ia	ken From (Ground Level	Meas	urement in Metric
Method of	f Water Remov	<i>r</i> al										
	Removal Rate		<u>L/mi</u> n									
Depth Wit	thdrawn From		<u>m</u>									
If water re	moval period w	as < 2 hours,	explain wh	ny								
Water Div	erted for Drill	ing										
Water Soul	rce			Amo	ount Taken				Diversion	on Date & Time		

Contractor Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Certification No

Copy of Well report provided to owner

Date approval holder signed



Alberta Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275090

Drilling Company Well ID 1984/08/30 Date Report Received

COMMID										Date Report Receiv	7CG 130-1700/00
Well Identif	ication and Lo	ocation									Measurement in Metric
Owner Name LINCOLN H	9 ALL SOCIETY		Address LACOMBE			Town			Province	Country	Postal Code
Location	1/4 or LSD SW	SEC 24	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description	
Measured fro	om Boundary o	f m from			GPS Coordin	ates in Dec 2.539359	•	es (NAD 83 tude113.9	,	Elevation	m
		m from			How Location	n Obtained				How Elevation Ob	tained
				ı	Not Verified					Not Obtained	

Drilling Information Method of Drilling Type of Work Cable Tool New Well Proposed Well Use Domestic Yield Test Summary Measurement in Metric

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	
2.74		See Comments	
7.01		Clay	
7.32		Rocks	
17.37		Shale	
18.29		Sandstone	
25.91		Shale	

Recommende	ed Pump R	ate45.4	6 L/min	_		
Test Date	Water	Removal Rate (L/min)	Static Water Level (m)		
1984/06/01		45.46			2.44	
Well Comple	etion			ı	Measurement in M	1etric
,	Drilled Fini	shed Well Depth			End Date	
25.91 m			1984	/06/01	1984/06/01	
Borehole						
	er (cm)				To (m)	
0.0 Surface Casi			00	asing/Lin	25.91	
Steel	пу (п аррі	ісаріе)	Steel	ising/Lin	ier	
Size	OD :	14.12 cm		Size OD	: 11.43 cm	
Wall Thickne	ess:	0.478 cm			0.635 cm	
Botton	n at :	7.32 m		Top at	t: 6.71 m	
			E	Bottom at	t: 25.91 m	
Perforations						
		Diameter or Slot	Slo	nt	Hole or Slot	
From (m)	To (m)	Width(cm)			Interval(cm)	
18.29	25.91	0.000			0.00	
Perforated by	Torch	1				
Annular Seal	Driven					
		.00 m to	0.00) m		
Other Seals			_			
	Type		At (m)			
Screen Type						
Size	OD :	0.00 cm				
From	(m)	То	(m)		Slot Size (cm)	
Attachm	nent					
				m Fittings	s	
Pack						_
			Grain	Size		
Amount						

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\bf UNKNOWN\ NA\ DRILLER}$

Company Name

ALBERTA WW SERVICE

Certification No

Copy of Well report provided to owner Date approval holder signed

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Alberta Water Well Drilling Report

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View in Imperial Export to Excel

275090

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

Date Report Received 1984/08/30

SOWN ID		а	ccuracy. The ini	ormation or	i triis report will be re	etained in a public t	alabas	e.		Date Report Recei	ved	1984/08/30
Well Ident	tification and L	ocation									Mea	asurement in Metr
Owner Nan LINCOLN H	<mark>ne</mark> HALL SOCIETY		Address LACOMBE			Town			Province	Country		Postal Code
Location	1/4 or LSD SW	SEC 24	<i>TWP</i> 041	RGE 28	W of MER 4	Lot Bl	ock	Plan	Additio	nal Description		
Measured i	from Boundary (of m from m from			GPS Coordina Latitude 52 How Location Not Verified		•	es (NAD 83) tude113.9		Elevation How Elevation Or Not Obtained		m_
Additional	Information										Mea	asurement in Metr
	From Top of Cas n Flow Rate				cm	Is Flo	v Cont					
	nded Pump Rat Inded Pump Inta		(From TOC)		45.46 L/min 18.29 m			res		Depth	H.P.	
	Encounter Salin			OS) Gas		m		Geo	ophysical Log Submitted to	Completion g Taken o ESRD Sub		_
	nal Comments o		D WATER. 0'	-9' OLD P	IT.							
Yield Test	:							Tal		Ground Level to water level	Mea	asurement in Metr
Test Date 1984/06/0		Start Tin 12:00 AM		Stati	c Water Level 2.44 m		Draw	down (m)		Elapsed Time Minutes: Sec	F	Recovery (m)
F	f Water Remov Type _F Removal Rate _ thdrawn From _	Pump				_						
If water re	moval period wa	as < 2 hou	rs, explain wh	У								
Water Div	erted for Drilli	ng										
Water Soul	rce			Am	ount Taken				Diversio	on Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALBERTA WW SERVICE

Certification No

Copy of Well report provided to owner Date approval holder signed

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View in Imperial Export to Excel

275099

GIC Well ID 27 GoA Well Tag No.

GoA Well Tag No.
Drilling Company Well ID

)

OWN ID		ac	ccuracy. The inf	ormation or	n this report will be	retained in a	public databas	е.		Date Report Receive	
Well Iden	tification and I	ocation								.,	Measurement in Met
Owner Na COMMUN			Address LACOMBE			Tow	n		Province	Country	Postal Code
Location	1/4 or LSD 12	SEC 24	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan		nal Description	
Measured	from Boundary	of m from m from				52.544783		es (NAD 83) ude <u>-113.9</u>		Elevation How Elevation Obte	929.64 m ained
Drilling In	formation										
Method of Drilled					Type of Wo						
Proposed Municipal	Well Use										
Formatio	n Log			Me	easurement in	Metric	Yield Tes	t Summar	У		Measurement in Met
Depth from ground lev	wel (m) Water Bearing	Litholog	y Description				Recomme Test Da	nded Pump ate Wa		L/min Rate (L/min)	Static Water Level (m)
	'	-					27.43 m		inished Well	Depth Start Date	Measurement in Met End Date
							Borehole Dian	neter (cm)		From (m) 0.00	To (m) 27.43
							Surface C	asing (if ap	oplicable)	Well Casing/	
							Si	ize OD :	0.00 cn	n Size	OD: 0.00 cm
							Wall Thio Bot	ttom at :	0.000 cn	Тор	o at : 0.00 m
							Perforation	ons		Botton	nat: 0.00 m
							From (m		Diamete Slot) Width(Slot	Hole or Slot Interval(cm)
							Perforated	l by	'	'	
							Annular S Placed Am		0.00 m t	0.00 m	
							Other Sea	ls Type	e		At (m)
							Screen Ty	/pe ize OD :	0.00 cn	1	
								rom (m)			Slot Size (cm)
								chment		Bottom Fitti	inas
							Pack				
							Type			Grain Size	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

UNKNOWN DRILLER

Certification No

1

Amount

Copy of Well report provided to owner Date approval holder signed

Printed on 7/6/2015 4:10:43 PM Page: 1 / 2



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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

OWN ID										Date Report R	eceived	1935/08/06
Well Identi	fication and L	ocation									N	leasurement in Metri
Owner Nam COMMUNIT			Address LACOMBE			Town			Province	Cou	intry	Postal Code
Location	1/4 or LSD 12	SEC 24	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured fi	rom Boundary o				GPS Coord Latitude		•	es (NAD 83) itude -113.91		Elevation	929	9.64 m
		m from m from				on Obtained				How Elevatio		
		III IIOIII			Field					Estimated		
Additional	Information										M	leasurement in Metri
Distance F	rom Top of Cas	sing to Grou	nd Level		cm							
	n Flow						ls Flow Con	ntrol Installed				
	Rate											
Recommer	nded Pump Rai	'e			L/m	in Pum	o Installed					
Recommen	nded Pump Inta	ke Depth (F	rom TOC)		m	Туре	9		Make		H.P)
										Model (Out)	out Rating)
Did you E	Encounter Salin	e Water (>4	1000 ppm TE	OS)	Dept	th	m	Well Disinf	ected Upon	Completion		
				as		th						
									Submitted to			_
							Sample Co	ollected for P	otability		Submitted	d to ESRD
Addition	al Comments o	n Well							_			
OWNER R	EPORTS SOF	Γ WATER.										
Yield Test								Tak	en From G	Ground Level	M	leasurement in Metric
Test Date		Start Time)	Stat	ic Water Level							
					m							
Method of	Water Remov	al										
	Removal Rate											
	hdrawn From		m									

Amount Taken

Contractor	Certification

Water Diverted for Drilling

Water Source

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name **UNKNOWN DRILLER** Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN	ID

SOWITE										Date Report Net	Civca	
Well Iden	tification and L	ocation									Measu	rement in Metric
Owner Name Address CALIF STD CO#E-400			Town				Province Count		ry Postal Code			
Location	1/4 or LSD 01	SEC 26	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Addit	ional Description		
Measured from Boundary of 17.07 m from South 288.04 m from East				GPS Coordi Latitude <u>\$</u> How Locatio Not Verified	52.551110	•	es (NAD 83) tude113.9		Elevation How Elevation Survey-Air	940.31 n Obtained	n	
Drilling Inf	formation											

Location	1/4 or LSD 01	SEC TWP 26 041	RGE 28	W of MER 4	Lot	Block	Plan	Additional De	escription	
Measured fi		m from South m from East		Latitude	52.551110 ion Obtained		s (NAD 83) ude113.919	Hov	vation v Elevation Obt vey-Air	940.31 m tained
Drilling Info Method of Drilled Proposed Industrial	Orilling Well Use			Type of Wo	est Hole					
Depth from ground leve	Log Water Bearing	Lithology Descrip		easurement ir	n Metric		Summary aded Pump R te Water		L/min (L/min)	Measurement in Metric Static Water Level (m)
	1					300.23 m Borehole	Drilled Fin	ished Well Dept		1952/12/13
							eter (cm) 0.00 asing (if app	0	m (m) .00 Well Casing /	To (m) 300.23 /Liner
						Wall Thic	re OD : kness : om at :	0.000 cm	Wall Thickn To _l	OD: 0.00 cm ness: 0.000 cm p at: 0.00 m m at: 0.00 m
						Perforation From (m)	To (m)	Diameter or Slot Width(cm)	Slot Length(cm)	Hole or Slot
						Perforated Annular S Placed f Amo Other Seal	eal rom (0.00 m to _	0.00 m	- At (m)
						Screen Ty	pe re OD :	0.00 cm		
							hment	То	(m)	Slot Size (cm)
						Pack Type	ittings			ings
						Amount			_	

Contractor	Certification
Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 10:16:39 AM Page: 1 / 2



View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN ID

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00111112					Date Report Rece	ivcu
Well Identification and	Location					Measurement in Metric
Owner Name CALIF STD CO#E-400	Address		Town	Provinc	ce Country	Postal Code
Location 1/4 or LSD 01		8 4	Lot Block	Plan Addi	tional Description	
	of m from South m from East		es in Decimal Degre 551110 Longi Obtained		Elevation How Elevation Of Survey-Air	
Additional Information						Measurement in Metric
Distance From Top of Ca Is Artesian Flow Rate	sing to Ground Level	cm	Is Flow Con	trol Installed		
Recommended Pump Ra Recommended Pump Int	te	L/min m	Pump Installed _ Type			m H.P
Did you Encounter Salii Additional Comments o			m	Geophysical L	og Taken Electric I to ESRD Electric	omitted to ESRD
Yield Test				Taken From	Ground Level	Measurement in Metric
Test Date	Start Time	Static Water Level m		raidirrion	Olodila Eovol	mododioment in modic
Removal Rate	L/min		-			
Water Diverted for Drill	ing					
Water Source		Amount Taken L		Diver	sion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275126

Drilling Company Well ID

GOWN ID Date Report Received 1982/03/18 Well Identification and Location Measurement in Metric Address Postal Code Town Owner Name Province Country P.O. BOX 252 LACOMBE FERGUSON, D. T0C 1S0 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 26 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.554572 Longitude _-113.933214 Elevation Latitude 952.50 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated

Drilling Information			
Method of Drilling Unknown	Type of Work Chemistry		
Proposed Well Use Domestic			
Formation Log	Measurement in Metric	Yield Test Summary	Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	

		ate			
Test Date	Water	Removal Rate	(L/min)	Sta	tic Water Level (m)
Well Compl	etion			N	Measurement in M
,	Orilled Fin	ished Well Dept	h Start	Date	End Date
30.48 m					
Borehole					
Diamete 0.0		Fror			To (m) 30.48
		licable)			
Size	OD :	0.00 cm			: 0.00 cm
Wall Thickn	ess:	0.000 cm	Wall 7	hickness	: 0.000 cm
Bottom at : 0.		0.00 m			. 0.00 m
D. 6			I	Bottom at	0.00 m
Perforations		Diameter or			
		Slot	Slo	ot	Hole or Slot
From (m)	To (m)	Width(cm)	Lengtl	n(cm)	Interval(cm)
Perforated by	/				
Annular Sea					
		0.00 m to	0.00) m	
Other Seals					
	Type				At (m)
Screen Type	•				
Size	OD :	0.00 cm			
From	(m)	То	(m)		Slot Size (cm)
Attachn	nent				
				m Fittings	:
Pack					
			Grain	Size	
Amount					

(Contra	actor	Certi	ficati	on

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Copy of Well report provided to owner Date approval holder signed

Printed on 7/27/2015 10:16:46 AM Page: 1 / 2



Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

1982/03/18

275126

Date Report Received Well Identification and Location Measurement in Metric Postal Code Address Town Owner Name Province Country FERGUSON, D. P.O. BOX 252 LACOMBE T0C 1S0 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot SW 26 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation Latitude 52.554572 Longitude -113.933214 952.50 m m from How Location Obtained How Elevation Obtained m from Not Verified Estimated Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well Yield Test Taken From Ground Level Test Date Start Time Static Water Level Method of Water Removal Type L/min Removal Rate Depth Withdrawn From m If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

Water Source

UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner Date approval holder signed

Diversion Date & Time

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

GOWN	חו

Well Ident	ification and L	ocation									Measurement in Me	etric
Owner Name HALBERG, NIEL			Address RR3, LAC	OMBE	Town				Province Country		Postal Code	е
Location	1/4 or LSD SE	SEC 27	<i>TWP</i> 041	<i>RGE</i> 28	W of MER 4	Lot	Block	Plan	Addition	nal Description		
Measured t	Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.554206 Longitude -113.945473					929.64 m	
		m from			How Location Obtained					How Elevation Obtained		
				I	Мар				l	Estimated		

Drilling Information Method of Drilling Type of Work New Well Cable Tool Proposed Well Use Stock Yield Test Summary Measurement in Metric

	Measurement in Metric
Water Bearing	Lithology Description
	Light Gray Clay
	Light Blue Clay
Yes	Blue Water Bearing Sandstone
	Blue Clay
	Bearing

		ate0.0					
Test Date	Water	Removal Rate (I	_/min)	Static Water Level (m)			
1976/09/12		45.46		7.01			
Well Complet					Measurement in M	etric	
,	illed Fini	shed Well Depth			End Date		
18.29 m			1976/	/09/09	1976/09/12		
Borehole							
Diameter					To (m)		
0.00		0.0			18.29		
Steel	у (п аррі	licable)	weii Ca	isirig/Lir	ier		
Size O	D :	10.16 cm			0.00 cm		
Wall Thicknes	ss:	0.475 cm	Wall T	hickness	0.000 cm		
Bottom	at:	18.29 m		Top a	t: <u>0.00 m</u>		
			E	Bottom a	t: 0.00 m		
Perforations							
		Diameter or Slot	Slo	,,	Hole or Slot		
From (m)	To (m)		Length	n(cm)	Interval(cm)		
Perforated by							
Annular Seal	Driven						
Placed from	0	.00 m to	14.02	2 m			
Amount			_				
Other Seals							
	Type				At (m)		
Screen Type							
Size O	D :	0.00 cm					
From (m)	To ((m)		Slot Size (cm)		
A 440 a 1	and.						
			Bottom Fittings				
	Js		Bottol	n Fittings	S	-	
Pack							
			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name DOOL WW

Certification No

Copy of Well report provided to owner Date approval holder signed

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View in Imperial Export to Excel

GIC Well ID

275129

GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and L	ocation					Measurement in Metric
Owner Name HALBERG, NIEL	Address RR3, LACOMBE	<u> </u>	Town	Prov	ince Country	Postal Code
Location 1/4 or LSD SE	SEC TWP R0 27 041 28	4	ot Block		dditional Description	
Measured from Boundary o	of m from m from		in Decimal Degree 4206 Longit tained	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Elevation How Elevation Or	_
Additional Information						Measurement in Metric
Is Artesian Flow	sing to Ground Level		Is Flow Cont	rol Installed		
Recommended Pump Rat	e	0.00 L/min	Pump Installed		Depth	m
Recommended Pump Inta	ke Depth (From TOC)	12.19 m	Туре	Mak	e Model (Output I	H.P Rating)
Did you Encounter Salin	e Water (>4000 ppm TDS) Gas	Depth	m	Geophysica Submit	Upon Completion al Log Taken ted to ESRD	
Additional Comments o			Sample Co	llected for Potabilit	y	mitted to ESRD
Yield Test					om Ground Level	Measurement in Metric
Test Date 1976/09/12	Start Time 12:00 AM	Static Water Level 7.01 m	Draw	down (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Remov Type E Removal Rate Depth Withdrawn From If water removal period wa	3ailer 45.46 L/min 0.00 m					
Water Diverted for Drilli	na					
Water Source	9	Amount Taken		Div	ersion Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name DOOL WW Certification No

1

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Drilling Information Method of Drilling

36.58

Rotary

GOWN ID

Water Well Drilling Report

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Type of Work New Well

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275132

Drilling Company Well ID Date Report Received

1979/01/05

	Well Identif	ication and L	ocation									Measure	ement in Metric
Owner Name HALBERG, VICTOR			Address RR3, LAC						Province	Country	′	Postal Code	
	Location	1/4 or LSD SE	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured from Boundary of m from m from					GPS Coordin Latitude 5 How Location Map	2.554206	0	es (NAD 83) tude <u>-113.9</u>	′	Elevation How Elevation O Estimated	905.26 m btained	_	

Proposed Well Use Domestic & Stock Formation Log Measurement in Metric Water Lithology Description Depth from ground level (m) Bearing 6.10 Clay 24.38 Shale 25.30 Sandstone 25.91 Coal Shale 27.74

Sandstone

Yield Test Sun	nmary			M	easurement	in Metric		
Recommended	Pump Ra	ate0.	00 L/mir	<u>1</u>				
Test Date	Water	Removal Rate	(L/min)	L/min) Static Water Level (
1978/09/26		68.19			26.21			
Well Completion	on			М	easurement	in Metric		
Total Depth Drill	ed Finis	shed Well Dept	h Start	Date	End Date			
36.58 m			1978	/09/26	1978/09/2	26		
Borehole								
Diameter (cm)	Fror			To (m)			
0.00			.00		36.58			
Surface Casing Steel	(if appl	icable)	Well Ca Steel	asing/Line	er			
) :	13.97 cm	Oleei	Size OD :	11.43	cm		
Wall Thickness			Wall 7	Thickness :	0.318	cm		
		6.40 m			0.00			
					36.58 1			
Perforations								
		Diameter or						
From (m) T	o (m)	Slot Width(cm)	Slo		Hole or Slot Interval(cm)			
30.48		0.000	Lengt	П(СП)	0.00			
Perforated by	Torch							
*								
Annular Seal		00 m to	0.0	0 m				
_				0 111				
Other Seals			_					
Other ocais	Type			A	.t (m)			
	. , , = =				,			
Screen Type								
) .	0.00 cm						
From (m			(m)		Slot Size (cm)		
TTOTT (II	1)	10	(111)		SIOT SIZE (CIT	1)		
Attachmen	t							
Pack				·	<u> </u>			
Туре			Grain	Size				
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt UNKNOWN\ NA\ DRILLER}$

Company Name

SCHMIDT DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. 275132

Drilling Company Well ID Date Report Received 1979/01/05

GOWN	10
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Well Identification and Location Measurement in Metric	00111112										Date Report Reed		701700
HALBERG, VICTOR RR3, LACOMBE Location 1/4 or LSD SEC 77 VA1 RS Value Lot Block Plan Additional Description Additional Description Resured from Boundary of Lot Richard Resured from Inform Inform Lot Richard Resured from Information Recurrence Re	Well Ident	tification and L	ocation_									Measure	ement in Metric
Measured from Boundary of m from					OMBE		Town Provii					e Country Posta	
Additional Information Inform Inform Inform Inform	Location					4					nal Description		
Distance From Top of Casing to Ground Level Is Artesian Flow Rate LUmin Describe	Measured f		m from			Latitude <u>52</u> How Location	.554206	Longi			How Elevation C		_
Is Flow Control Installed Describe Des	Additional	Information										Measure	ement in Metric
Recommended Pump Rate Recommended Pump Intake Depth (From TOC) 35.05 m Type Make H.P. Model (Output Rating) Did you Encounter Saline Water (>4000 ppm TDS) Gas Depth M Well Disinfected Upon Completion Gas Depth M Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Sample Collected for Potability Field Test Taken From Ground Level Depth to water level 1978/09/26 12:00 AM Static Water Level 1978/09/26 Method of Water Removal Type Air Removal Rate Removal Rate Geontysical Log Taken Submitted to ESRD Sample Collected for Potability Depth to water level Drawdown (m) Elapsed Time Minutes:Sec Method of Water Removal If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time		n Flow				cm	I	ls Flow Con					
Recommended Pump Intake Depth (From TOC) Static Water Level 1978/09/26 12:00 AM 26.21 m Method of Water Removal Type Air Removal Rate 68.19 L/min Depth Withdrawn From 0.000 m Method for Drilling Water Source Amount Taken Model (Coutput Rating) Model (Output Rating) Method Log Taken Submitted to ESRD Yes Sample Collected for Potability Submitted to ESRD Yes Sample Collected for Potability Submitted to ESRD Yes Yes Yes Yes Yes Measurement in Metric Depth to water level Drawdown (m) Elapsed Time Recovery (m) Minutes: Sec Method of Water Removal Type Air Removal Period was < 2 hours, explain why Water Diverted for Drilling Diversion Date & Time Diversion Date &	Recomme	nded Pump Rat	te			0.00 L/min	Pump	o Installed				m	
Did you Encounter Saline Water (>4000 ppm TDS)	Recomme	nded Pump Inta	ake Depth (F	rom TOC)									
Did you Encounter Saline Water (>4000 ppm TDS)											Model (Output	Rating)	
Additional Comments on Well DRILLER REPORTS MEDIUM HARD WATER. Yield Test Test Date 1978/09/26 12:00 AM Static Water Level 1978/09/26 12:00 AM 26.21 m Drawdown (m) Elapsed Time Minutes: Sec Method of Water Removal Type Air Removal Rate 68.19 L/min Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time	Did you	Encounter Salin	ne Water (>4			Depth			Geo	ophysical Log Submitted to	g Taken D ESRD		
Test Date Start Time 12:00 AM 26.21 m Drawdown (m) Elapsed Time Recovery (m) Method of Water Removal Type Air Removal Removal Removal Amount Taken Diversion Date & Time Diversion Date & Dat				WATER.				Sample Co	ollected for F	Potability	Su	bmitted to ESF	RD <u>Yes</u>
1978/09/26 12:00 AM 26.21 m Drawdown (m) Elapsed Time Minutes: Sec Recovery (m) Minutes: Sec Nethod of Water Removal Type Air Removal Rate 68.19 L/min Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Drawdown (m) Elapsed Time Minutes: Sec Recovery (m) Diversion Date & Time									Tal			Measure	ement in Metric
Type Air Removal Rate 68.19 L/min Depth Withdrawn From 0.00 m If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time					Stati			Draw	vdown (m)			Recov	ery (m)
Water Source Amount Taken Diversion Date & Time	F Depth Wit	Type _F Removal Rate _ thdrawn From _	Air 68	0.00 m			_						
Water Source Amount Taken Diversion Date & Time													
	Water Div	erted for Drilli	ng										
	Water Soul	rce			Am					Diversio	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

Copy of Well report provided to owner

Date approval holder signed



Contractor Certification

Name of Journeyman responsible for drilling/construction of well

Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. 275133

Drilling Company Well ID

1935/08/06

GOWN ID										Date Report Recei	ved 1	935/08/06
Well Identif	ication and Lo	cation									Meas	urement in Metri
Owner Name SHYLLING	•		Address LACOMBE			Town	1		Province	Country		Postal Code
Location	1/4 or LSD SE	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Addition	al Description		
Measured fro		n from n from			Latitude	52.554206 on Obtained		s (NAD 83) ude <u>-113.94</u>	5473	Elevation How Elevation Observation Observation	914.40 otained	m
Drilling Info Method of E Hand Dug Proposed W Unknown	rilling				Type of We							
Formation	oa			N	//easurement ir	Metric	Yield Tes	t Summary	1		Meas	surement in Metric
Depth from ground level	Water	Litholog	y Description		nousurement ii	1 Wettle		nded Pump	Rate	L/min Rate (L/min)		ater Level (m)
	'						Well Com Total Depti 1.83 m Borehole		inished Well	Depth Start Date		urement in Metric End Date
							Diam	neter (cm) 0.00		From (m) 0.00		To (m) 1.83
								asing (if ap		Well Casing	g/Liner e OD :	0.00 cm
							Wall Thic	kness :	0.000 cm	Wall Thick	ness :	0.000 cm
								tom at :	0.00 m	_	op at : m at :	0.00 m 0.00 m
							Perforatio From (m)		Diamete Slot Width(c	Slot		ole or Slot terval(cm)
							Perforated Annular S Placed t Amo	feal fromount	0.00 m to	0.00 m		
								Type			At (m)
							Screen Ty Siz	•	0.00 cm	<u>.</u>		
							Fro	om (m)		To (m)	Slo	ot Size (cm)
								hment Fittings		Bottom Fit	ttings	
							Pack Type Amount			Grain Size		

UNKNOWN NA DRILLER

1
Company Name
UNKNOWN DRILLER

Copy of Well report provided to owner Date approval holder signed UNKNOWN DRILLER

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Certification No



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View in Imperial Export to Excel

GIC Well ID 275133 GoA Well Tag No.

Drilling Company Well ID Date Report Received

OWN ID		а	iccuracy. The in	iormation o	n this report will be i	etained in a p	udiic dalada	se.		Date Report Re		1935/08/06
Well Identi	ification and	Location									Me	easurement in Metr
Owner Nam SHYLLING			Address LACOMBE			Town			Province	Coul	ntry	Postal Code
Location	1/4 or LSD SE	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	nal Description		
Measured fi	rom Boundary	of m from m from			GPS Coordir Latitude 5 How Location Not Verified	2.554206				Elevation How Elevation Estimated		
Additional	Information										Me	easurement in Meti
	rom Top of Ca n Flow					Is	s Flow Cor	trol Installe	d			
	Rate		L/min									
	nded Pump Ra				L/mir						n	
Recommer	nded Pump Int	ake Depth	(From TOC)		m	Туре			Make	Model (Outr	H.P. out Rating)	
Did you E	Encounter Sali	ne Water (:	>4000 ppm Ti	DS)	Depth)	m	Well Disi	infected Upon	Completion		
				Gas								
									Submitted to	ESRD .		
							Sample C	ollected for	Potability		Submitted	to ESRD
	al Comments of											
Yield Test								Та	aken From C	Bround Level	Me	easurement in Met
Test Date		Start Tin	ne	Stat	tic Water Level m							
Method of	f Water Remov											
_												
	Removal Rate											
реріп үүій	hdrawn From		<u>m</u>									
If water ren	moval period w	as < 2 hou	rs, explain wh	ny								
Water Dive	erted for Drill	lina										
		9										

Amount Taken

Contractor Certification

Water Source

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Certification No

Copy of Well report provided to owner

Diversion Date & Time

Date approval holder signed



Contractor Certification

Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275135

Drilling Company Well ID

1935/01/01

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Owner Name Address Postal Code Town Province Country HALBERG 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot SE 27 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.554206 Longitude -113.945473 m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained **Drilling Information** Type of Work Method of Drilling Drilled Federal Well Survey Proposed Well Use Unknown Formation Log Measurement in Metric **Yield Test Summary** Measurement in Metric Recommended Pump Rate ____ L/min Depth from Water Lithology Description Water Removal Rate (L/min) ground level (m) Bearing Test Date Static Water Level (m) Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 21.64 m **Borehole** Diameter (cm) From (m) To (m) 0.00 0.00 21.64 Well Casing/Liner Surface Casing (if applicable) Size OD : Size OD: 0.00 cm 0.00 cm Wall Thickness: 0.000 cm Wall Thickness: 0.000 cm 0.00 m 0.00 m Bottom at: Top at: 0.00 m Bottom at: Perforations Diameter or Slot Hole or Slot Slot Width(cm) From (m) To (m) Length(cm) Interval(cm) Perforated by Annular Seal Placed from 0.00 m to 0.00 m Amount Other Seals At (m) Type Screen Type Size OD: From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Туре Grain Size Amount

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER Company Name Copy of Well report provided to owner Date approval holder signed UNKNOWN DRILLER

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID 275135 GoA Well Tag No.

Drilling Company Well ID Date Report Received

1935/01/01

Well Identification and	Location					Measurement in Metric
Owner Name HALBERG	Address		Town	Province	e Country	Postal Code
Location 1/4 or LSD SE	SEC TWP 27 041	RGE W of MER 28 4	Lot Block		onal Description	
Measured from Boundary	v of m from m from		tes in Decimal Degree 554206 Longite Obtained		Elevation How Elevation Ol Not Obtained	
Additional Information						Measurement in Metric
Distance From Top of C Is Artesian Flow Rate			Is Flow Conti	rol Installed Describe		
Recommended Pump R Recommended Pump In	ate	L/min	Pump Installed		Depth	m
Did you Encounter Sa	line Water (>4000 ppm	TDS) Depth	m m		og Taken	
Additional Comments OWNER REPORTS HA			Sample Co.	llected for Potability _	Sub	mitted to ESRD
Yield Test				Taken From	Ground Level	Measurement in Metric
Test Date	Start Time	Static Water Level m				
Method of Water Remo			_			
Removal Rate	L/mii	n				
Depth Withdrawn From	m					
If water removal period t	was < 2 hours, explain v	vhy				
Water Diverted for Dri	lling					
Water Source		Amount Taken L		Divers	ion Date & Time	

Contractor Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Certification No

Copy of Well report provided to owner

Date approval holder signed



Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275136

Drilling Company Well ID Date Report Received

1979/01/05

Well Ident	ification and L	ocation									Meas	urement in Metric
Owner Name HALBERG, LEONARD			Address RR3, LAC	OMBE	Town				Province Count		ry	Postal Code
Location	1/4 or LSD SW	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)							
m from			Latitude 5	2.554206	Longi	tude -113.9	957340	Elevation	905.26	<u>m</u>		
		How Location Obtained			How Elevation Obtained							
m from					Map Estimated							

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic & Stock Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
6.40		Clay	
10.97		Shale	
17.37		Sandstone	

Recommended	Pump R	ate0.0	0 L/min	_					
Test Date	Water	Removal Rate (I	_/min)	Sta	atic Water Level (m)				
1978/09/25		204.57		3.05					
Well Completi					Measurement in M	letric			
,	lled Fini	shed Well Depth							
17.37 m			1978/	78/09/25 1978/09/25					
Borehole									
Diameter					To (m) 17.37				
0.00		0.0		oina/Lir					
Steel	ј (п аррі	licable)	weii Ca	isirig/Lir	ier				
		13.97 cm			0.00 cm				
Wall Thicknes	s:	0.396 cm	Wall 7	hickness	0.000 cm				
Bottom a	at:	11.28 m		Top a	t: 0.00 m				
			E	Bottom a	t: 0.00 m				
Perforations									
		Diameter or Slot	Slo	.	Hole or Slot				
From (m)	To (m)			n(cm)	Interval(cm)				
Perforated by									
Annular Seal	Driven								
		.00 m to	0.00) m					
Other Seals			_						
	Type		At (m)						
Screen Type									
	D :	0.00 cm							
From (r		To ((m)		Slot Size (cm)				
Top Fitting	IS		Botto	m Fittings		_			
Pack									
Туре			Grain	Size					
Amount									

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

275136

Drilling Company Well ID
Date Report Received

1979/01/05

Well Iden	tification and I	Location							Measurement in Metr
Owner Nar HALBERG	me , LEONARD		dress 3, LACOMBE		Town		Province	Country	Postal Code
Location	1/4 or LSD SW		TWP RGE 141 28	4	Lot Block	Plan	Additional D	escription	
Measured	from Boundary	of		1	es in Decimal Degre		70.40		005.00
		m from	_	Latitude 52.5		itude <u>-113.957</u>		vation w Elevation Ob	
	-	m from	_	Map	Dotained			imated	tained
Additiona	I Information								Measurement in Metr
		sing to Ground I		cm					
Is Artesia					Is Flow Con				
	Rate	L/r	min			Describe			
Recomme	ended Pump Ra	te		0.00 L/min	Pump Installed		Dep	oth	m
Recomme	ended Pump Inte	ake Depth (Fron	1 TOC)	6.10 m	Туре		Make		Н.Р.
							N.	lodel (Output R	ating)
Did you	Encounter Salin	ne Water (>4000	ppm TDS)		m		cted Upon Com	pletion	
			Gas	Depth	m	Geoph	nysical Log Tak	en	
						St	ubmitted to ESF	RD	
					Sample Co	ollected for Pot	tability	Subn	nitted to ESRD Yes
Addition	nal Comments o	on Well							
Yield Tes	t					Take	n From Grour	nd Level	Measurement in Metr
		Ot- of Time -	0.	(-ti- \A/-t)		rano		vater level	Wodod official in Wot
Test Date 1978/09/2		Start Time 12:00 AM	Si	tatic Water Level 3.05 m	Draw	/down (m)		ed Time es:Sec	Recovery (m)
Method o	of Water Remov	/al							
	Туре				_				
	_	204.57							
Depth Wi	ithdrawn From	0.00	<u>m</u>						
If water re	emoval period w	ras < 2 hours, ex	plain why						
Water Div	erted for Drill	ing							
Water Sou		3	A	Amount Taken			Diversion Da	te & Time	
				L					

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

SCHMIDT DRILLING LTD.

Certification No

1

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

GOWN ID	accuracy. The infor	nation on this report will be retained	in a public database.	Date	e Report Received	1935/08/06
Well Identification and	Location					Measurement in Metri
Owner Name MACCASHY, D.	Address	7	- own	Province	Country	Postal Code
Location 1/4 or LSD 09		RGE W of MER Lot 28 4	Block Plan	Additional D	escription	
Measured from Boundary	y of m from m from	GPS Coordinates in Latitude 52.5596 How Location Obtain Not Verified		942507 Ele Ho	evation 91 w Elevation Obtain timated	17.45 m ed
Drilling Information						
Method of Drilling Drilled Proposed Well Use		Type of Work Federal Well Surve	у			
Unknown Formation Log		Measurement in Metric	Yield Test Summa	arv		Measurement in Metri
Depth from ground level (m) Water		Wedsdreneri ii Wedie	Recommended Pun	-	L/min_	atic Water Level (m)
			Well Completion Total Depth Drilled 30.48 m Borehole Diameter (cm) 0.00 Surface Casing (if Size OD: Wall Thickness: Bottom at: Perforations From (m) To (iii) Fro (applicable) 0.00 cm 0.000 m 0.00 m		0.00 cm 0.000 cm 0.000 m
			Perforated by Annular Seal Placed from Amount Other Seals Ty Screen Type Size OD: From (m)	7pe 0.00 cm		At (m)

Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Attachment Top Fittings

Pack Туре

Amount

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Bottom Fittings

Grain Size

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Water Well Drilling Report

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275139

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

1935/08/06

Well Iden	itification and L	_ocation									Meas	urement in Metric
Owner Nar MACCASH			Address			Town			Province	Cour	ntry	Postal Code
Location	1/4 or LSD 09	SEC 27	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan		al Description		
Measured	from Boundary	of m from m from			GPS Coordina Latitude 52 How Location Not Verified	.559630		es (NAD 83 tude113.9		Elevation How Elevation Estimated		m
Additional	I Information										Meas	urement in Metric
	From Top of Cas an Flow Rate				cm	ls i	Flow Con		d 			
Recomme	ended Pump Ra	te			L/min	Pump I	nstalled			Depth	m	
Recomme	ended Pump Inta	ake Depth ((From TOC)		m				Make		H.P ut Rating)	
Did you	Encounter Salir	ne Water (>		Gas			m	Geo	ophysical Log Submitted to			
	nal Comments o					S	ample Co	ollected for I	Potability		Submitted to E	ESRD
Yield Tes	t							Та	ken From G	round Level	Meas	urement in Metric
Test Date)	Start Tim	e	Stat	ic Water Level m							
	_					_						
	Removal Rate											
Depth Wi	ithdrawn From _		<u>m</u>									
If water re	emoval period wa	as < 2 houi	rs, explain w	rhy								
Water Div	verted for Drilli	ng										
Water Sou	ırce			An	nount Taken L				Diversion	n Date & Time		

Contractor Certification

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Name of Journeyman responsible for drilling/construction of well

Certification No

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Date approval holder signed



View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. The driller supplies the data contained in this report. The Province disclaims responsibility for its **Drilling Company Well ID** accuracy. The information on this report will be retained in a public database **GOWN ID** Date Report Received 1974/06/26 Well Identification and Location Measurement in Metric Address Town Postal Code Owner Name Province Country SMITH, RAYMOND (WILSON BEACH)3665 41 AVE, RED DEER 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Map Not Obtained **Drilling Information** Type of Work Method of Drilling Drilled Chemistry Proposed Well Use Domestic Formation Log Measurement in Metric Yield Test Summary Measurement in Metric Recommended Pump Rate 0.00 L/min Water Depth from Lithology Description Water Removal Rate (L/min) Static Water Level (m) ground level (m) Bearing Test Date 1974/06/23 11.58 Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 33.53 m 1972/08/01 **Borehole** Diameter (cm) From (m) To (m) 0.00 0.00 Surface Casing (if applicable) Well Casing/Liner Size OD: 0.00 cm Size OD: 0.00 cm 0.000 cm 0.000 cm Wall Thickness: Wall Thickness: 0.00 m Bottom at: Top at: 0.00 m Bottom at: 0.00 m Perforations Diameter or Hole or Slot Slot Slot From (m) To (m) Width(cm) Length(cm) Interval(cm) Perforated by Annular Seal Placed from 0.00 m to 0.00 m

Type		At (m)
Screen Type		
Size OD:	0.00 cm	

From (m) Slot Size (cm) Attachment Bottom Fittings Top Fittings

Pack Grain Size Type Amount

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER Certification No

Amount Other Seals

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Water Well Drilling Report

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View in Imperial Export to Excel

Date Report Received

GIC Well ID

GoA Well Tag No. Drilling Company Well ID

1974/06/26

Well Identification and Location Measurement in Metric Address Town Postal Code Owner Name Province Country SMITH, RAYMOND (WILSON BEACH)3665 41 AVE, RED DEER 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Obtained Map Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 0.00 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Yes Additional Comments on Well ORIGINAL LSD SE Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1974/06/23 12:00 AM 11.58 m Minutes:Sec Method of Water Removal Type L/min Removal Rate Depth Withdrawn From 0.0<u>m</u> If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name UNKNOWN DRILLER

Certification No

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Proposed Well Use Domestic

Water Well Drilling Report

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View in Imperial Export to Excel

280613

GIC Well ID GoA Well Tag No.

1983/09/20

Drilling Company Well ID

GOWN ID

Date Report Received Well Identification and Location Measurement in Metric Address Postal Code Town Owner Name Province Country P.O. BOX 1959 (WILSON BEACH), CLARESHOLM MACLEOD, ALLAN TOL 0T0 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525475 Longitude -113.933391 Elevation m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained **Drilling Information** Method of Drilling Type of Work New Well Cable Tool

V: 11.T

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
1.22		Black Topsoil	
13.41		Medium Grained Sand	
18.90		Brown Clay & Gravel	
24.99		Blue Clay & Gravel	
27.43		Blue Fine Grained Sandston	ne

rieid Test Sun	nmary				ivieas	surement	in wether	
Recommended								
Test Date	Water R	emoval Rate	(L/min)	S	tatic W	/ater Level	(m)	
1983/08/18		45.46		7.62				
Well Completion	on				Meas	surement	in Metric	
Total Depth Drill	ed Finish	ed Well Dep	th Start	Date		End Date)	
27.43 m			1983	/08/16		1983/08/	18	
Borehole								
Diameter (Fro				To (m)			
0.00 Surface Casing).00 Well C a	in // .		27.43		
Steel Steel	(п аррпс	abie)	well Ca	asing/L	mer			
Size OE) :1	4.12 cm		Size O	D :	0.00	cm	
Wall Thickness			Wall 7					
Bottom a	t : 2	5.60 m		Тора	at:	0.00	<u>m</u>	
			I	Bottom a	at:	0.00	m_	
Perforations								
		Diameter or Slot		Slot		Hole or Slot		
From (m) T	o (m)	n) Width(cm)						
Perforated by								
Annular Seal	Driven							
Placed from		0 m to	0.00) m				
Other Seals								
	Type			At (m)				
Screen Type								
Size OE) :	0.00 cm						
From (m)		To	(m)		Slot Size (cm)			
Attachmen	t							
Top Fittings				m Fitting	gs			
Pack								
Туре			Grain	Size				
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FRASER, JACK

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

GOWN ID Date Report Received 1983/09/20 Well Identification and Location Measurement in Metric Postal Code Address Town Owner Name Province Country P.O. BOX 1959 (WILSON BEACH), MACLEOD, ALLAN TOL 0T0 CLARESHOLM 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525475 Longitude -113.933391 m m from How Location Obtained How Elevation Obtained m from Not Obtained Map Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 0.00 L/min Pump Installed Yes Depth m Make GOULD 7EHOS Recommended Pump Intake Depth (From TOC) 22.86 m H.P. .5 Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well **ORIGINALLY IN SE-10-41-28-4** Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1983/08/18 12:00 AM 7.62 m Minutes:Sec Method of Water Removal Type Pump 45.46 L/min Removal Rate 22.86 m Depth Withdrawn From If water removal period was < 2 hours, explain why Water Diverted for Drilling

Amount Taken

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FRASER, JACK

Water Source

Certification No

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Diversion Date & Time



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View in Imperial Export to Excel

280614

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

GOWN ID

Location

accuracy. The information on this report will be retained in a public database

Date Report Received 1983/09/20 Well Identification and Location Measurement in Metric Address Postal Code Town Owner Name Province Country BLENCOWE, EVAN (WILSON BEACH)2112 CHICOUTIMI T2L 0V7 NW, CALGARY 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525475 Longitude -113.933391 Elevation m m from How Location Obtained How Elevation Obtained m from Мар Not Obtained

Drilling Information Method of Drilling Cable Tool

Type of Work New Well

Proposed Well Use Domestic

	Measurement in Metric
Water Bearing	Lithology Description
	Black Sandy Topsoil
	Medium Grained Sand
	Brown Clay & Gravel
	Blue Clay & Rocks
	Blue Fine Grained Sandstone

Yield Lest Summary			Measurement in Metri			
Recommended Pump Ra	te 0.00	L/min				
Test Date Water			Static Water Level (m)			
1983/08/11	68.19		9.14			
Well Completion			Measurement in Metri			
Total Depth Drilled Finis	hed Well Depth	Start Date	End Date			
28.96 m		1983/08/09	9 1983/08/11			
Borehole						
Diameter (cm)			To (m)			
0.00	0.0		28.96			
Surface Casing (if appli Steel	cable)	Well Casing/	/Liner			
Size OD :			OD: 0.00 cm			
Wall Thickness :	0.000 cm	Wall Thickn	ness: 0.000 cm			
Bottom at :	28.04 m	Top	p at : 0.00 m			
		Botton	n at : 0.00 m			
Perforations						
	Diameter or Slot	Slot	Hole or Slot			
From (m) To (m)						
Perforated by						
Annular Seal Driven						
Placed from 0.	00 m to	0.00 m	_			
Amount		_				
Other Seals						
Type			At (m)			
Screen Type						
Size OD :	0.00 cm					
From (m)	To (ı	m)	Slot Size (cm)			
Attachment						
Top Fittings		Bottom Fitt	ings			
Pack						
Туре		Grain Size				
Amount						

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FRASER, JACK

Certification No

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View in Imperial Export to Excel

280614

1983/09/20

GIC Well ID GoA Well Tag No.

Drilling Company Well ID **GOWN ID** Date Report Received

Well Identi	fication and L	ocation_								Measurement in Met	ric
Owner Nam BLENCOWI		(W	ldress /ILSON BEA V,CALGARY	CH)2112 CHICOUTIMI	Town			Province	Country	Postal Code T2L 0V7	
Location	1/4 or LSD SW			RGE W of MER 28 4	Lot	Block	Plan		al Description		
Measured fi	rom Boundary o	m from m from	_	GPS Coordin Latitude 5: How Location Map	2.525475		ees (NAD 83) itude <u>-113.9</u> 3		Elevation How Elevation Ob Not Obtained		
Additional	Information			·						Measurement in Met	ric
	rom Top of Cas n Flow Rate		Level	cm	1.	s Flow Cor	ntrol Installed Describe				
	nded Pump Rat nded Pump Inta	e e		0.00 L/min 25.91 m		Installed			Depth ULD 7EHO5	m H.P. <u>.5</u> Pating)	
Addition	Encounter Salin al Comments o LY IN SE-10-41	n Well				m	Geo	physical Log Submitted to			
Yield Test							Tak	en From G	round Level	Measurement in Met	ric
Test Date 1983/08/11	l	Start Time 12:00 AM		Static Water Level 9.14 m		Drav	vdown (m)	EI	to water level apsed Time dinutes:Sec	Recovery (m)	
Depth Witi	Type Famov Type Famoval Rate hadrawn From moval period wa	68.1 25.9			_						
Water Dive	erted for Drilli	ng									
Water Sour	ce			Amount Taken				Diversion	n Date & Time		

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name FRASER, JACK Certification No

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GIC Well ID GoA Well Tag No.

285448

Measurement in Metric

Drilling Company Well ID Date Report Received 1996/08/08

GOWN	IP
Cacavaia	ш.

ation and Lo	ootion									
	CallOn									Measurement in Me
IISH		Address 203 PIPER	DR, RED	DEER	Town			Province	Country CANADA	Postal Code
/4 or LSD	SEC 15	<i>TWP</i> 41	RGE 28	W of MER 4	Lot 35	Block 5	Plan N1314P	Additio	nal Description	
<i>Boundary of</i> m						•		1572	Elevation	m
m	from				n Obtained				How Elevation Obta	ined
	/4 or LSD Boundary of m	/4 or LSD SEC 15	SH	SH	SH	SH	SH	SH	SH	SH

Drilling Information	
Method of Drilling Rotary	Type of Work New Well
Proposed Well Use Domestic	

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
7.62		Brown Till	
13.72		Blue Shale	
22.86		Blue Till	
28.96		Blue Shale	
32.00		Gray Shale	
32.61		Gray Shale	
34.44		Sandstone	
35.97		Gray Shale	
38.10		Green Shale	
40.54		Gray Shale	

Test Date	Recommend	ed Pump Ra	ate68.	19 L/min	<u> </u>			
Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 40.54 m 1996/07/20 1996/07/21 Borehole Diameter (cm) From (m) To (m) 0.00 0.00 40.54 Surface Casing (if applicable) Plastic Plastic Size OD: 11.43 cm Wall Thickness: 0.602 cm Bottom at: 30.48 m Top at: 30.18 m Bottom at: 40.54 m Perforations Diameter or Slot Slot Hole or Slot Interval(cm) 32.00 40.54 m 0.635 Perforated by Saw Annular Seal Driven & Bentonite Placed from 0.00 m 30.48 m Apple At (m) Screen Type Size OD: 0.00 cm To (m) Slot Size (cm) Atta	Test Date Water Removal Rate (L/				in) Static Water Level (m))
Diameter (cm)	1996/07/2	1	136.38		11.28			
## 1996/07/20	Well Compl	etion				Meas	urement in	Metric
Diameter (cm)	Total Depth L	Drilled Finis	shed Well Dept	h Start	Start Date End Date			
Diameter (cm)	40.54 m			1996/	/07/20		1996/07/21	
Surface Casing (if applicable) Plastic Size OD :	Borehole							
Surface Casing (if applicable) Plastic Size OD :								
Plastic Size OD :							40.54	
Wall Thickness : 0.953 cm Wall Thickness : 0.602 cm Bottom at : 30.48 m Top at : 30.18 m Bottom at : 40.54 m Perforations From (m) To (m) Width(cm) Slot Slot Length(cm) Hole or Slot Interval(cm) 32.00 40.54 0.635 25.40 Perforated by Saw Annular Seal Placed from 0.00 m to 30.48 m Amount Other Seals Type At (m) Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Pack Type Grain Size		01 77 /						
Bottom at : 30.48 m Top at : 30.18 m					Size Ol	D :	11.43 cm	_
Perforations	Wall Thickn	ess:	0.953 cm	Wall 7				
Perforations	Bottor	n at :	30.48 m		Тор а	at :	30.18 m	_
Diameter or Slot Hole or Slot Interval(cm) 32.00 40.54 0.635 25.40								_
Slot	Perforations							
From (m) 10 (m) Width(cm) Length(cm) Interval(cm) 32.00 40.54 0.635 25.40 Perforated by Saw Annular Seal Driven & Bentonite Placed from				Cle	\.	Цо	lo or Clot	
32.00 40.54 0.635 25.40 Perforated by Saw Annular Seal Driven & Bentonite Placed from	From (m)	To (m)			SIOI Length(cm)		erval(cm)	
Annular Seal Driven & Bentonite Placed from 0.00 m to 30.48 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size					zongm(om)			
Annular Seal Driven & Bentonite Placed from	Perforated by	/ Saw						
Placed from 0.00 m to 30.48 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size			Dtit-					
Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size				30.48	R m			
Other Seals Type At (m) Screen Type Size OD:)			
Type		· · ·		_				
Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Outer Seals	Tyne		1		Δt (m)	
Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment		Туре			At (III)			
From (m) Attachment To p Fittings Bottom Fittings Pack Type Grain Size	Screen Type)						
Attachment	Size	OD :	0.00 cm					
Top FittingsBottom Fittings Pack Type Grain Size	From	(m)	То	(m) Slot Size (cm)		ot Size (cm)		
Top FittingsBottom Fittings Pack Type Grain Size	Attachn	nent						
Pack Type Grain Size				Botto	m Fitting	gs_		
		-						
	Туре			Grain	Size_			
							<u> </u>	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name CLIFF'S DRILLING Certification No

Copy of Well report provided to owner Date approval holder signed

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

285448

Drilling Company Well ID Date Report Received

1996/08/08

Well Identification and Location Measurement in Metric Owner Name Address Town Postal Code Province Country BEATON, THRISH 203 PIPER DR, RED DEER CANADA 1/4 or LSD SEC TWP Additional Description RGE W of MER I of Block Plan Location 8 15 41 28 35 5 N1314P GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Longitude -113.941572 Elevation Latitude 52.527294 m m from How Location Obtained How Elevation Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level 30.48 cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 68.19 L/min Pump Installed Yes Depth m Recommended Pump Intake Depth (From TOC) 21.34 m Type SUB H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth Depth m ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well GIC CHANGED LOCATION ON 2012-12-13 FROM SE 10 AND ADDED PLAN # TO AGREE WITH MAP. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 1996/07/21 12:00 AM 11.28 m Minutes:Sec 22.10 2:00 Method of Water Removal 3.00 17 47 4:00 14.78 Type Air 5:00 13.36 136.38 L/min Removal Rate 12.75 6:00 40.54 m Depth Withdrawn From 7:00 12.73 If water removal period was < 2 hours, explain why Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name CLIFF'S DRILLING Certification No

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GIC Well ID GoA Well Tag No.

295373

Drilling Company Well ID Date Report Received

GOWN ID 2000/12/18 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country GILL, RANDY 249 SCHUBERT PLACE NW, T3L 1W6 **CALGARY** 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 041 4 15 5600MC 28 Α GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525475 Longitude -113.933391 Elevation m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained

Drilling Information Method of Drilling Cable Tool

Type of Work New Well

Proposed Well Use Domestic

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
9.14		Yellow Sand	
15.24		Till	
16.76		Green Shale	
30.78		Gray Shale	
35.97		Green Shale	
39.62		Gray Shale	

Yield Test Summary				Mea	asurement	in Metr	ic
Recommended Pump Ra	ate45.4	16 L/mir	1				
Test Date Water	Test Date Water Removal Rate (L/min)			tatic	Water Level	(m)	
2000/10/17	45.46				11.09		
Well Completion				Mea	asurement	in Metr	ic
Total Depth Drilled Finis	shed Well Depth				End Date		
39.62 m		2000	/10/16		2000/10/	17	
Borehole							
Diameter (cm) 0.00		n (m) 00			To (m) 39.62		
Surface Casing (if appl.	icable)	Well Ca Plastic		iner	39.02		
Size OD :	16.81 cm		Size O	D : _	11.43	cm	
Wall Thickness:	0.478 cm	Wall 7	Thicknes	ss:	0.602	cm	
Bottom at :	19.51 m				15.24		
		ı	Bottom a	at:_	39.62	m	
Perforations							
	Diameter or Slot	Slo	nt.	١,	Hole or Slot		
From (m) To (m)	Width(cm)				Interval(cm)		
27.43 39.62	0.318				20.32		
Perforated by Saw							
Annular Seal Driven Placed from 0. Amount		19.5°	1 m				
Other Seals							
Туре				At ((m)		
Screen Type Size OD:	0.00 cm						
From (m)	То	(m)			Slot Size (cn	n)	
Attachment							
Top Fittings			m Fitting	gs			
Pack							
Туре		Grain	Size				
Amount							

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

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Water Well Drilling Report

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View in Imperial Export to Excel

295373

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

14.12

12.80

12.50

12.49

12.19 11.88

11.65

11.57

11.45

11.41

11.26

11.23

Date Report Received 2000/12/18 Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country GILL, RANDY 249 SCHUBERT PLACE NW, T3L 1W6 CALGARY 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location SW 14 5600MC 041 28 4 15 Α GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525475 Longitude -113.933391 Elevation m m from How Location Obtained How Elevation Obtained m from Not Verified Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 45.46 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 33.53 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m___ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 3'. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 2000/10/17 12:00 AM 11.09 m Minutes:Sec 0:00 36.59 Method of Water Removal 1.00 33 67 Type Bailer 2:00 30.77 3:00 27.87 45.46 L/min Removal Rate 4:00 25.20 Depth Withdrawn From 39.62 m 5:00 22.38 6:00 19.67 If water removal period was < 2 hours, explain why 7:00 17.21 8:00 15.36

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name J.C. DRILLING

Certification No

Copy of Well report provided to owner Date approval holder signed

9:00

10:00

12:00

14:00

16:00

20:00 25:00

30:00

35:00

40:00

50:00

60:00

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How Location Obtained

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295922

m

Measurement in Metric

GoA Well Tag No. Drilling Company Well ID

GIC Well ID

Elevation _

Not Obtained

How Elevation Obtained

GOWN ID

Location

accuracy. The information on this report will be retained in a public database Date Report Received 2001/05/03 Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country HALBERG, LEN P.O. BOX 2 SITE 3 RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER Block Lot Plan Additional Description SW 27 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of

Latitude 52.554206 Longitude -113.957340

Yield Test Summary

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Domestic

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
7.62		Brown Clay	
10.06		Gray Clay	
13.72		Brown Fractured Shale	
15.24		Gray Fractured Shale	
16.76		Gray Sandstone	
17.37		Greenish Gray Shale	
18.90		Gray Sandstone	
23.47		Gray Hard Shale	
24.99		Gray Sandstone	
26.52		Gray Shale	
27.43		Gray Sandstone	
29.57		Gray Hard Shale	
33.53		Greenish Gray Shale	
36.58		Gray Shale	

m from

m from

Test Date Water Removal Rate (L/min) Static Water Level (m) 2001/04/24 227.30 10.06	Recommende	d Pump Ra	ate36.3	37 L/min	_			
Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth 36.58 m Start Date 2001/04/24 End Date 2001/04/24 36.58 m 2001/04/24 2001/04/24 Borehole Diameter (cm) From (m) To (m) 0.00 36.58 Surface Casing (if applicable) Steel Well Casing/Liner Plastic Size OD: 13.97 cm Size OD: 11.43 cm Wall Thickness: 0.620 cm Wall Thickness: 0.544 cm Bottom at: 19.81 m Top at: 18.29 m Bottom at: 36.58 m Diameter or Slot Hole or Slot From (m) To (m) Width(cm) Length(cm) Interval(cm) 21.34 30.48 1.270 1.27 Perforated by Hand Drill Annular Seal Drive Shoe Placed from 0.00 m 19.81 m Amount Other Seals Type At (m) Size OD: 0.00 cm From (m) <t< td=""><td></td><td></td><td></td><td colspan="3"></td><td>)</td></t<>)	
Diameter (cm)	2001/04/24		227.30				10.06	
Diameter (cm)	Well Comple	tion				Meas	urement in	Metric
Diameter (cm)	Total Depth Di	rilled Finis	shed Well Depti	h Start Date End Date			End Date	
Diameter (cm)	36.58 m			2001/	04/24		2001/04/24	
Surface Casing (if applicable) Steel Size OD : 13.97 cm Size OD : 11.43 cm Plastic Size OD : 11.43 cm Wall Thickness : 0.620 cm Wall Thickness : 0.544 cm Bottom at : 19.81 m Top at : 18.29 m Bottom at : 36.58 m	Borehole							
Steel Size OD : 13.97 cm Size OD : 11.43 cm Wall Thickness : 0.620 cm Wall Thickness : 0.544 cm Bottom at : 19.81 m Top at : 18.29 m Bottom at : 36.58 m Perforations								
Steel Size OD : 13.97 cm Size OD : 11.43 cm					36.58			
Wall Thickness : 0.620 cm Wall Thickness : 0.544 cm Bottom at : 19.81 m Top at : 18.29 m Bottom at : 36.58 m Perforations From (m) To (m) Width(cm) Length(cm) Interval(cm) 21.34 30.48 1.270 1.27 Perforated by Hand Drill Annular Seal Placed from 0.00 m to 19.81 m Amount Other Seals Type At (m) Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size		ig (if appl	icable)		ising/Li	iner		
Perforations Diameter or Slot Slot Length(cm) Hole or Slot Interval(cm) 1.27								
Bottom at : 36.58 m								_
Perforations	Bottom	at:	19.81 m		Тор а	at :	18.29 m	_
Diameter or Slot Hole or Slot Interval(cm)				E	Bottom a	at:	36.58 m	_
Slot Slot Hole or Slot Interval(cm)	Perforations							
From (m) To (m) Width(cm) Length(cm) Interval(cm) 21.34 30.48 1.270 1.27 Perforated by Hand Drill Annular Seal Placed from 0.00 m to 19.81 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size				Sic	. +	Ца	o or Slot	
21.34 30.48 1.270 1.27 Perforated by Hand Drill Annular Seal Drive Shoe Placed from 0.00 m to 19.81 m 19.81 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	From (m)	To (m)						
Annular Seal Drive Shoe Placed from 0.00 m to 19.81 m Amount Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Grain Size	21.34	30.48	1.270				1.27	
Placed from 0.00 m to 19.81 m Amount Other Seals Type At (m) Screen Type Size OD :	Perforated by	Hand	Drill					
Amount Other Seals Type At (m) Screen Type Size OD:	Annular Seal	Drive Sh	oe					
Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Placed from	0.	.00 m to	19.81	m			
Other Seals Type At (m) Screen Type Size OD: 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Amoun	t		_				
Screen Type Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment								
Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size		Type				At (m))	
Size OD : 0.00 cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size								
From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Grain Size	Screen Type							
Attachment	Size C	DD:	0.00 cm					
Top Fittings Bottom Fittings Pack Type Grain Size	From	(m)	То	(m)		Slo	ot Size (cm)	
Pack Type Grain Size	Attachme	ent						
Pack Type Grain Size	Top Fittin	ıgs		Bottoi	n Fitting	gs		
· · · · · · · · · · · · · · · · · · ·			_					
· · · · · · · · · · · · · · · · · · ·	Type			Grain	Size			

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No. 295922

10.36

10.06

Drilling Company Well ID 2001/05/03

GOWN ID Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country HALBERG, LEN P.O. BOX 2 SITE 3 RR3, LACOMBE T0C 1S0 1/4 or LSD SEC TWP W of MER RGE Block Plan Additional Description Location Lot SW 27 041 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation ___ Latitude 52.554206 Longitude -113.957340 m m from How Elevation Obtained How Location Obtained m from Not Obtained Additional Information Measurement in Metric Distance From Top of Casing to Ground Level cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 36.37 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 24.38 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth Depth ____ m ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 2'. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 2001/04/24 12:00 AM 10.06 m Minutes:Sec 21.34 1:00 Method of Water Removal 2.00 15 24 3:00 12.19 Type Air 4:00 10.67

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Removal Rate

If water removal period was < 2 hours, explain why

Depth Withdrawn From

Name of Journeyman responsible for drilling/construction of well

227.30 L/min

36.58 m

UNKNOWN NA DRILLER

Company Name ALKÉN BASIN DRILLING LTD. Certification No

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5:00

6:00

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Drilling Information Method of Drilling

Rotary

Water Well Drilling Report

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296824

GoA Well Tag No. Drilling Company Well ID

GIC Well ID

2001/06/12

GOWN ID

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Type of Work New Well

GOWN ID			oodidoy. Tric ii	iioimation on	and report win be i	otanica in a p	abilo dalaba	50.	Date Report Received	2001/06/12	
Well Identi	fication and L	ocation									Measurement in Metric
Owner Nam SCARLET,	-		Address P.O. BOX	147 BENTL	EY	Town			Province	Country	Postal Code TOC 0J0
Location	1/4 or LSD SW	SEC 14	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description	
Measured fi	rom Boundary o	of			GPS Coordir	nates in Dec	imal Degre	es (NAD 83 ₎)		
	•	m from			Latitude 5	2.525475	Longi	itude <u>-113.9</u>	33391	Elevation	m
		m from			How Location	n Obtained				How Elevation Obtain	ned
					Not Verified					Not Obtained	
	•										

Proposed Well Use Domestic Formation Log Measurement in Metric Water Lithology Description Depth from ground level (m) Bearing 1.83 Brown Clay 8.23 Sandy Clay 11.28 Gray Shale 12.80 Gray Sandstone 14.02 Gray Shale 17.37 Gray Sandstone 19 81 Gray Shale 24.99 Gray Sandstone 29.57 Gray Shale 34.75 Gray Sandstone 35.05 Gray Shale 38.10 Gray Sandstone 42.06 Gray Shale 46.33 Gray Sandstone Gray Shale 56.39 59.74 Gray Sandstone

Gray Shale

Gray Sandstone

Yield Test Sum	nmary				Measurement in N	Metric	
Recommended I	Pump Rat	e 45	.46 L/mir	<u>1</u>			
Test Date					atic Water Level (m)	1	
2001/05/27		45.46			14.02		
Well Completion	on				Measurement in M	Metric	
Total Depth Drille	ed Finish	ned Well Dep	th Start	Date	End Date		
67.06 m			2001	/05/27	2001/05/27		
Borehole							
Diameter (cm)	Fro	m (m)		To (m)		
0.00			0.00		67.06		
Surface Casing Steel		*	Well Control	asing/Li	ner		
Size OD	: <u>1</u>	3.97 cm			11.43 cm		
Wall Thickness	:0	.620 cm	Wall	Thicknes	s: 0.602 cm		
Bottom at	f.: 2	8.65 m		Тор а	nt: 24.38 m	i.	
				Bottom a	at: 67.06 m		
Perforations							
		Diameter or Slot Width(cm) 0.953		ot h(cm)	Hole or Slot Interval(cm) 0.95		
Perforated by	Hand D	Drill					
Annular Seal [Orive Sho	۵					
Placed from			28.6	5 m			
_							
Other Seals			_				
	Type				At (m)		
Screen Type							
• • • • • • • • • • • • • • • • • • • •) :	0.00 cm					
From (m			o (m)		Slot Size (cm)		
TTOTT (III	1)	10	(111)		Siot Size (CIII)		
Attachmen	t						
Top Fittings	3		Botto	Bottom Fittings			
Pack							
Туре			Grain	Size			
Amount							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

65.53

67.06

ALKÉN BASIN DRILLING LTD.

Certification No

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GIC Well ID GoA Well Tag No.

296824

Drilling Company Well ID

GOWN ID

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Address P.O. BOX 147 BENTLEY Town Province Country Postal Cox TOC 0J0	OWN ID	accurac	y. The illioinlation of	i tilis report will be retai	neu in a public database.		Date Report Receive	ed 2001/06/12
P.O. BOX 147 BENTLEY TOC QUO Cocation 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Additional Description Measurement in Measurement	Well Identification	n and Location						Measurement in Met
SW 14 041 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.525475 Longitude -113.93391 How Elevation Measurement in Measur	Owner Name SCARLET, RALPH			_EY	Town	Province	Country	Postal Code T0C 0J0
Latitude S2.525475 Longitude -113.933391 Elevation m m m m m m m m m					Lot Block Pl	an Additio	nal Description	
Distance From Top of Casing to Ground Level Static Water Level Lond Static Water Level Lond Static Water Level Lond Static Water Level Lond Lon	Measured from Bo	m from	_	Latitude 52.5 How Location O	25475 Longitude	<i>'</i>	How Elevation Obta	
Is Flow Control Installed Describe Describe Describe Describe	Additional Inform	ation						Measurement in Met
Recommended Pump Rate	Is Artesian Flow			cm	Is Flow Control In	stalled		
Did you Encounter Saline Water (>4000 ppm TDS)				45 46 1 /min				m
Depth Measurement in Model (Output Rating) Depth Measurement in Model (Output Rating)		,		51.82 m	Type	Make		H D
Depth Mell Disinfected Upon Completion Gas Depth Mell Disinfected Upon Completion Submitted to ESRD Sample Collected for Potability Submitted to ESRD	Necommended i	ипр ппаке Берит (г топ		31.02 111	<i></i>	- Wake	Model (Output Ra	nting)
Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Minutes:Sec					Sample Collecte	Submitted to	Subm	itted to ESRD
Drawdown (m) Elapsed Time Recovery (m)	rield Test							Measurement in Me
Section Sect	Test Date 2001/05/27		Stati		Drawdown	(m) E	Elapsed Time	Recovery (m)
Type Air Removal Rate								67.06
Removal Rate	Method of Water	Removal						
Simple 18.46 1.25								
Depth Withdrawn From	Remova	I Rate 45.46	L/min					
7:00 30.48								
## water removal period was < 2 hours, explain why 8:00	-opui vviuiuiaWII	31.02						36.58
9:00 21.34 10:00 18.29 12:00 15.24 14:00 14.02	If water removed n							20.40
10:00 18.29 12:00 15.24 14:00 14.02	i water removal p	eriod was < 2 hours ov	nlain why				0:00	
12:00 15.24 14:00 14.02		eriod was < 2 hours, ex	plain why					24.38
14:00 14.02		eriod was < 2 hours, ex	plain why				9:00	24.38 21.34
		eriod was < 2 hours, ex	plain why				9:00 10:00	24.38 21.34 18.29
120.00		eriod was < 2 hours, ex	plain why				9:00 10:00 12:00	24.38 21.34 18.29 15.24
		eriod was < 2 hours, ex	plain why				9:00 10:00 12:00 14:00	24.38 21.34 18.29 15.24 14.02
		eriod was < 2 hours, ex	plain why				9:00 10:00 12:00 14:00	24.38 21.34 18.29 15.24 14.02
	Vater Diverted fo	, ,	plain why				9:00 10:00 12:00 14:00	24.38 21.34 18.29 15.24 14.02
Ŭ	Water Diverted for	, ,					9:00 10:00 12:00 14:00 120:00	24.38 21.34 18.29 15.24 14.02

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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GIC Well ID

299508

GoA Well Tag No. Drilling Company Well ID 2002/05/02 Date Report Received

Owner Name GUSTAFSSON, SUE Address RR3, LACOMBE Town Province AB Country COUNTRY Postal Code TOC 1S0 Location SW 1/4 or LSD 26 SEC 041 TWP 28 RGE 4 W of MER 4 Lot 4 Block Plan Plan Additional Description Measured from Boundary of m from GPS Coordinates in Decimal Degrees (NAD 83) Latitude Latitude 52.554200 Longitude -113.934000 Elevation m How Location Obtained How Elevation Obtained How Elevation Obtained How Elevation Obtained	Well Identifi	cation and L	ocation								Measur	ement in Metric
SW 26 041 28 4 Measured from Boundary of m from GPS Coordinates in Decimal Degrees (NAD 83) Elevation m Latitude 52.554200 Longitude -113.934000 Elevation m				OMBE		Town					try	
Latitude 52.554200 Longitude -113.934000 Elevation m		.,				Lot	Block	Plan	Additio	onal Description		
Phone Not Obtained	Measured fro		m from		Latitude <u>5</u> How Location	2.554200	•			How Elevation		_

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Stock Yield Test Summary Measurement in Metric

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.18		Sand & Rocks	
14.63		Clay & Rocks	
22.56		Gray Shale	
28.35		Gray Sandstone	
30.48		Gray Shale	

Recommended F	Pump Ra	ate113.6	55 L/min	<u>_</u>					
Test Date	Water	Removal Rate ((L/min) Static Water Level (m)						
2002/03/23		136.38	3.05						
Well Completion	n				Meas	urement in I	Metric		
Total Depth Drille	ed Finis	shed Well Depti	h Start						
30.48 m			2002	03/23		2002/03/23			
Borehole									
Diameter (d	cm)	Fron				To (m)			
0.00		0.				30.48			
Surface Casing Steel		,	Well Ca Plastic	Ŭ					
		13.97 cm		Size O	D :	11.43 cm	-		
Wall Thickness	:	0.620 cm	Wall 7						
Bottom at	:	18.29 m		Тор а	at :	12.19 m			
			Bottom at: 30.48 m						
Perforations									
		Diameter or Slot	Slo		Ha	lo or Clat			
From (m) To	o (m)	Width(cm)		n(cm)	Hole or Slot Interval(cm)				
	80.48	0.953	Longe	.(0.11)		0.95			
Perforated by	Hand	Drill							
Annular Seal [
		00 m to	18 20) m					
		<u> </u>		/ III					
Other Seals			_						
	Type				At (m)			
	. , , , ,		At (III)						
Screen Type									
Size OD	:	0.00 cm							
From (m)	То	(m) Slot Siz			ot Size (cm)			
Attachment	t						_		
Top Fittings	·		Botto	m Fitting	gs				
Pack		<u></u>					_		
Type Unknow	/n		Grain Size						
Amount		Unknown							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

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Water Well Drilling Report

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299508

GIC Well ID GoA Well Tag No.

Drilling Company Well ID
Date Report Received 200

2002/05/02

Well Identif	ication and L	ocation									Measurement in Metr
Owner Name GUSTAFSSO	e ON, SUE		Address RR3, LACC	MBE		Town			Province AB	Country CA	Postal Code T0C 1S0
Location	1/4 or LSD SW	SEC 26	<i>TWP</i> 041	RGE 28	W of MER 4	Lot B	lock	Plan	Additio	nal Description	
Measured fro	om Boundary (of			GPS Coordinate		_				
	1	m from			Latitude 52.5		Longi	tude113.9	34000	Elevation	
		m from			How Location O	btained				How Elevation O	btained
					Phone				l	Not Obtained	
Additional I	nformation										Measurement in Metr
Distance Fr	om Top of Cas	sing to Gr	ound Level		91.44 cm						
Is Artesian	Flow				_	Is Flo	w Con	trol Installed			
	Rate		L/min		440.05.17.1			Describe			
Recommen	ded Pump Ra	te			113.65 L/min	Pump Inst	talled			Depth	m
Recommen	ded Pump Inta	ake Depth	(From TOC)		27.43 m	Type	_		Make		H.P.
			(Model (Output F	Rating)
Did you E	ncounter Salir	ne Water (Depth	m	1				
			(Gas	Depth	m	1	Geo	physical Log	Taken	
									Submitted to	ESRD	
						Con	anla Ca	alloated for E	Ootobility	Cub	omitted to ESRD
Yield Test	EPORTS LOC	ATION IS	SW, NOT SE.	LOCAT	ION CHANGED MAY	12, 2005.		Tak		Fround Level	Measurement in Met
Test Date		Start Tii	me	Sta	atic Water Level				Dept	h to water level	
2002/03/23		12:00 A		010	3.05 m		Draw	vdown (m)		lapsed Time Minutes:Sec	Recovery (m)
Madaadas	Martan Damas									0:00	30.48
wetnoa of	Water Remov									1:00	21.64
	Type _									2:00	13.41
Re	emoval Rate		136.38 L/min							3:00 4:00	8.84 6.10
Depth With	drawn From		0.00 m							5:00	5.49
· ·	_		_			_				6:00	5.18
If water rem	noval period wa	as < 2 hou	urs, explain wh	У						7:00	4.88
	-		-							8:00	4.57
										9:00	4.57
										10:00	4.27
										12:00	3.96
										14:00	3.66
										16:00	3.35
										20:00	3.05
										25:00	3.05
										30:00	3.05
										60:00	3.05
										120:00	3.05
)M (D:											
Water Dive	rted for Drilli	ng									
Water Source	e			A	mount Taken				Diversio	n Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

UNKNOWN NA DRILLER

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

1

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064475

GOWN	16

JOWN ID									D.	ate ivebout iveceive	eu
Well Ident	ification and L	ocation									Measurement in Metric
Owner Nam MURPHY (ne DIL / P.D. 403		Address P.O. BOX	2721 STAT	TON M	Town CALG			Province AB	Country CA	Postal Code T2P 3Y3
Location	1/4 or LSD 12	SEC 23	<i>TWP</i> 041	RGE 28	W of MER 4	Lot	Block	Plan	Additional RIG	Description	
Measured t	from Boundary o	of m from			_	2.545090	Longi	es (NAD 83 tude113.9	935810	Elevation	m_
m from					How Location Obtained					How Elevation Obtained	
					Not Verified					Not Obtained	

Drilling Information			
Method of Drilling	Type of Work	Plugged	2004/08/31
Rotary	New Well	Plugged with	Bentonite Product
Proposed Well Use Industrial		Amount	

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
9.14		Brown Clay & Boulders
16.46		Gray Clay
21.34	Yes	Gray Water Bearing Sandstone
24.99		Gray Shale
25.60		Gray Sandstone
30.48		Gray Shale

Yield Test Summary			M	easurement in Metri				
Recommended Pump R	ate227.	30 L/min	-					
Test Date Water								
2004/08/06	227.30 5.79							
Well Completion			M	easurement in Metri				
Total Depth Drilled Fini	shed Well Dept	h Start	Date	End Date				
30.48 m		2004/	08/06	2004/08/06				
Borehole								
Diameter (cm)		n (m)		To (m)				
12.70 Surface Casing (if appl		.00	oine// inc	30.48				
Steel	icable)	Steel	sing/Line	r				
Size OD :	14.13 cm		Size OD:	11.43 cm				
Wall Thickness:			hickness :	0.396 cm				
Bottom at :	18.29 m		Top at:	0.00 m				
		Е	Bottom at :	24.38 m				
Perforations								
	Diameter or Slot	Slo		Hole or Slot				
From (m) To (m)	Width(cm)							
18.29 24.38	0.953			0.95				
Perforated by Torch	า							
Annular Seal Driven								
Placed from0	.00 m to	18.29) m_					
Amount								
Other Seals								
Type		At (m)						
Screen Type								
Size OD :	cm							
From (m)	То	(m)		Slot Size (cm)				
Attachment								
Attachment Top Fittings		Bottor	n Fittings					
		Dollor	ii i ittiiigs į	_				
Pack		Ora!-	Ci=o					
Type Unknown	Unknown	Grain	Size					
Amount	Unknown							

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well KELLY UNTINEN

Company Name ALKÉN BASIN DRILLING LTD. Certification No

12389Q

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GIC Well ID GoA Well Tag No. Drilling Company Well ID

1064475

Well Identification and						
	Location					Measurement in Metr
Owner Name MURPHY OIL / P.D. 403	Address P.O. BOX	2721 STATION M	Town CALGARY	Province AB	Country CA	Postal Code T2P 3Y3
Location 1/4 or LSD 12	SEC TWP 23 041	28 4		n Additional De RIG	escription	
Measured from Boundary	y of m from m from	Latitude	inates in Decimal Degrees (NAI 52.545090 Longitude _1 on Obtained	13.935810 Ele Hov	vation v Elevation Obta Obtained	
Additional Information						Measurement in Metr
		91.44 cm		alled		
Recommended Pump R	Rate	227.30 L/m 21.34 m	in Pump Installed Yes	Dep Make GRUND	th FOS F	m H.P. 3 ing)
Did you Encounter Sa	line Water (>4000 ppm ⁻			Geophysical Log Take Submitted to ESR	en	
Did you Encounter Sa. Additional Comments DRILL PIPE IN THE HO	on Well		<u>m</u>	Geophysical Log Take Submitted to ESR	en	
Additional Comments	on Well		<u>m</u>	Geophysical Log Take Submitted to ESR	en DD Submii	
Additional Comments DRILL PIPE IN THE HO	on Well		<u>m</u>	Geophysical Log Take Submitted to ESR for Potability Taken From Groun Depth to w m) Elapse	Submit Submit d Level ater level d Time	tted to ESRD
Additional Comments DRILL PIPE IN THE HO Yield Test Test Date 2004/08/06 Method of Water Remo	Start Time 12:00 AM	Static Water Level 5.79 m	m Sample Collected	Geophysical Log Take Submitted to ESR for Potability Taken From Grour Depth to w m) Elapse Minut 1: 2: 3:	Submit Submit Ad Level rater level d Time ess:Sec 00 00 00 00	Measurement in Metr Recovery (m) 9.14 7.32 6.71
Additional Comments DRILL PIPE IN THE HO Yield Test Test Date 2004/08/06 Method of Water Remo Type Removal Rate	Start Time 12:00 AM	Static Water Level 5.79 m	m Sample Collected	Taken From Ground Depth to wm) Elapse Minute 1: 2: 3: 4: 5: 6:	Subminion Submin	Measurement in Metr Recovery (m) 9.14 7.32

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KELLY UNTINÉN

Company Name ALKÉN BASIN DRILLING LTD. Certification No

12389Q

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064760

Measurement in Metric

GOWN ID

									Bato Roport Rooo	
Well Identification an	d Location									Measurement in Metric
Owner Name DEGRAFF RESORT		Address 7891 - 501	ΓΗ AVE	Town VE RED DEER				Province Country ALBERTA CA		Postal Code T4P 2S4
Location 1/4 or LSI 08	SEC 22	<i>TWP</i> 41	<i>RGE</i> 28	W of MER 4	Lot	Block	Plan	Addition DEGR	onal Description AFF	
Measured from Bounda	m from			GPS Coordin Latitude <u>5</u> How Location Hand held au	2.541117 o Obtained	Longi	tude <u>-113.9</u>	′	Elevation How Elevation On Hand held autonomic	981.46 m btained pmous GPS 20-30m

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Municipal

Yield Test Summary

Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
2.74		Brown Sand
5.18		Brown Clay
14.02		Gray Clay & Rocks
27.43		Gray See Comments Sandstone
30.18		Gray Shale
32.00		Gray See Comments Sandstone
45.72		Gray Shale
57.91		Gray See Comments Sandstone
60.96		Gray Shale

Recommended	Pump Rate	68.	19 L/min	_			
		emoval Rate		Static Water Level (m)			
2007/04/30		136.38		16.76			
Well Completi	on				Measu	rement in I	Metric
Total Depth Drill	led Finish	ed Well Depti	h Start	Date	1	End Date	
60.96 m			2007	04/30	2	2007/04/30	
Borehole							
Diameter		Fron				To (m)	
20.00			00			60.96	
Surface Casing Steel	y (if applic	able)	Well Ca Plastic	ŭ			
) : <u> </u>					11.43 cm	
Wall Thickness	s : 0	.655 cm	Wall 7				
Bottom a	t: 4	4.50 m		Тор а	at :	36.58 m	-
			E			60.96 m	-
Perforations							
		Diameter or Slot	Slo	\+	Hole	or Slot	
From (m)	Γο (m)	Width(cm)		n(cm)	Hole or Slot Interval(cm)		
	57.91	1.270		()		1.27	
Perforated by	Hand D	rill					
Annular Seal	Driven & P	entonite					
Placed from			44.50) m			
_							
Other Seals			_				
	Type		At (m)				
Screen Type							
Size OL) <u></u>	cm					
From (n	n)	То	(m)	-	Slot	t Size (cm)	
Attachmer	nt						_
Top Fitting	s		Botto	m Fitting	gs		_
Pack							
Type Unknow	wn		Grain	Size			
Amount	U	nknown					

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt LEONARD\ BLAIR}$

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

VA3129

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064760

GOWN ID

								Bate Report Rece	1704
Well Identification and	Location								Measurement in Metric
Owner Name DEGRAFF RESORT	<i>Address</i> 7891 - 50TH AVE		<u> </u>	Town RED D	n D DEER		Province ALBERTA	Country CA	Postal Code T4P 2S4
Location 1/4 or LSD 08		<i>TWP RG</i> 41 28	E W of MER 4	Lot	Block	Plan	Addition DEGRA	al Description FF	
Measured from Boundary	of		GPS Coordina		•				
	m from		Latitude <u>52</u>		Longit	-113.94	2900	Elevation	_
	m from		How Location					How Elevation O.	
			Hand held auto	onomous G	PS 20-30n	1	ı	Hand held autono	omous GPS 20-30m
Additional Information									Measurement in Metric
Distance From Top of Ca	asina to Ground	Level	60.96 cm						
Is Artesian Flow				Is	Flow Cont	rol Installed			
Rate	L	/min							
Recommended Pump Ra	ate		68.19 L/min						
Recommended Pump Int	take Depth (Fro	m TOC)		Туре			Make		H.P.
								Model (Output I	Rating)
Did you Encounter Sali	ine Water (>400	00 ppm TDS)	Depth		m	Well Disinfe	ected Upon	Completion	
		Gas	Depth		m	Geop	hysical Log	Taken	
							Submitted to		
					Sample Co	llected for Po	ntahility	Sut	omitted to ESRD
Additional Comments	on Well				oampio oo				
LINER BOREHOLE DIAI TOPPED UP WITH BEN LINE RESOURCE (403) A.M. ON APRIL 30, 2007	TONITE CHIPS 243-5611. DRI	. 12 SACKS G	ROUT, 10 SACKS BÉI	NTONITE C	CHIPS. PU	MP TEST TO	O FOLLOW,	CONTACT STEV	E FOLEY AT WATER
Viold Took						Tale	F O	manus al I annal	Management in Matric
Yield Test						Take		round Level to water level	Measurement in Metric
Test Date 2007/04/30	Start Time 12:00 AM	,	Static Water Level 16.76 m		Draw	down (m)	EI	apsed Time	Recovery (m)
	.2.007						N.	linutes:Sec	
Method of Water Remo	val								
Туре	Air			_					
Removal Rate	136.3	8 L/min							
Depth Withdrawn From	60.9	6 m							
If water removal period v	as < 2 hours. e	xplain whv							
RECOMMENDED PUMF									
Water Diverted for Dril	ling								
Water Source			Amount Taken L				Diversion	n Date & Time	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well LEONARD BLAIR

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No VA3129

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064825

Measurement in Metric

GOWN ID

Well Ident	tification and L	ocation									Measure	ment in Metric
Owner Nar HALBERG				<i>Town</i> LACOMBE			Province ALBERT		ry	Postal Code T0C 1S0		
Location	1/4 or LSD 6	SEC 27	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additio	onal Description		
Measured i		m from			GPS Coording Latitude 5 How Location	2.556600	U	es (NAD 83 tude113.9	,	Elevation How Elevation	919.58 m	_
			Hand held autonomous GPS 20-30m					Hand held auto	nomous GPS 20)-30m		

Drilling Information	
Method of Drilling Rotary	Type of Work New Well
Proposed Well Use Domestic	

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
10.06		Brown Clay	
10.67		Gray Shale	
13.72		Gray Sandstone	
15.24		Gray Shale	
18.90		Gray Sandstone	
19.81		Gray Shale	
28.35		Gray Sandstone	
30.48		Gray Shale	

Recommended Pump Rate 45.46 L/min							
Test Date	Water R	emoval Rate ((L/min) Static Water Level (m)				
2006/10/25		181.84		11.58			
Well Completion	n				Me	easurement in M	/letric
Total Depth Drille	ed Finish	ed Well Depth	Start	Date		End Date	
30.48 m			2006/	10/25		2006/10/25	
Borehole							
Diameter (From				To (m)	
15.56 Surface Casing			00 <i>Well Ca</i>	asing/L	iner	30.48	
Steel		,	Plastic				
	:1					11.43 cm	
			Wall T			0.602 cm	
Bottom at	: 20	0.73 m			-	18.29 m	
B. C. otto			E	Bottom	at:	30.48 m	
Perforations	[Diameter or					
_ , , _		Slot				Hole or Slot	
From (m) T 20.73 2		0.953	Length	n(cm)		Interval(cm) 0.95	
Perforated by Annular Seal Placed from	Oriven & B	entonite 0 m to		3 m_			
Other Seals			-				
Other Godis	Type		At (m)				
Coreen True							
Screen Type	:	cm					
From (m			(m)			Slot Size (cm)	
FIOIII (III)	10	(111)			SIOUSIZE (CITI)	
Attachmen	t						
Top Fittings	Bottom Fittings						
Pack					_		-
Type Unknow	vn		Grain Size				
Amount		nknown					
		_					

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDÉL

Company Name ALKEN BASIN DRILLING LTD. Certification No

40628A

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064825

GOWN ID

Well Identification and Location			Measurement in Me
Owner Name Address	Town	Province Cour	
	LACOMBE	ALBERTA CA	T0C 1S0
Location 1/4 or LSD SEC TWP RGE W of MER L 6 27 41 28 4	ot Block Plan	Additional Description	
	in Decimal Degrees (NAD 8	3)	
ivicasureu ironi boundary or	6600 Longitude -113	·	919.58 m
m from How Location Obt	tained	How Elevation	
	mous GPS 20-30m	Hand held aut	onomous GPS 20-30m
		·	
Additional Information			Measurement in Me
Distance From Top of Casing to Ground Level 60.96 cm			
Is Artesian Flow	Is Flow Control Installe	ed	
Rate L/min	Describ	e	
Recommended Pump Rate 45.46 L/min			
Recommended Pump Intake Depth (From TOC) 19.81 m	Type	Make	
		Model (Outp	ut Rating)
D' 1	14/ // D'		
Did you Encounter Saline Water (>4000 ppm TDS) Depth			
Gas Depth	<u> </u>	eophysical Log Taken	
		Submitted to ESRD	
	Sample Collected for	Potability	Submitted to ESRD
Additional Comments on Well	,		
	OD DODELIOLE DIAMETER	O C 405" 9 5" AID TEOTED V	WITH DOWN DIDE IN HOLE
WATER USED TO DRILL THE WELL = 1300 GALLONS OF WATER FROM SHO	JP, BUREHULE DIAMETER	(0.125 & 5 , AIR 1E51ED V	VITA DRILL PIPE IN AULE.
field Test	Ta	aken From Ground Level	Measurement in M
		Depth to water level	
Toot Data Start Time Static Mater Level		Dopar to water level	
Test Date	Drawdown (m)	Elapsed Time	Recovery (m)
Test Date Start Time Static Water Level 2006/10/25 12:00 AM 11.58 m	_	Elapsed Time Minutes:Sec	3 , ,
2006/10/25 12:00 AM 11.58 m	Drawdown (m)	Elapsed Time Minutes:Sec 0:00	30.48
2006/10/25 12:00 AM 11.58 m Method of Water Removal	_	Elapsed Time Minutes:Sec 0:00 1:00	30.48 17.37
2006/10/25 12:00 AM 11.58 m Method of Water Removal Type Pump & Air	_	Elapsed Time Minutes:Sec 0:00	30.48
2006/10/25 12:00 AM 11.58 m Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min	_	Elapsed Time Minutes:Sec 0:00 1:00 2:00	30.48 17.37 14.63
2006/10/25 12:00 AM 11.58 m Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min	_	Elapsed Time Minutes:Sec 0:00 1:00 2:00 3:00 4:00 5:00	30.48 17.37 14.63 13.11 12.19 11.89
Method of Water Removal Type Pump & Air Removal Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes:Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes:Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89 11.58 11.58
Method of Water Removal Type Pump & Air Removal Also	_	Elapsed Time Minutes:Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89 11.58 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58
### Method of Water Removal Type Pump & Air	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58
### Method of Water Removal Type Pump & Air	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58
### Method of Water Removal Type Pump & Air	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00 40:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00 40:00 50:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00	30.48 17.37 14.63 13.11 12.19 11.89 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Removal Also Also	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00 75:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
2006/10/25 12:00 AM 11.58 m Method of Water Removal	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 25:00 30:00 25:00 30:00 35:00 40:00 75:00 90:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
2006/10/25 12:00 AM 11.58 m Method of Water Removal	_	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 14:00 16:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00 75:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
2006/10/25 12:00 AM 11.58 m Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min	11.58	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 14:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00 75:00 90:00 105:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min Depth Withdrawn From 30.48 m If water removal period was < 2 hours, explain why MEASUREMENTS FROM TOP OF CASING, DRILL PIPE IN HOLE,	11.58	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 14:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00 75:00 90:00 105:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min Depth Withdrawn From 30.48 m If water removal period was < 2 hours, explain why MEASUREMENTS FROM TOP OF CASING, DRILL PIPE IN HOLE,	11.58	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 12:00 25:00 30:00 25:00 30:00 40:00 50:00 60:00 75:00 90:00 105:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58
2006/10/25 12:00 AM 11.58 m Method of Water Removal Type Pump & Air Removal Rate 181.84 L/min Depth Withdrawn From 30.48 m If water removal period was < 2 hours, explain why MEASUREMENTS FROM TOP OF CASING, DRILL PIPE IN HOLE,	11.58	Elapsed Time Minutes: Sec 0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 14:00 20:00 25:00 30:00 35:00 40:00 50:00 60:00 75:00 90:00 105:00	30.48 17.37 14.63 13.11 12.19 11.89 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58 11.58

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKEN BASIN DRILLING LTD. Certification No

40628A

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GIC Well ID GoA Well Tag No. Drilling Company Well ID Date Report Received

1064995

GOWN ID

Well Iden	ification and L	ocation									Measure	ement in Metric
Owner Name HALBERG, CATHERYN Address P.O. BOX 2201 WE		2201 WES	Town ST PARK RED DEER			Province Co ALBERTA Co		У	Postal Code T4N 6X4			
Location	1/4 or LSD SW	SEC 27	<i>TWP</i> 41	RGE 28	W of MER 4	Lot	Block	Plan	Additi	onal Description		
Measured from Boundary of m from m from				GPS Coordinates in Decimal Degrees (NAD 83) Latitude 52.554186 Longitude -113.957435 How Location Obtained				Elevation How Elevation (927.20 m Obtained	_		
					Not Verified					Hand held autor	nomous GPS 2	:0-30m

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Domestic

Formation Log

Measurement in Metric

Depth from ground level (m)

4.57

Sand & Gravel

Method of Drilling
Rotary

Yield Test Summary

Recommended Pump Rate

45.46 L/min

Test Date

Water Removal Rate (L/min)

Static Water Level (m)

2007/06/20

227.30

9.14

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
4.57		Sand & Gravel	
12.50		Gray Clay & Rocks	
14.63		Gray Soft Sandstone	
15.24		Gray Shale	
17.07		Gray Soft Shale	
19.51		Gray Sandstone	
21.03		Gray Shale	
21.64		Gray Sandstone	
22.25		Gray Shale	
22.86		Gray Sandstone	
23.77		Gray Shale	
24.69		Gray Hard Sandstone	
27.74		Gray Shale	
31.09		Gray Sandstone	
32.00		Gray Shale	
32.92		Gray Hard Shale	
36.58		Light Blue Shale	

	Water Removal Rate (L/min) Static Water Level (m)						
2007/06/20		227.30		9.14			
Well Completion Total Depth Drille 36.58 m		Measurement in Metro Start Date End Date 2007/06/20 2007/06/20					
Borehole							
Diameter (c 15.88	m)	From	n (m) 00	-		To (m) 36.58	
Surface Casing Steel		able)	Well Ca Plastic	asing/Li	iner		
		4.13 cm				11.43 cm	
			Wall 7		_	0.602 cm	
Bottom at	: 20	0.73 m				12.19 m	
Perforations			L	Bottom a	at : -	36.58 m	
From (m) To		Diameter or Slot Width(cm) 0.953	Slo Lengtl	ot n(cm)		Hole or Slot Interval(cm) 0.95	
Other Seals	riven & B 0.00	entonite			At	(m)	
	,,,					,	
Screen Type Size OD	<i>:</i>	cm					
From (m)	From (m) To (Slot Size (cm)	
Attachment							
Top Fittings				m Fitting	gs_		_
Pack							
Type Unknow	Grain Size						
Amount	U	nknown					

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

HANK DETKAVICH

Company Name

ALKEN BASIN DRILLING LTD.

Certification No

5881AD

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GIC Well ID GoA Well Tag No.
Drilling Company V

1064995

GOWN	10
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GOWN ID		accuracy. The in	formation on thi	s report will be reta	ained in a put	olic databas	e.		Date Report Red		
Well Iden	tification and L	ocation								Measu	ement in Metric
Owner Nar HALBERG	ne , CATHERYN	Address P.O. BOX 2	2201 WEST	PARK	Town RED DE	ER		Province ALBERTA	Count CA	try	Postal Code T4N 6X4
Location	1/4 or LSD SW	SEC TWP 27 41	RGE 28	W of MER 4	Lot	Block	Plan	Addition	nal Description		
Measured	from Boundary o	f m from		GPS Coordinate Latitude 52.		•	es (NAD 83) tude ₋ 113.95	7435	Elevation	927.20 m	ı
		m from		How Location (Not Verified	Obtained				How Elevation Hand held auto		20-30m
Additional	I Information									Measu	ement in Metric
	an Flow	ing to Ground Level		21.92 cm	Is		trol Installed				
		L/min					Describe				
	ended Pump Rate			45.46 L/min	Pump I	nstalled_			Depth	m	_
Recomme	ended Pump Intai	ke Depth (From TOC)		24.38 m	Type _			Make	Model (Outpu	H.P It Ratina)	_
Did you	Encounter Saline	e Water (>4000 ppm T	D.S.)	Denth		m	Well Disinfe	ected I Inon			
2.4 904)	Gas			m	Geor	hysical Loo	Taken		
		·		Ворит				Submitted to			
					Ş	Sample Co	ollected for Po	otability	S	ubmitted to ES	'RD
Addition	nal Comments or	n Well									
BOREHO	LE DIAMETER 6	.25" & 5", CASING FF	ROM +2' TO 6	8', WATER US	ED TO DRI	LL THE V	VELL FROM	SHOP 2007	7/06/19 7:00 AM	600 GALLONS),
Yield Test	t						Take		Fround Level	Measur	ement in Metric
Test Date		Start Time	Static V	Vater Level				Deptl	h to water level		
2007/06/2		12:00 AM		9.14 m		Draw	down (m)		lapsed Time Minutes:Sec	Reco	very (m)
Methodo	f Water Remova	al					9.14		0:00		6.58
wethou 0									1:00 2:00		9.57 6.52
	Type A	II .			_				3:00		1.03

Yield Test			Taken	From Ground Level	Measurement in Metri
Test Date	Start Time	Static Water Level		Depth to water level	
2007/06/20	12:00 AM	9.14 m	Drawdown (m)	Elapsed Time	Recovery (m)
2001700720	.2.007			Minutes:Sec	
	_		9.14	0:00	36.58
Method of Water F	Removal			1:00	29.57
	Type Air			2:00	26.52
	Rate 227.30 L/m	nin		3:00	21.03
				4:00	16.76
Depth Withdrawn I	From 36.58 m	_		5:00	13.11
				6:00	11.28
If water removal pe	eriod was < 2 hours, explain	why		7:00	10.36
MEASUREMENTS	FROM TOP OF CASING,	DRILL PIPE IN HOLE.		8:00	9.14
	, , , , , , , , , , , , , , , , , , , ,			9:00	9.14
				10:00	9.14
				12:00	9.14
				14:00	9.14
				16:00	9.14
				20:00	9.14
				25:00	9.14
				30:00	9.14
				35:00	9.14
				40:00	9.14
				50:00	9.14
				60:00	9.14
				75:00	9.14
				90:00	9.14
				105:00	9.14
			36.58	120:00	9.14

Water Diverted for Drilling		
Water Source	Amount Taken L	Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

HANK DETKAVICH

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

5881AD

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GIC Well ID GoA Well Tag No.

Measurement in Metric

Drilling Company Well ID

GOWN ID

Date Report Received 2009/03/19 Well Identification and Location Measurement in Metric Postal Code Owner Name Address Country Town Province WILSON BEACH ESTATES C/O 442 POST ST. STE. 801 SAN FRANSISCO **CALIFORNIA** USA 94102 KIRK 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location 14 41 4 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525980 909.83 m Longitude -113.934410 Elevation m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m

Yield Test Summary

Drilling Information Method of Drilling Rotary Proposed Well Use

Observation

Type of Work New Well

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.05		Clay	
4.57		Sand	
6.10		Clay	
7.62		Gray Shale	
9.14		Gray Sandstone	
16.15		Gray Shale	
23.16		Gray Sandstone	
24.38		Gray Shale	

Recommended I					leasurement in ivie	
	Pump Rat	e 27.2	28 L/min			
Test Date	Water R	emoval Rate (L/min)	Static Water Level (m)		
2009/02/06		27.28		7.50		
Well Completion	on			N	leasurement in Me	
Total Depth Drill	ed Finish	ned Well Depth	Start	Date	End Date	
24.38 m	24.38	m	2009/	02/06	2009/02/06	
Borehole						
Diameter (From	n (m)		To (m)		
20.02		0.			15.24	
12.70			.24		24.38	
Surface Casing Steel			Well Ca Plastic	asing/Line	er	
Size OD) : <u> </u>	4.12 cm			11.43 cm	
Wall Thickness			Wall 7	hickness	0.602 cm	
Bottom at	t : 1	5.24 m			6.10 m	
			L	Bottom at	24.38 m	
Perforations						
		Diameter or				
From (m)	-a (m)	Slot		ot .	Hole or Slot	
					Intorval/am)	
16.76	21.34	0.953	Lengtr	n(cm)	Interval(cm) 0.00	
16.76 Perforated by Annular Seal Placed from Amount	Drill Cement/G	0.953				
16.76 Perforated by Annular Seal Placed from Amount Other Seals	Drill Cement/G 0.0	0.953 rout 0 m to		1 m_	0.00	
16.76 Perforated by Annular Seal Placed from Amount Other Seals	Drill Cement/G	0.953 rout 0 m to		1 m_		
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type	Drill Cement/G 0.0 Type	0.953 rout 0 m to		1 m_	0.00	
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type Size OD	Drill Cement/G 0.0 Type	0.953 rout 0 m to	15.24	4 m	0.00 At (m)	
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type	Drill Cement/G 0.0 Type	0.953 rout 0 m to		4 m	0.00	
16.76 Perforated by Annular Seal Placed from _ Amount _ Other Seals Screen Type Size OD From (m	Drill Cement/G 0.0 Type	0.953 rout 0 m to	15.24 	4 m	0.00 At (m)	
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type Size OD From (m	Drill Cement/G 0.0 Type	0.953 rout 0 m to	15.24 	4 m	0.00 At (m)	
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type Size OD From (m	Drill Cement/G 0.0 Type	0.953 rout 0 m to	15.24 	4 m	0.00 At (m) Slot Size (cm)	
16.76 Perforated by Annular Seal Placed from Amount Other Seals Screen Type Size OD From (m Attachmen Top Fittings	Drill Cement/G	0.953 rout 0 m to	15.24 	4 m	0.00 At (m) Slot Size (cm)	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

83061A

Copy of Well report provided to owner Yes

Date approval holder signed

2009/02/06

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Well Identification and Location

GOWN ID

Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

1065730

Drilling Company Well ID Date Report Received 2009/03/19

Measurement in Metric

Postal Code Owner Name Address Country Town Province WILSON BEACH ESTATES C/O 442 POST ST. STE. 801 SAN FRANSISCO **CALIFORNIA** USA 94102 KIRK 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot 14 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.525980 Longitude -113.934410 909.83 m m from How Elevation Obtained How Location Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m Additional Information Measurement in Metric 100.84 cm Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 27.28 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 18.29 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m____ Depth ____ Geophysical Log Taken Gas _____ Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well WELL OWNER: KIRK HILLER. LITH: 2 GRAINS HARD, TRACE IRON, 7 GPM. Yield Test Taken From Top of Casing Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 12:00 PM 2009/02/06 7.50 m Minutes:Sec 7.50 0:00 10.66 Method of Water Removal 9.62 1.00 8 90 Type Pump 9.80 2:00 8.50 9.95 3:00 8.32 27.28 L/min Removal Rate 10.05 4:00 8.20 Depth Withdrawn From 24.38 m 10.14 5:00 8.15 10.20 6:00 8 07 If water removal period was < 2 hours, explain why 10.28 7:00 8.03 8:00 7.99 10.32 10.35 9:00 7.96 7.89 10.38 10:00 10.44 12:00 7.83 10.50 14:00 7.78 10.51 16:00 7.74 7.70 10.55 20:00 10.60 25:00 7.65 10.62 30:00 7.60 10.64 35:00 7.56 10.64 40:00 7.51 10.64 50:00 7.50 10.64 60:00 10.64 75:00 10.65 90:00 105:00 10.65 10.66 120:00 Water Diverted for Drilling

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Water Source

SHOP

Company Name ALKÉN BASIN DRILLING LTD. Certification No

83061A

Copy of Well report provided to owner

Diversion Date & Time

2009/02/06 7:00 AM

Date approval holder signed 2009/02/06

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Amount Taken

1

2273 05



Water Well Drilling Report

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1065732

GIC Well ID GoA Well Tag No. Date Report Received

Drilling Company Well ID

2009/05/15

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country FRASER, GLEN (DEGRAFF 7891-50 AVE. RED DEER **ALBERTA** CA T4P 2S4 SUB.) Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description 22 41 4 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.542520 Longitude -113.940960 Elevation m m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m **Drilling Information** Method of Drilling Type of Work New Well Rotary Proposed Well Use Other

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	
1.22		Clay	
3.35		Sand	
6.10		Brown Clay	
13.41		Gray Clay	
16.15		Gray Sandstone	
18.29		Gray Shale	

Yield Lest Summ	iaiy		IVIE	easurement in Metric	
	mp Rate				
	Water Removal Rate	(L/min)			
2009/03/19	181.84			5.72	
Well Completion			Me	easurement in Metric	
Total Depth Drilled	Finished Well Dep	oth Start D	ate	End Date	
18.29 m	18.29 m	2009/0	3/19	2009/03/19	
Borehole					
Diameter (cm 12.70		om (m)		To (m) 18.29	
Surface Casing (if		0.00 Well Cas	ing/Lines		
Steel	аррисавіе)	Plastic	mg/Lmer		
	14.12 cm			11.43 cm	
	0.650 cm	Wall Thi	ickness :	0.602 cm	
Bottom at :	13.41 m		Top at:	12.19 m	
		Bo	ottom at :	18.29 m	
Perforations					
	Diameter or Slot			Hole or Slot	
From (m) To ((m) Width(cm)				
13.41 16.	46 0.953			30.48	
Perforated by	Drill				
Annular Seal Cer	ment/Grout				
Placed from	0.00 m to	13.41	m		
Other Seals					
T	ype		At	(m)	
Screen Type					
Size OD:					
From (m)	T	o (m)		Slot Size (cm)	
Attachment					
Top Fittings			Fittings _		
Pack			_		
Type Unknown		Grain S	ize		
Amount	Unknown			_	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Company Name

ALKÉN BASIN DRILLING LTD.

Certification No

83061A

Copy of Well report provided to owner Yes

Date approval holder signed

2009/03/19

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Water Well Drilling Report

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GIC Well ID GoA Well Tag No.

1065732

Drilling Company Well ID Date Report Received

2009/05/15

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Country Town Province 7891-50 AVE. FRASER, GLEN (DEGRAFF RED DEER ALBERTA CA T4P 2S4 SUB.) Location 1/4 or LSD SEC TWP RGE W of MER Lot Block Additional Description 8 22 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.542520 Longitude -113.940960 m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m Additional Information Measurement in Metric 5<u>0.0</u>1 cm Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate L/min Pump Installed Depth m 12.19 m Recommended Pump Intake Depth (From TOC) H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m Depth ____ Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Top of Casing Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 2009/03/19 11:00 AM 5.72 m Minutes:Sec 5.72 0:00 8.15 Method of Water Removal 7.00 1.00 6 79 Type Pump 7.18 2:00 6.62 7.29 3:00 6.50 181.84 L/min Removal Rate 7.35 4:00 6.43 Depth Withdrawn From 12.00 m 7.39 5:00 6.37 7 44 6:00 6.34 If water removal period was < 2 hours, explain why 7.46 7:00 6.29 7.49 8:00 6.26 7.51 9:00 6.23 7.52 10:00 6.20 7 57 12:00 6.15 7.59 14:00 6.12 7.61 16:00 6.00 7.66 5.92 20:00 7.70 25:00 5.84 7.73 30:00 5.77 7.77 35:00 5.74 7.80 40:00 5.72 7.86 50:00 7.91 60:00 7.98 75:00 8.04 90:00 105:00 8.10 8.15 120.00 Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

RILEY PEARSON

Company Name ALKÉN BASIN DRILLING LTD. Certification No

83061A

Copy of Well report provided to owner

Date approval holder signed

2009/03/19

Printed on 7/27/2015 10:22:52 AM Page: 2 / 2



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View in Imperial Export to Excel

GIC Well ID 1065757 GoA Well Tag No.

Drilling Company Well ID

2009/03/19

GOWN ID

Other

accuracy. The information on this report will be retained in a public database

Date Report Received Well Identification and Location Measurement in Metric Postal Code Address Province Country Owner Name Town WILSON BEACH ESTATES (C/O 442 POST STREET STE. 801 SAN FRANCISCO **CALIFORNIA** USA 94102 KIRK MILLER) 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location EAST WELL IN FIELD 14 41 4 3 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Longitude -113.931960 905.56 m 52.524670 Elevation m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m

Drilling Information Method of Drilling Rotary Proposed Well Use

Type of Work New Well

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
1.22		Brown Clay	
1.83		Brown Sand	
3.66		Brown Clay	
4.57		Sand & Gravel	
7.62		Brown Clay	
12.80		Gray Clay	
16.76		Gray Shale	
19.20		Gray Sandstone	
22.86		Gray Shale	
25.60		Gray Sandstone	
35.05		Gray Shale	
38.10		Gray Sandstone	
43.89		Gray Shale	
44.20		Coal	
47.24		Gray Sandstone	
50.60		Gray Shale	
60.96	Yes	Gray Water Bearing Sands	tone
67.06		Gray Shale	

Yield Test Sum	mary			N	Measurement in Me	etric
Recommended P	ump Rate	68.	19 L/mir	1		
Test Date					tic Water Level (m)	
2009/01/29		136.34			18.40	
Well Completion	า			N	Measurement in Me	etric
Total Depth Drille	d Finish	ed Well Dept	h Start	Date	End Date	
67.06 m			2009	/01/28	2009/01/28	
Borehole						
Diameter (c	m)	Fror			To (m)	
15.88			.00		49.38	
12.70		49			67.06	
Surface Casing (Steel		*	Well Ca Plastic	asing/Lin		
Size OD	1-	4.12 cm		Size OD	: 11.43 cm	
Wall Thickness . Bottom at .	0.	.655 cm	Wall 7	Thickness	0.602 cm	
Bottom at	49	9.38 m		τυρ αι	. 42.07 111	
				Bottom at	: 67.06 m	
Perforations						
From (m) To	(m)	Olameter or Slot Width(cm)	Slo Lengt	h(cm)	Hole or Slot Interval(cm)	
50.60 60).96	0.953			0.00	
Perforated by Annular Seal B Placed from Amount	entonite (49.3	3 m		
Other Seals						
	Туре		At (m)			
	riven			49.38		
Sha	ale Trap				50.60	
Screen Type						
Size OD		cm				
From (m)		То	(m)		Slot Size (cm)	
Attachment						
Attachment Top Fittings				Bottom Fittings		
Pack						
Type Unknow	ı		Grain	Size		
Amount_		nknown	0.4111			
, arrount			_			

Contractor Certification

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD.

Name of Journeyman responsible for drilling/construction of well

Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed 2009/01/29

Printed on 7/27/2015 10:22:55 AM Page: 1 / 2



Well Identification and Location

GOWN ID

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database

View in Imperial Export to Excel

GIC Well ID 1065757 GoA Well Tag No.

Measurement in Metric

Drilling Company Well ID Date Report Received

2009/03/19

Postal Code Address Owner Name Town Province Country WILSON BEACH ESTATES (C/O 442 POST STREET STE. 801 SAN FRANCISCO **CALIFORNIA** USA 94102 KIRK MILLER) 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Location Lot EAST WELL IN FIELD 3 14 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Latitude 52.524670 Longitude -113.931960 Elevation 905.56 m m from How Elevation Obtained How Location Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m Additional Information Measurement in Metric 75.01 cm Distance From Top of Casing to Ground Level Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 68.19 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 50.29 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Yes Did you Encounter Saline Water (>4000 ppm TDS) Depth ____m___ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well CASING WAS GROUTED IN. Yield Test Taken From Ground Level Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 18.40 m 2009/01/29 12:00 AM Minutes:Sec 18.40 0:00 46.35 Method of Water Removal 28.00 1.00 36 11 Type Pump & Air 33.02 2:00 32.20 36.00 3:00 30.10 Removal Rate 136.34 L/min 27.90 38.50 4:00 Depth Withdrawn From 55.00 m 39.90 5:00 26.14 41 00 6:00 26.20 If water removal period was < 2 hours, explain why 41.81 7:00 25.76 42.30 8:00 24.94 MEASUREMENTS TAKEN FROM RIG TABLE. 43.08 9:00 24.50 42.21 10:00 24.01 43.71 12:00 23.57 44.05 14:00 23.09 44.42 16:00 22.65 44.84 22.10 20:00 45.21 25:00 21.24 45.41 30:00 21.35 45.56 21.02 35:00 45.67 40:00 20.80 45.84 50:00 20.45 45.99 60:00 20.20 46.25 75:00 19.94 46.32 90:00 19.70 105:00 19.45 46.35 46.35 120:00 19.21 Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time SHOP 5455 31 2009/01/28 7:00 AM 1

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKEN BASIN DRILLING LTD. Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed 2009/01/29

Printed on 7/27/2015 10:22:55 AM Page: 2 / 2



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View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

1065758

Drilling Company Well ID Date Report Received

2009/03/19

GOWN ID

Well Identification and Location Measurement in Metric Postal Code Address Province Country Owner Name Town WILSON BEACH ESTATES (C/O 442 POST ST. STE. 801 SAN FRANCISCO **ALBERTA** CA 94102 KIRK MILLER) 1/4 or LSD SEC TWP RGE W of MER Lot Block Plan Additional Description Location WEST WELL IN YARD 14 41 4 5 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Longitude -113.934370 902.21 m 52.525960 Elevation m from How Elevation Obtained How Location Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m

Drilling Information Method of Drilling Rotary

Proposed Well Use

Type of Work New Well

Other	/3E	
Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
5.49		Sand & Gravel
12.19		Gray Clay
15.85		Gray Shale
23.77	Yes	Gray Water Bearing Sandstone
28.65		Gray Shale
32.92		Gray Fine Grained Sandstone
33.53		Gray Siltstone
39.62		Gray Shale
41.45		Gray Siltstone
47.24		Gray Sandstone
49.07		Gray Shale
52.43		Gray Sandstone
54.86		Gray Shale
56.39		Gray Hard Siltstone
57.91		Gray Shale
60.96	Yes	Gray Water Bearing Sandstone
66.45		Gray Shale
76.20		Gray Sandstone
79.25		Gray Shale

Test Date	Yield Test Sun	•			Measurement in Metric		
Test Date	Recommended I	Pump Rat	e 13.	64 L/min	<u> </u>		
Well Completion Measurement in Metric Total Depth Drilled Finished Well Depth Start Date End Date 79.25 m 79.25 m 2009/01/29 2009/01/30 Borehole Diameter (cm) From (m) To (m) 17.15 0.00 57.30 12.70 57.30 79.25 Surface Casing (if applicable) Steel Size OD: 14.12 cm Size OD: 11.43 cm Wall Thickness: 0.602 cm 0.602 cm Bottom at: 57.30 m Top at: 53.34 m Bottom at: 65.53 m Perforations Diameter or Slot Slot Hole or Slot From (m) To (m) Width(cm) Length(cm) Interval(cm) 57.91 60.96 0.953 0.00 0.00 Perforated by Drill Annular Seal Bentonite Chips/Tablets Placed from O.00 m 0.00 m 57.30 m Type At (m)		Water F	Removal Rate	(L/min)	Static Water Level (m)		
Total Depth Drilled Finished Well Depth Start Date 2009/01/29 2009/01/30	2009/01/30		13.64			18.80	
Diameter (cm)	Well Completion	Well Completion				easurement in Me	etric
Diameter (cm)	Total Depth Drill	ed Finish	ned Well Dept	h Start	Date	End Date	
Diameter (cm)	79.25 m	79.25	m	2009	/01/29	2009/01/30	
17.15	Borehole						
Surface Casing (if applicable) Steel Size OD :	Diameter (cm)	Fron	n (m)		To (m)	
Surface Casing (if applicable) Steel Size OD :							
Steel Size OD :				.30		79.25	
Wall Thickness: 0.602 cm Bottom at: 57.30 m Top at: 53.34 m Bottom at: 65.53 m Perforations From (m) To (m) Width(cm) Length(cm) Hole or Slot Interval(cm) 57.91 60.96 0.953 0.00 Perforated by Drill Annular Seal Placed from 0.00 m to 57.30 m Amount Other Seals Type At (m) Screen Type Size OD: cm Size OD: cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Pack Type Unknown		(if applic	able)		asing/Line	r	
Bottom at :	Size OD) : <u> </u>	4.12 cm		Size OD:	11.43 cm	
Perforations Bottom at : 65.53 m	Wall Thickness	:: 0	.655 cm	Wall 7	Thickness :	0.602 cm	
Diameter or Slot Hole or Slot Interval(cm) 57.91 60.96 0.953 0.00	Bottom at	t : 5	7.30 m		Top at:	53.34 m	
Diameter or Slot Hole or Slot Interval(cm)				I	Bottom at :	65.53 m	
Slot Slot Hole or Slot Interval(cm)	Perforations						
From (m) To (m) Width(cm) Length(cm) Interval(cm) 57.91 60.96 0.953 0.00 Perforated by Drill Annular Seal Bentonite Chips/Tablets Placed from 0.00 m to 57.30 m Amount Other Seals Type At (m) Driven 57.30 Screen Type Size OD: cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size							
57.91 60.96 0.953 0.00 Perforated by Drill Annular Seal Bentonite Chips/Tablets Placed from	From (m) T	· a (m)					
Perforated by Drill Annular Seal Bentonite Chips/Tablets Placed from Amount 0.00 m to 57.30 m Other Seals Type At (m) Driven 57.30 Screen Type Size OD: cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size			• •	Lengu	I(CIII)		
Annular Seal Bentonite Chips/Tablets Placed from			0.733			0.00	
Placed from	Репогатеа ву	Drill					
Amount			•				
Other Seals Type At (m) Driven 57.30 Screen Type Size OD: cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size	_) m		
Type At (m) Driven 57.30 Screen Type Size OD: cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size				_			
Driven 57.30 Screen Type Size OD :							_
Screen Type Size OD : cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size				` '			
Size OD : cm From (m) To (m) Slot Size (cm) Attachment Top Fittings Bottom Fittings Pack Type Unknown Grain Size		Driven			5	7.30	
From (m) Attachment To p Fittings Bottom Fittings Pack Type Unknown Grain Size	Screen Type						
Attachment	Size OD) <u>; </u>	cm				
Top Fittings Bottom Fittings Pack Type Unknown Grain Size	From (m	1)	To	(m)		Slot Size (cm)	
Top Fittings Bottom Fittings Pack Type Unknown Grain Size	Attachman	4					
Pack Type Unknown Grain Size					m Fittings		
Type Unknown Grain Size							-
		vn		Grain	Size		
AUTOUR CHIKIOWII	Amount		Jnknown	0.3111			

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD.

Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed 2009/01/30

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Water Well Drilling Report

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View in Imperial Export to Excel

1065758

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

Date Report Received 2009/03/19

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country WILSON BEACH ESTATES (C/O 442 POST ST. STE. 801 SAN FRANCISCO ALBERTA CA 94102 KIRK MILLER) 1/4 or LSD SEC TWP RGE W of MER Block Plan Additional Description Lot Location WEST WELL IN YARD 5 14 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.525960 Longitude -113.934370 Elevation 902.21 m m from How Elevation Obtained How Location Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m Additional Information Measurement in Metric Distance From Top of Casing to Ground Level 75.01 cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 13.64 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 59.44 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Yes Did you Encounter Saline Water (>4000 ppm TDS) Depth m ____ Depth Geophysical Log Taken Gas Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well LITH: 52'-78' WATER BEARING=10 GPM. WELL WAS BACK FILLED WITH HOLE PLUG FROM 260'-215'. SURFACE WAS GROUTED IN.

Yield Test			Taken	From Ground Level	Measurement in Metri
Test Date	Start Time	Static Water Level		Depth to water level	
2009/01/30	12:00 AM	18.80 m	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
	_	_	18.80	0:00	58.00
Method of Water I	Removal		22.82	1:00	54.00
	Type Pump		27.21	2:00	51.10
	Rate 13.64 L/m	in	31.00	3:00	50.07
		<u></u>	33.71	4:00	49.08
Depth Withdrawn I	From 62.00 m	_	37.25	5:00	48.24
			40.40	6:00	47.22
If water removal pe	eriod was < 2 hours, explain	why	42.90	7:00	46.42
MEASUREMENTS	TAKEN FROM RIG TABLE	E. PUMPING @ 15 GPM TO TOP	45.79	8:00	45.55
OF PERFS THEN S	START RECOVERY.		48.30	9:00	44.78
			50.81	10:00	44.09
			55.30	12:00	42.67
			58.00	14:00	41.16
				16:00	39.89
				20:00	37.43
				25:00	34.40
				30:00	32.41
				35:00	30.42
				40:00	28.82
				50:00	26.61
				60:00	23.42
				75:00	22.10
				90:00	20.27
				105:00	19.39
				120:00	18.80

Water Diverted for Drilling			
Water Source	Amount Taken	L	Diversion Date & Time
PREVIOUS WELL	5455.31		2009/01/29 10:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD. Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed 2009/01/30

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Water Well Drilling Report

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View in Imperial Export to Excel

1065774

GIC Well ID GoA Well Tag No.

Drilling Company Well ID Date Report Received

2009/05/05

Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country FRASER, GLEN 7891 - 50 AVE. RED DEER **ALBERTA** CA T4P 2S4 1/4 or LSD SEC TWP W of MER Block Additional Description RGE Plan Location Lot NORTH OF EXISTING WELLS 8 22 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of 52.542600 Elevation Latitude Longitude -113.940970 912.57 m m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m

Drilling Information Method of Drilling Type of Work New Well Rotary Proposed Well Use Other Yield Test Summary

Formation Log		Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description	
6.10		Brown Clay & Sand	
13.72		Gray Clay & Rocks	
16.76		Gray Sandstone	
18.29		Gray Shale	

Decemberded Dump		I /min		vieasurement in wethe	
Recommended Pump Test Date Wat	or Pomoval Pato (I	/min)	Static Water Level (m)		
	`	/111111)	1 /		
2009/04/15	181.84		4.58		
Well Completion				Measurement in Metric	
Total Depth Drilled Fi	•			End Date	
18.29 m 18	3.29 m	2009/	/04/15	2009/04/15	
Borehole					
Diameter (cm)	From			To (m)	
15.88 12.70	0.0			13.72 18.29	
Surface Casing (if ap	plicable)		asing/Lin		
Size OD:	14.12 cm		Size OD	:11.43 cm	
Wall Thickness:	0.655 cm	Wall T	hickness	0.602 cm	
Bottom at :	13.72 m			12.19 m	
		E	Bottom at	t: 18.29 m	
Perforations					
	Diameter or	01			
From (m) To (m)	Slot Width(cm)	Slo	n(cm)	Hole or Slot Interval(cm)	
13.72 16.76		Longti	I(CIII)	0.00	
Perforated by Dril Annular Seal Cemer Placed from Amount	nt/Grout 0.00 m to	13.72	2 m		
Other Seals					
Type				At (m)	
Driver	ı	13.72			
Screen Type					
Size OD :					
From (m)	To (r	n)		Slot Size (cm)	
Attachment					
Top Fittings		Bottoi	m Fittings	5	
Pack					
Type Unknown		Grain Size			
Amount	Unknown				
*	_				

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD. Certification No

40628A

Copy of Well report provided to owner Yes

Date approval holder signed

2009/04/15

Printed on 7/27/2015 10:23:13 AM Page: 1 / 2



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View in Imperial Export to Excel

GIC Well ID 1065774 GoA Well Tag No.

Drilling Company Well ID Date Report Received

2009/05/05

GOWN ID Well Identification and Location Measurement in Metric Address Postal Code Owner Name Town Province Country FRASER, GLEN 7891 - 50 AVE. RED DEER **ALBERTA** CA T4P 2S4 1/4 or LSD SEC TWP W of MER Additional Description RGE Block Plan Location Lot 8 22 41 28 4 NORTH OF EXISTING WELLS GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of

	m from m from	How Location C		es 5-10m	How Elevation	
Additional Informa	ation					Measurement in Metri
	o of Casing to Ground Level	100.00 cm	Is Flow Co	ontrol Installed		
Recommended Pu	mp Rate	L/min	Pump Installed			m
Recommended Pu	mp Intake Depth (From TOC)	13.72 m	Туре		ke	H.P.
	_		71			it Rating)
Did you Encount	er Saline Water (>4000 ppm TD	S) Depth	m	Well Disinfected	Upon Completion	
		as Depth	m	Geophysi	cal Log Taken	
					itted to ESRD	
Yield Test				Taken Fı	om Top of Casing	Measurement in Metr
Test Date	Start Time	Static Water Level			Depth to water level	
2009/04/15	12:00 AM	4.58 m	Dra	wdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
			_	4.58	0:00	7.92
Method of Water	Removal			5.98	1:00	6.35
	Type Pump		_	6.25	2:00	6.18
Removal	Rate 181.84 L/min			6.34	3:00	6.08
	From 18.40 m			6.42	4:00 5:00	6.02 5.96
zopavitriarawii	10.10 111			6.55	6:00	5.90
If water removal ne	eriod was < 2 hours, explain why			6.59	7:00	5.88
ato. romoral pe				6.64	8:00	5.85
				6.67	9:00	5.82
				6.70	10:00	5.79
				6.75	12:00	5.75
				6.80	14:00	5.70
				6.84	16:00	5.67
				6.93	20:00	5.63

Water Diverted for Drilling			
Water Source	Amount Taken	Diversion Date & Time	
SHOP	5455.31 L	2009/04/15 7:00 AM	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD. Certification No

40628A

7.01

7.09

7.16

7.22

7.35

7.44

7.58

7.70

7.80

7.92

Copy of Well report provided to owner Yes

25:00

30:00

35:00

40:00

50:00

60:00

75:00

90:00

105:00

120:00

Date approval holder signed 2009/04/15

5.53

5.49

5.44 5.40

5.34

5.28

5.19

5.10

5.01

4.92

Printed on 7/27/2015 10:23:13 AM Page: 2 / 2



GOWN ID

Water Well Drilling Report

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accuracy. The information on this report will be retained in a public database

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

1065932

Drilling Company Well ID Date Report Received

2009/10/15

Well Identification and Location Measurement in Metric Address Postal Code Town Province Owner Name Country YOST, JOANNE 29 ORILLIA PARK RED DEER **ALBERTA** CANADA T4N 5A6 1/4 or LSD SEC TWP W of MER Additional Description RGE Block Plan Location Lot 5 14 41 28 4 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation 52.526010 Latitude Longitude -113.938510 897.94 m m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m

Drilling Information Method of Drilling Type of Work Rotary - Air New Well Proposed Well Use Domestic

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
1.52		Brown Clay	
3.05		Sand & Gravel	
5.49		Gray Clay	
12.80		Gray Shale	
15.24		Gray Sandstone	
16.46		Gray Shale	
18.59		Gray Sandstone	
24.38		Gray Shale	
32.00		Gray Sandstone	
38.10		Gray Shale	
39.62		Gray Sandstone	
42.67		Gray Shale	
49.07		Gray Sandstone	
54.86		Gray Shale	

Yield Test Si	ummary			M	easurement in Met	
Recommende	d Pump Ra	te45.	46 L/min			
Test Date	Water	Removal Rate	(L/min)	Stat	ic Water Level (m)	
2009/03/26		90.92			4.57	
Well Comple	etion			M	easurement in Met	
Total Depth D	rilled Finis	hed Well Dept	th Start Da	te	End Date	
54.86 m	54.86	6 m	2009/03/	/26	2009/03/26	
Borehole						
Diamete		Froi			To (m)	
15.8			.00	_	11.58	
12.7			1.58		54.86	
Surface Casin Steel	пд (іт арріі	cable)	Well Casin Plastic	ng/Line	er	
Size (OD :	14.12 cm	Siz	ze OD :	11.43 cm	
Wall Thickne	ess:	0.655 cm	Wall Thic	kness :	0.602 cm	
Bottom	at:	11.58 m		Top at :	6.10 m	
			Bot	tom at :	54.86 m	
Perforations						
		Diameter or Slot	Slot		Hole or Slot	
From (m)	To (m)	Width(cm)		m)	Interval(cm)	
	32.00	0.953	.,,,		30.48	
42.67	48.77	0.953			30.48	
Perforated by	Drill					
Annular Seal	Rentonite	Chine/Tahlate				
		00 m to		า		
				_		
Other Seals						
	Type			А	t (m)	
	Driven		11.58			
	Shale Trap		24.38			
Screen Type						
	OD :	cm				
	OD :		(m)		Slot Size (cm)	
Size ((m)	То	(m)		Slot Size (cm)	
Size (From	(m) ent	To				
Size (From	(m) ent	То		-ittings	Slot Size (cm)	
Size (From	(m) ent	To		Fittings		
Size (From Attachmo Top Fittir	(m) ent ngs	To				

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

Company Name ALKÉN BASIN DRILLING LTD.

Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed 2009/03/26

Yes

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GOWN ID

Water Well Drilling Report

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View in Imperial Export to Excel

GIC Well ID

1065932 GoA Well Tag No.

Drilling Company Well ID Date Report Received

2009/10/15

Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country 29 ORILLIA PARK YOST, JOANNE RED DEER **ALBERTA** CANADA T4N 5A6 1/4 or LSD SEC TWP Additional Description RGE W of MER Block Plan Location Lot 5 14 41 28 GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation __ Latitude <u>52.526010</u> Longitude <u>-113.938510</u> 897.94 m m from How Location Obtained How Elevation Obtained m from Differential corrected handheld GPS 5-10m Differential corrected handheld GPS 5-10m Measurement in Metric Additional Information Distance From Top of Casing to Ground Level 60.96 cm Is Artesian Flow Is Flow Control Installed Rate Describe Recommended Pump Rate 45.46 L/min Pump Installed Depth m Recommended Pump Intake Depth (From TOC) 42.67 m H.P. Model (Output Rating) m Well Disinfected Upon Completion Did you Encounter Saline Water (>4000 ppm TDS) Depth m Gas ____ Depth Geophysical Log Taken Submitted to ESRD Sample Collected for Potability Submitted to ESRD Additional Comments on Well Yield Test Taken From Top of Casing Measurement in Metric Depth to water level Test Date Start Time Static Water Level Drawdown (m) Elapsed Time Recovery (m) 2009/03/26 11:00 AM 4.57 m Minutes:Sec 4.57 0:00 54.86 Method of Water Removal 1.00 46.33 Type Pump and Air 2:00 39.62 3:00 34.14 Removal Rate 90.92 L/min 29.87 4:00 Depth Withdrawn From 54.86 m 5:00 24.99 6:00 21 64 If water removal period was < 2 hours, explain why 7:00 19.51 8:00 17.07 AIR TEST DRILL PIPE IN HOLE. 9:00 14.63 10:00 11.89 12:00 8.23 14:00 7.01 16:00 6.10 5.18 20:00 25:00 4.57 30:00 4.57 35:00 4.57 120:00 4.57 Water Diverted for Drilling Water Source Amount Taken Diversion Date & Time

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

KRIS SCHINDEL

SHOP

Company Name ALKÉN BASIN DRILLING LTD. Certification No

40628A

Copy of Well report provided to owner

Date approval holder signed

Yes 2009/03/26

2009/03/26 8:00 AM

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5455.31



Water Well Drilling Report

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View in Imperial Export to Excel

2085438

GIC Well ID GoA Well Tag No. **Drilling Company Well ID**

Measurement in Metric

2012/12/05

GOWN ID

Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country GIBBS, TIM 612 HUNTERSTON BAY NW **CALGARY ALBERTA** CANADA T2K 4N1 1/4 or LSD SEC TWP W of MER Additional Description Block Plan Location Lot 16 15 41 28 4 **SOUTH WELL - EAGLES NEST** GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation 52.532950 Longitude -113.940550 898.55 m Latitude m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m

Drilling Information	
Method of Drilling Rotary - Air	Type of Work New Well
Proposed Well Use Domestic	

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.79		Brown Sand	
16.15		Gray Sandy Clay	
26.82	Yes	Gray Sandstone	
28.96		Gray Shale	
38.10		Gray Sandstone	
41.45		Gray Shale	
56.08	Yes	Gray Sandstone	
60.96		Gray Shale	

Recommended	Pump Ra	te22.73	3 L/min				
Test Date	Water	Removal Rate (L	/min)	Static Water Level (m)			
2012/10/21		22.73		13.11			
Well Complet	ion			N	leasurement in Me	tric	
Total Depth Dri	lled Finis	shed Well Depth	h Start Date End Date				
60.96 m	60.9	6 m	2012/10)/21	2012/10/21		
Borehole							
	(cm)			To (m)			
22.23 12.70	-	0.0	0 37	-	29.87 60.96	-	
Surface Casin		-	Well Casi				
Plastic	у (п аррп		Plastic	iig/Liii	51		
Size O	D :	15.24 cm	S	ize OD	: 11.43 cm		
Wall Thicknes	s:	0.991 cm	Wall Thi	ckness	0.544 cm		
Bottom a	at:	0.991 cm 29.87 m		Top at	: 24.38 m		
			Во	ttom at	: 60.96 m		
Perforations							
		Diameter or Slot	Slot		Hole or Slot		
From (m)	To (m)		Length(c		Interval(cm)		
		1.270	., \		30.48		
Perforated by	Drill						
Annular Seal		Chine/Tablete					
		00 m to	29.87	m			
		600.00 Pounds					
Other Seals			-				
	Туре			-	At (m)		
	Orive Shoe		29.87				
Screen Type							
	D:	cm					
From (m)	To (m)		Slot Size (cm)		
Top Fitting	gs		Bottom	Fittings			
Pack							
Туре			Grain Si	ize			
Amount							
						_	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

LEONARD BLAIR

Company Name

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No

VA3129

Copy of Well report provided to owner Yes

Date approval holder signed

2012/10/21

Printed on 7/27/2015 10:23:29 AM Page: 1 / 2



GOWN ID

Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

View in Imperial Export to Excel

GIC Well ID GoA Well Tag No.

2085438

Drilling Company Well ID Date Report Received

2012/12/05

Location 1/4 or LSD SEC 16 15 Measured from Boundary of m from m from Additional Information Distance From Top of Casing to Grounds Artesian Flow Rate Recommended Pump Rate	L/min	W of MER 4 GPS Coordinate Latitude 52.8 How Location C Hand held autor	es in Decimal Degree 632950 Longit Obtained nomous GPS 20-30m	ALI Plan Ses (NAD 83) ude113.940550	BERTA CA Additional Description SOUTH WELL - EAG DELEVATION How Elevation Hand held a	ANAĎA T2K 4 n GLES NEST	
16 15 Measured from Boundary of m from m from Additional Information Distance From Top of Casing to Grounds Artesian Flow Rate Recommended Pump Rate	41 28 nd Level	4 GPS Coordinate Latitude 52.5 How Location C Hand held autor	es in Decimal Degree 632950 Longit Obtained nomous GPS 20-30m	es (NAD 83) ude113.940550	Elevation How Elevat Hand held a	898.55 m ion Obtained autonomous GPS 20-30m	
Additional Information Distance From Top of Casing to Grouls Artesian Flow Rate Recommended Pump Rate	L/min	Latitude 52.5 How Location C Hand held autor	532950 Longit obtained nomous GPS 20-30m	rol Installed	How Elevat. Hand held a	ion Obtained autonomous GPS 20-30m	
Distance From Top of Casing to Grou Is Artesian Flow Rate Recommended Pump Rate	L/min		Is Flow Cont			Measurement	in Metric
Is Artesian Flow Rate Recommended Pump Rate	L/min		Is Flow Cont				
Recommended Pump Rate				Describe			
D		22.73 L/min	Pump Installed		Depth	m	
кесоттепава Ритр Іптаке Бертп (ғ	From TOC)		Туре	Ma	ke	H.Putput Rating)	
Did you Encounter Saline Water (>4 Additional Comments on Well	Gas		<u>m</u>	Geophysic	cal Log Taken nitted to ESRD	Submitted to ESRD	
Yield Test				Taken Fr	rom Top of Casing		in Metric
Test Date Start Time 2012/10/21 2:00 PM	Sta	tic Water Level 13.11 m	Drawo	down (m)	Elapsed Time Minutes:Sec	Recovery (m))
Method of Water Removal Type Air Removal Rate 2: Depth Withdrawn From 6i	0.96 m		-	3.11	0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00	60.96 55.78 45.72 39.32 30.78 25.30 20.42 13.11	
Water Diverted for Drilling					20:00 60:00 120:00	13.11 13.11 13.11	

Amount Taken

9092.18

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

LEONARD BLAIR

Water Source

SHOP

Company Name

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No

VA3129

Copy of Well report provided to owner Yes

Date approval holder signed

2012/10/21

Diversion Date & Time

2012/10/19 6:00 AM

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Water Well Drilling Report

The driller supplies the data contained in this report. The Province disclaims responsibility for its

View in Imperial Export to Excel

GIC Well ID

2085459

GoA Well Tag No. **Drilling Company Well ID**

2013/04/29

Measurement in Metric

GOWN ID

accuracy. The information on this report will be retained in a public database

Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country T2K 4N1 GIBBS, TIM 512 HUNTERSTON BAY NW **CALGARY ALBERTA** CANADA 1/4 or LSD SEC TWP W of MER Additional Description Block Plan Location Lot 13 14 41 28 4 NORTH WELL - EAGLES NEST GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation 52.533230 Longitude -113.940360 898.55 m Latitude m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m

Drilling Information Method of Drilling Type of Work New Well Rotary - Air Proposed Well Use Domestic

Yield Test Summary

Formation Log		Measurement in	Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
6.10		Brown Sand	
15.54		Gray Clay	
20.12	Yes	Gray Sandstone	
27.43		Gray Shale	
37.49		Gray Sandstone	
39.62		Gray Shale	
55.47	Yes	Gray Sandstone	
62.79		Gray Shale	
70.41		Gray Sandstone	
76.20		Gray Shale	

Recommended Pump Rate 22.73 L/min								
Test Date		Water Removal Rate (L/min) Static Water Level (m)						
2012/10/19	1/19 22.73 9.14							
Well Completion	on				Measurement in Metric			
Total Depth Drill	ed Finis	shed Well Depth	Start	Date	End Date			
76.20 m	76.2	0 m	2012/	10/19	2012/10/19			
Borehole								
Diameter (cm)							
22.23		0.			23.77			
12.70			.77					
Surface Casing (if applicable) Plastic Well Casing/Liner Plastic								
		15.24 cm		Size OL	11.43 cm			
Wall Thickness	:: <u> </u>	0.991 cm	Wall T	hicknes	0.544 cm			
Bottom a	t :	23.77 m		Тор а	t: 21.34 m			
			Bottom at : 76.20 m					
Perforations								
		Diameter or Slot	Slo		Hole or Slot			
From (m) T	From (m) To (m) V		Vidth(cm) Length(c		Interval(cm)			
45.72		1.270		.48				
Perforated by	Drill							
Annular Seal	Bentonite	Chips/Tablets						
		00 m to	23.77	7 m				
		600.00 Pounds						
Other Seals			_					
	Type				At (m)			
Di	ive Shoe		23.77					
Screen Type								
Size OD	:	cm						
From (m	То	(m) Slot Size (cm)						
Attachment								
Top Fittings	S		Bottoi	n Fitting	S			
Pack								
Туре			Grain	Size				
Amount								

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well

LEONARD BLAIR

Company Name

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No

VA3129

Copy of Well report provided to owner

Date approval holder signed

2012/10/19 Yes

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Well Identification and Location

Water Well Drilling Report

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View in Imperial Export to Excel

2085459

GIC Well ID GoA Well Tag No.

GOWN ID

Drilling Company Well ID 2013/04/29 Date Report Received Measurement in Metric Postal Code Province Country

Owner Nan GIBBS, TIM			Address 512 HUNT	ERSTON E	BAY NW	Town CALG			Province ALBERTA	Countr CANAI	
Location	1/4 or LSD 13	SEC 14	<i>TWP</i> 41	RGE 28	W of MER 4				NORTH	nal Description WELL - EAGLES	SINEST
Measured f	from Boundary	of			GPS Coordin		U	,			
		m from			Latitude 5		Long	itude113.94	10360	Elevation	
		m from			How Location					How Elevation (
				ı	Hand held at	utonomous	GPS 20-30	m	l	Hand held autor	nomous GPS 20-30m
Additional	Information										Measurement in M
	rom Top of Ca				60.96 cm						
Is Artesia	n Flow				_		s Flow Cor	trol Installed			
	Rate		L/min		00.70 1 /						
Recomme	nded Pump Ra	te			22.73 L/mir	n Pum	o Installed			Depth	m
Recomme	nded Pump Inta	ake Depth	(From TOC)		45.72 m						H.P.
						•				Model (Output	Rating)
Did you	Encounter Salir	ne Water (-	\$4000 ppm T	D.S.)	Denth	7	m	Well Disini	ected Unon	Completion Yes	
2.4 , 04 .		io rrato, (s		Gas		1				Taken	
					Вори					ESRD	
							Sample C	ollected for P	otability	Su	bmitted to ESRD
Addition	nal Comments o	n Well									
				V = I							
Yield Test			_					Takı	en From To	p of Casing	Measurement in M
								ran		to water level	Wedsurement in W
Test Date 2012/10/19		Start Tin 1:00 PM		Stati	c Water Level 9.14 m		Drav	vdown (m)		apsed Time	Recovery (m)
										0:00	76.20
Method of	f Water Remov	ral								1:00	57.91
	Type _									2:00	47.85
F	Removal Rate		22.73 L/min							3:00 4:00	37.49 26.82
Depth Wit	thdrawn From		76.20 m							5:00	18.29
,										6:00	9.14
If water rei	moval period wa	as < 2 hou	rs, explain wl	ny						10:00	9.14
										20:00	9.14
										120:00	9.14
Mater Div	orted for Drill	na									
water DIV	erted for Drilli	ng									
Water Sour	rce				ount Taken					n Date & Time	

Contractor	Certification

Name of Journeyman responsible for drilling/construction of well ${\tt LEONARD\ BLAIR}$

Company Name

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No VA3129

Yes

Copy of Well report provided to owner 2012/10/19

Date approval holder signed

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GOWN ID

Water Well Drilling Report

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View in Imperial Export to Excel

2085438

GIC Well ID GoA Well Tag No.

Drilling Company Well ID

2014/07/10

Measurement in Metric

Date Report Received Well Identification and Location Measurement in Metric Postal Code Owner Name Address Town Province Country T2K 4N1 GIBBS, TIM 612 HUNTERSTON BAY NW **CALGARY ALBERTA** CANADA 1/4 or LSD SEC TWP W of MER Block Additional Description RGE Plan Location Lot 16 15 41 28 4 **SOUTH WELL - EAGLES NEST** GPS Coordinates in Decimal Degrees (NAD 83) Measured from Boundary of Elevation 52.532950 Longitude -113.940550 898.55 m Latitude m from How Location Obtained How Elevation Obtained m from Hand held autonomous GPS 20-30m Hand held autonomous GPS 20-30m

Drilling Information Method of Drilling Type of Work Rotary - Air Reconstructed Proposed Well Use Domestic

Yield Test Summary

Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
5.79		Brown Sand	
16.15		Gray Sandy Clay	
26.82	Yes	Gray Sandstone	
28.96		Gray Shale	
38.10		Gray Sandstone	
41.45		Gray Shale	
56.08	Yes	Gray Sandstone	7 A 1
60.96		Gray Shale	/ / \
			AL

Recommende	d Pump Ra	te 22.	73 L/min	_			
Test Date	Water	Removal Rate	(L/min)	Sta	itic Wa	ter Level (m)	
2013/11/13		22.73			1	3.11	
Well Comple	tion			N	Measu	rement in N	/letric
Total Depth D		shed Well Dept				End Date	
60.96 m	60.9	6 m	2013	/11/13	2	2013/11/13	
Borehole							
Diamete		Fron				To (m)	
22.2 12.7			.00 9.62			39.62 60.96	
Surface Casin				asing/Lin		00.70	
	DD:	15.24 cm		Size OD	2	11.43 cm	
Wall Thickne			Wall 7		_	0.544 cm	
	at :					24.38 m	
			I	Bottom at	:	60.96 m	
Perforations							
		Diameter or	CI	.	Hal-	or Clat	
From (m)	To (m)	Slot Width(cm)		ot n(cm)		or Slot rval(cm)	
	54.86	1.270	30.			, ,	
Perforated by	Drill						
Annular Seal	Bentonite	Chips/Tablets	3				
		30 m to		2 m			
Amoun	t	900.00 Pound	ls				
Other Seals							
	Type				At (m)		
	Drive Shoe				39.62		
Screen Type							
Size (DD :	cm					
From	(m)	То	(m)		Slot	Size (cm)	
Attachm	ent						
			Botto	m Fittings	3		_
Pack							-
Туре			Grain	Size			
Amount							

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

LEONARD BLAIR

Company Name

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No

VA3129

Copy of Well report provided to owner Yes

Date approval holder signed

2013/11/13

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GOWN ID

Water Well Drilling Report

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View in Imperial Export to Excel

2085438

GIC Well ID GoA Well Tag No.

2003430

Drilling Company Well ID
Date Report Received 2014/07/10

	ication and L	_ocalion									Measurement in N
Owner Name GIBBS, TIM)		Address 612 HUNT	ERSTON BAY N	W	Town CALG			Province ALBERTA	Country CANAD	
Location	1/4 or LSD 16	SEC 15	<i>TWP</i> 41	28 4					SOUTH	al Description WELL - EAGLES	NEST
Measured fro	om Boundary (of m from m from		Lai Ho	titude <u>52</u> ow Location	2.532950 Obtained	Longit Longit GPS 20-30n	ude <u>-113.9</u>		Elevation How Elevation Old Hand held autonomic	
Additional I	nformation										Measurement in M
Is Artesian	om Top of Cas Flow Rate	_			96 cm	I.	's Flow Cont				
Recommend	ded Pump Ra	te		22	2.73 L/min	Pump	o Installed			Depth	m
Recommend	ded Pump Inta	ake Depth (From TOC)	48	8.77 m	Туре	<u> </u>		Make	Model (Output F	H.P Rating)
Did you E	ncounter Salir	ne Water (>		DS) Gas			m m	Geo	physical Log	Completion Yes Taken	
Additiona LINER PULI	l Comments o	n Well HOLE. SUI	Ï	Gas	Depth	ī	m Sample Co	Geo	physical Log Submitted to Potability	TakenSub	mitted to ESRD
Additiona LINER PULI	l Comments o	n Well HOLE. SUI	Ï	Gas	Depth	ī	m Sample Co	Geo	physical Log Submitted to Potability CASING INS	Taken ESRD Sub FALLED AND SEA op of Casing	
Additiona LINER PULI OUT AND L	l Comments o	n Well HOLE. SUI	RFACE CAS	Gas SING PULLING A	Depth ND HOME	ī	m Sample Co	Geo	physical Log Submitted to Potability CASING INS en From To Depth	Taken ESRD Sub	LED HOLE. CLEANED
Additiona LINER PULI OUT AND L Yield Test Test Date 2013/11/13	l Comments o	HOLE. SUI LED Start Tim 3:00 PM	RFACE CAS	Gas SING PULLING A	ND HOME	ī	m Sample Co	Geo	physical Log Submitted to Potability CASING INS en From To Depth	Taken ESRD Sub TALLED AND SEA To pool Casing to water level apsed Time dinutes:Sec 0:00 1:00 2:00	Measurement in M Recovery (m) 60.96 55.78 45.72
Additiona LINER PULI OUT AND L Yield Test Test Date 2013/11/13 Method of I	I Comments of LED OUT OF INER INSTAL	Start Tim 3:00 PM	e 22.73 L/min	GasSING PULLING A Static Wate 13	ND HOME	ī	m Sample Co	Geo	physical Log Submitted to Potability CASING INS en From To Depth	Taken ESRD Sub TALLED AND SEA op of Casing to water level appsed Time dinutes:Sec 0:00 1:00	Measurement in N Recovery (m) 60.96 55.78

Amount Taken

4546.09

Contractor Certification

Name of Journeyman responsible for drilling/construction of well

LEONARD BLAIR

Company Name

Water Source

SHOP

BLACK DOG DRILLING & ENV SERV. LTD.

Certification No

VA3129

Copy of Well report provided to owner Yes

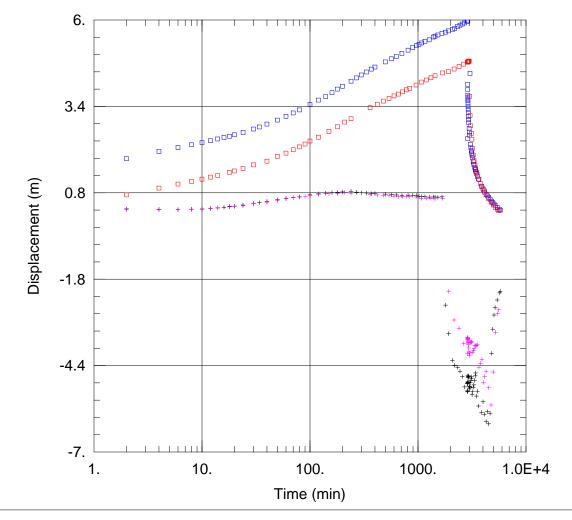
Diversion Date & Time

2013/11/13 6:00 AM

Date approval holder signed 2013/11/13

Printed on 7/27/2015 10:23:33 AM Page: 2 / 2

Appendix C Pumping Test Analysis



CONSTANT RATE PUMPING TEST (Derivatives)

Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: 07/21/15 Time: 17:29:19

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

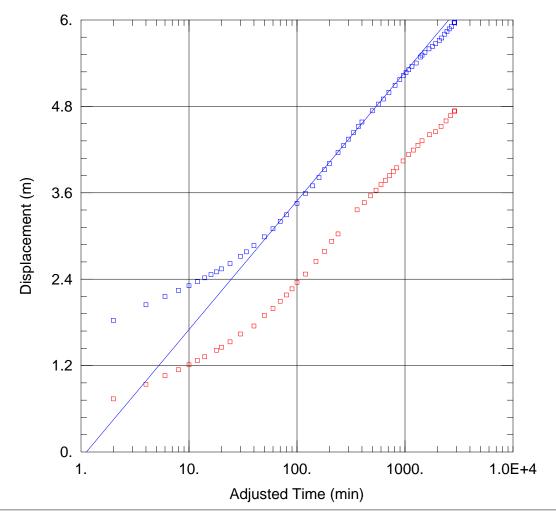
AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Observation Wells Pumping Wells Well Name X (m) Y (m) 1065774 5825445.9 300502.6

Well Name	X (m)	Y (m)
1065774	300502.6	5825445.9
1065732	300518.3	5825437.1



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: 07/21/15 Time: 17:43:06

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 3.04 m

WELL DATA

Y (m)

5825445.9

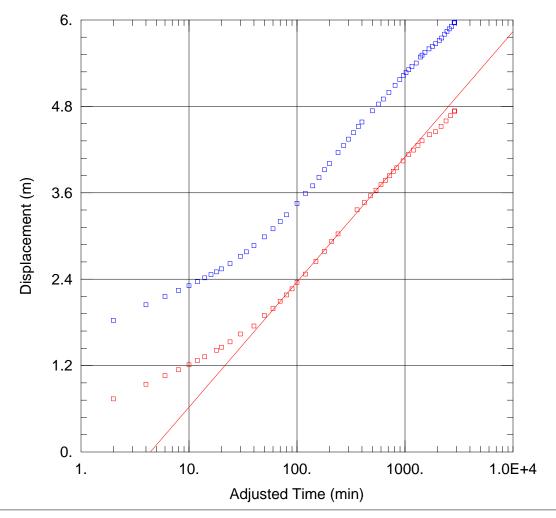
5825437.1

	Pumping Wells	Observation Wells		
Well Name	X (m)	Y (m)	Well Name	X (m)
1065774	300502.6	5825445.9	□ 1065774	300502.6
	<u>.</u>		1065732	300518.3

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

Fig. C-2 $T = 26.82 \text{ m}^2/\text{day}$ S = 11.65



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: 07/21/15 Time: 17:46:51

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

P	umping Wells		
Well Name	X (m)	Y (m)	Well Name
1065774	300502.6	5825445.9	1065774
			1065732

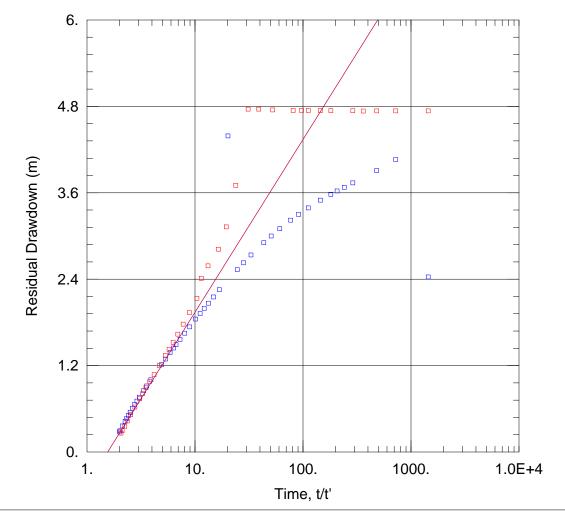
Well Name	X (m)	Y (m)
vveii ivairie	A (III)	1 (111)
1065774	300502.6	5825445.9
1065732	300518.3	5825437.1

Observation Wells

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

 $T = 27.59 \text{ m}^2/\text{day}$ S = 0.0005836 Fig. C-3



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: 07/22/15 Time: 15:45:29

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 3.04 m

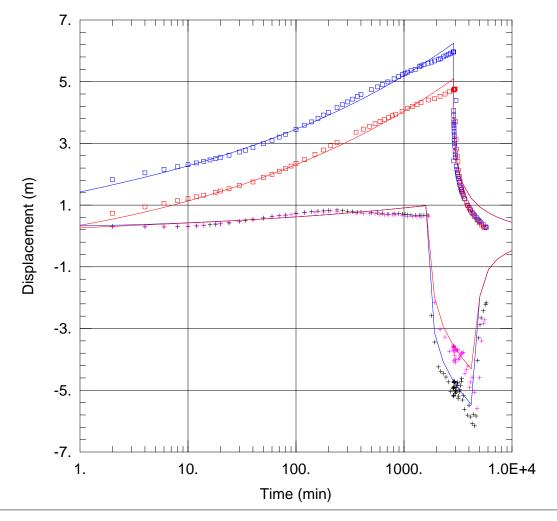
WELL DATA

Pumping Wells			Observation wells			
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)	
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9	
			1065732	300518.3	5825437.1	

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)

 $= 19.99 \text{ m}^2/\text{day}$ Fig. C-4 S/S' = 1.557



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: 07/27/15 Time: 15:04:41

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

	Pump	ing Wells		
	Well Name	X (m)	Y (m)	Well Name
	1065774	300502.6	5825445.9	1065774
ı				1065732

Observation Wells						
Well Name	X (m)	Y (m)				
1065774	300502.6	5825445.9				
1065732	300518.3	5825437.1				

SOLUTION

Aquifer Model: Confined

K = 74.7 m/day

n = 1.664Sw = -0.075

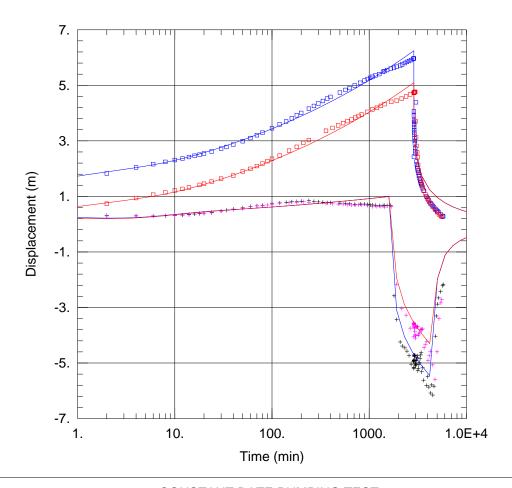
r(c) = 0.064 m

Solution Method: $\underline{\text{Barker}}\ \ \text{with derivatives}$

Ss = 8.34E-5

b = 3.04 mr(w) = 0.0635 m

Fig. C-5



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_pumping_test.aqt

Date: <u>07/22/15</u> Time: <u>17:07:18</u>

PROJECT INFORMATION

Company: <u>Stantec Consulting Ltd.</u>

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells			
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)	
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9	
		,	1065732	300518.3	5825437.1	

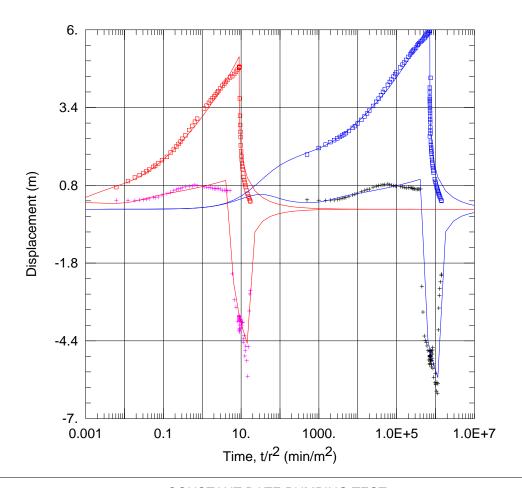
SOLUTION

Aquifer Model: Fractured Solution Method: Barker with derivatives

K = 75.04 m/day $Ss = 3.289E-6 \text{ Ss'} = 9.055E-5 \text{ m}^{-1}$ st = 1.659 st = 1.659 st = 1.659

n = 1.659 b = 3.04 m Sf = 0. Sw = -0.075 r(w) = 0.0635 m r(c) = 0.064 m

0.064 m Fig. C-6



 $\label{thm:linear_pumping_test} Data \ Set: \ \underline{V:\ 1102\ active\ 112849238\ analysis\ Pumping \ Test\ anl \ \underline{1065774}\ \underline{pumping \ test.aqt}}$

Date: <u>07/22/15</u> Time: <u>17:11:28</u>

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells			
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)	
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9	
			1065732	300518.3	5825437.1	

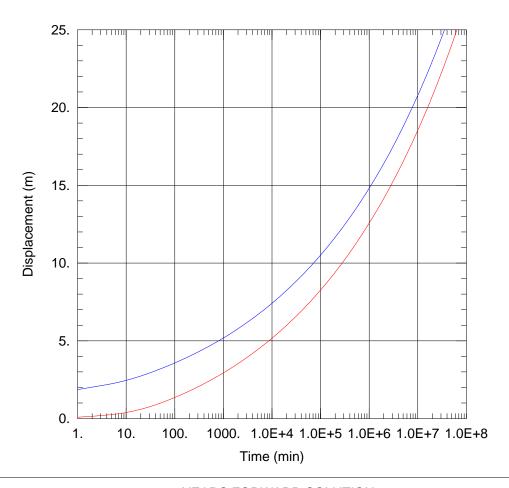
SOLUTION

Aquifer Model: Fractured Solution Method: Barker composite plot

 $\begin{array}{lll} K &= \underline{75.04} \text{ m/day} & Ss &= \underline{3.289E-6} \\ K' &= \underline{0.002864} \text{ m/day} & Ss' &= \underline{9.055E-5} \text{ m}^{-1} \\ n &= \underline{1.659} & b &= \underline{3.04} \text{ m} \end{array}$

n = 1.659 b = 3.04 m Sf = 0. Sw = -0.075r(w) = 0.0635 m r(c) = 0.064 m

r(w) = 0.0635 m r(c) = 0.064 m Fig. C-7



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_20_years_forward.aqt

Date: 07/23/15 Time: 13:16:57

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumpi	ng Wells		Observation Wells							
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)					
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9					
			1065732	300518.3	5825437.1					

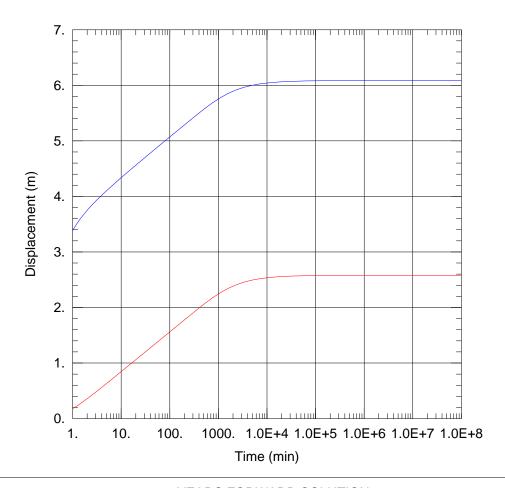
SOLUTION

Aquifer Model: Fractured Solution Method: Barker

Ss = 3.667E-5= 37. m/day $Ss' = \overline{0.001 \text{ m}}^{-1}$ = 0.02873 m/dayb = 3.04 m= 1.715

Sw = 0. Sf = 0.

r(w) = 0.0635 mr(c) = 0.064 m Fig. C-8



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_20_years_forward.aqt

Date: 07/28/15 Time: 16:46:54

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1. Aquitard Thickness (b'): 1. m Aquitard Thickness (b"): 1. m

WELL DATA

Pumpi	ng vvelis		Observation Wells							
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)					
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9					
			1065732	300518.3	5825437.1					

SOLUTION

Aquifer Model: Leaky

 $= 67. \text{ m}^2/\text{day}$ $1/B' = 1.575 \text{ m}^{-1}$ $1/B'' = \frac{1101}{0. \text{ m}} - 1$

Sw = $\overline{0}$.

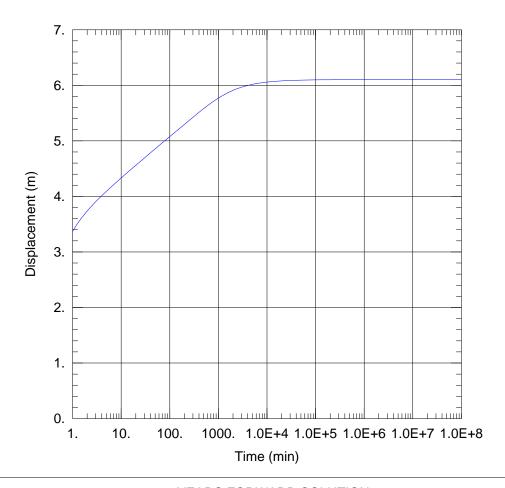
r(c) = 0.064 m

Solution Method: Moench (Case 2) West recharge boundary

= 1.256E-5 $\beta'/r = 1.575 \text{ m}^{-1}$ $\beta''/r = 0. m^{-1}$

r(w) = 0.0635 m

Fig. C-9



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_20_years_forward.aqt

Date: 07/28/15 Time: 17:03:14

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1. Aquitard Thickness (b"): 1. m Aquitard Thickness (b'): 1. m

WELL DATA

Pump	ing Wells		Observation Wells								
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)						
1065774	300502.6	5825445.9	<u>1065774</u>	300502.6	5825445.9						

SOLUTION

Aquifer Model: Leaky

 $T = \underline{66.} \text{ m}^2/\text{day}$ 1/B' = $\underline{1.575} \text{ m}^{-1}$

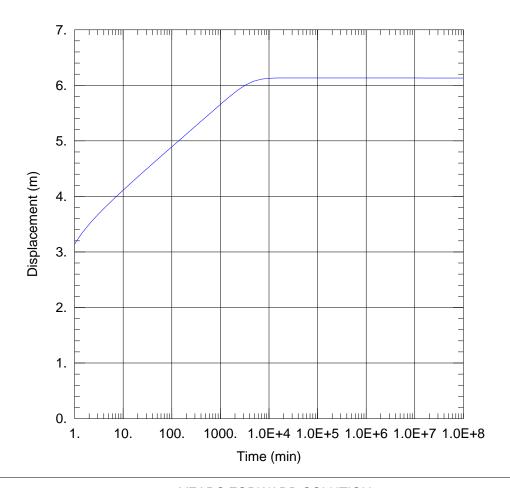
 $1/B'' = \overline{0. m}^{-1}$

Sw = 0.r(c) = 0.064 m Solution Method: Moench (Case 2) East recharge boundary

= 1.545E-5

 $B'/r = 1.575 \text{ m}^{-1}$ $\beta''/r = 0. \text{ m}^{-1}$

r(w) = 0.0635 mFig. C-10



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_20_years_forward.aqt

Date: 07/28/15 Time: 16:56:30

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774 Test Date: Apr 20 2009

AQUIFER DATA

Anisotropy Ratio (Kz/Kr): 1. Saturated Thickness: 3.04 m Aquitard Thickness (b"): 1. m Aquitard Thickness (b'): 1. m

WELL DATA

Pump	ing Wells		Observation Wells							
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)					
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9					

SOLUTION

Aquifer Model: Leaky

 $T = 63. \text{ m}^2/\text{day}$ $1/\text{B}' = 1.575 \text{ m}^{-1}$

 $1/B'' = \overline{0. m}^{-1}$

Sw = $\overline{0}$. r(c) = 0.064 m Solution Method: Moench (Case 2) West and East

= 5.358E-5

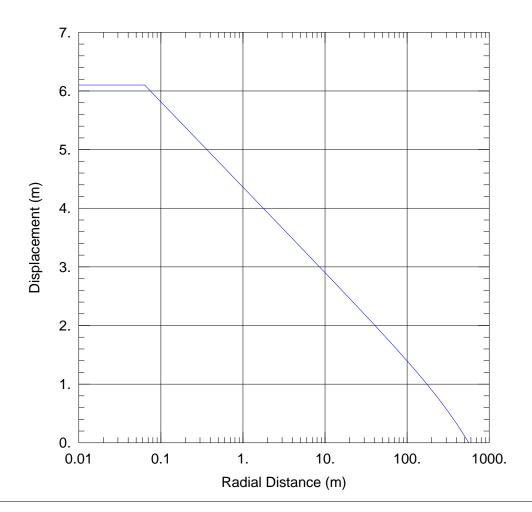
 $\beta'/r = 1.575 \text{ m}^{-1}$ $\beta''/r = 0. \text{ m}^{-1}$

r(w) = 0.0635 m

recharge

boundaries

Fig. C-11



Data Set: V:\1102\active\112849238\analysis\Pumping Test\anl_1065774_20_years_forward.aqt

Date: 08/24/15 Time: 11:34:26

PROJECT INFORMATION

Company: Stantec Consulting Ltd.

Client: 1510060 Alberta Ltd.

Project: 112849238

Location: SE 22-041-28-W4M

Test Well: 1065774
Test Date: Apr 20 2009

AQUIFER DATA

Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1. Aquitard Thickness (b'): 1. m Aquitard Thickness (b''): 1. m

WELL DATA

Pumpi	ing Wells		Observa	tion Wells	
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)
1065774	300502.6	5825445.9	1065774	300502.6	5825445.9

SOLUTION

Aquifer Model: Leaky

 $T = 66. \text{ m}^2/\text{day}$ 1/B' = 1.575 m⁻¹

 $1/B'' = \overline{0. m}^{-1}$

Sw = 0.000 r(c) = 0.064 m

Solution Method: Moench (Case 2) East recharge boundary

 $S = \frac{1.545E-5}{\text{B'/r}} = \frac{1.575}{0.\text{m}^{-1}}$ $B''/r = \frac{1.575}{0.\text{m}^{-1}}$

r(w) = 0.0635 m

Fig. C-12

Appendix D Lab Results



6310 ROPER ROAD EDMONTON, ALBERTA CANADA T6B 3P9 TEL (780)395-2525 FAX (780)462-2490 http://www.agatlabs.com

CLIENT NAME: STANTEC CONSULTING LTD 3821A - 98 STREET EDMONTON, AB T6E5V4 (780) 440-0682

ATTENTION TO: Christian Nageli

PROJECT: 112849238

AGAT WORK ORDER: 15E991063

WATER ANALYSIS REVIEWED BY: Jarrod Roberts, Operations Manager

DATE REPORTED: Jul 08, 2015

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (780) 395-2525

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

AGAT Laboratories (V1)

Page 1 of 7

Member of: Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)

Western Enviro-Agricultural Laboratory Association (WEALA) Environmental Services Association of Alberta (ESAA) AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.



CLIENT NAME: STANTEC CONSULTING LTD

SAMPLING SITE:

Certificate of Analysis

AGAT WORK ORDER: 15E991063

PROJECT: 112849238

ATTENTION TO: Christian Nageli

SAMPLED BY:

6310 ROPER ROAD EDMONTON, ALBERTA CANADA T6B 3P9 TEL (780)395-2525 FAX (780)462-2490 http://www.agatlabs.com

Routine Chemistry Water Analysis

				Moutine	Chemistry 11	ator Analysis
DATE RECEIVED: 2015-06-30						DATE REPORTED: 2015-07-08
Parameter	S. Unit		CRIPTION: PLE TYPE: SAMPLED: RDL	1065732 Water 6/30/2015 6701192	15-1 Water 6/30/2015 6701195	
рН	pH Units	6.5-8.5	NA	7.86	7.91	
p - Alkalinity (as CaCO3)	mg/L		5	<5	<5	
T - Alkalinity (as CaCO3)	mg/L		5	298	275	
Bicarbonate	mg/L		5	363	336	
Carbonate	mg/L		5	<5	<5	
Hydroxide	mg/L		5	<5	<5	
Electrical Conductivity	uS/cm		1	569	564	
Fluoride	mg/L	1.5	0.05	< 0.05	< 0.05	
Chloride	mg/L	250	1	1	1	
Nitrite	mg/L	3	0.05	< 0.05	< 0.05	
Nitrite-N	mg/L	1	0.02	< 0.02	<0.02	
Nitrate	mg/L	45	0.5	<0.5	<0.5	
Nitrate-N	mg/L	10	0.02	< 0.02	<0.02	
Nitrate+Nitrite - Nitrogen	mg/L		0.02	< 0.02	<0.02	
Sulfate	mg/L	500	1	7	8	
Dissolved Calcium	mg/L		0.3	60.5	63.1	
Dissolved Magnesium	mg/L		0.2	25.9	27.0	
Dissolved Sodium	mg/L	200	0.6	21.6	22.5	
Dissolved Potassium	mg/L		0.6	3.6	3.8	
Dissolved Iron	mg/L	0.3	0.1	<0.1	<0.1	
Dissolved Manganese	mg/L	0.05	0.005	0.085	0.083	
Calculated TDS	mg/L		0.6	341	330	
Sodium Adsorption Ratio	N/A			0.585	0.597	
Hardness	mg CaCO3/L		1	258	269	
L. B.L	0/			404	440	

Comments:

Ion Balance

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (D Water)

6701192-6701195 < - Values refer to Report Detection Limits.

pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required) Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.

101

Certified By:

Jaroha

113



CLIENT NAME: STANTEC CONSULTING LTD

SAMPLING SITE:

Total Dissolved Solids

Parameter

Certificate of Analysis

AGAT WORK ORDER: 15E991063

PROJECT: 112849238

6310 ROPER ROAD EDMONTON, ALBERTA CANADA T6B 3P9 TEL (780)395-2525 FAX (780)462-2490 http://www.agatlabs.com

ATTENTION TO: Christian Nageli

SAMPLED BY:

Water Analysis - TDS

DATE RECEIVED: 2015-06-30 DATE REPORTED: 2015-07-08

SAMPLE DESC	CRIPTION:	1065732	15-1
SAMF	LE TYPE:	Water	Water
DATE S	AMPLED:	6/30/2015	6/30/2015
G/S	RDL	6701192	6701195
	5	295	285

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard **6701192-6701195** pH: Analyzed past the regulatory hold time of 15 minutes.

Unit

mg/L

Certified By:

Jarthol



6310 ROPER ROAD EDMONTON, ALBERTA CANADA T6B 3P9 TEL (780)395-2525 FAX (780)462-2490 http://www.agatlabs.com

AGAT WORK ORDER: 15E991063

Quality Assurance

CLIENT NAME: STANTEC CONSULTING LTD

PROJECT: 112849238 ATTENTION TO: Christian Nageli

SAMPLING SITE: SAMPLED BY:

	Water Analysis														
RPT Date: Jul 08, 2015		С	UPLICATE	•		REFEREN	NCE MA	TERIAL	METHOD BLANK SPIKE			MAT	RIX SPI	KE	
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured Value		ptable nits	Recovery	1 ::	ptable nits	Recovery		ptable nits
		la la					value	Lower	Upper	·	Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis	s														
pH	976	6701192	7.86	7.88	0.3%		99%	90%	110%	NA			NA		
p - Alkalinity (as CaCO3)	976	6701192	<5	<5	0.0%	< 5	NA			NA			NA		
T - Alkalinity (as CaCO3)	976	6701192	298	274	8.5%	< 5	88%	80%	120%	NA			NA		
Bicarbonate	976	6701192	363	334	8.5%	< 5	NA			NA			NA		
Carbonate	976	6701192	<5	<5	0.0%	< 5	NA			NA			NA		
Hydroxide	976	6701192	<5	<5	0.0%	< 5	NA			NA			NA		
Electrical Conductivity	976	6701192	569	563	1.2%	< 1	104%	80%	120%	NA			NA		
Fluoride	188	6687946	< 0.05	< 0.05	NA	< 0.05	98%	80%	120%	80%	80%	120%	89%	80%	120%
Chloride	188	6687946	264	281	6.2%	< 1	90%	80%	120%	94%	80%	120%	96%	80%	120%
Nitrite	188	6687946	<0.05	< 0.05	NA	< 0.05	96%	80%	120%	87%	80%	120%	107%	80%	120%
Nitrate	188	6687946	<0.5	<0.5	NA	< 0.5	93%	80%	120%	86%	80%	120%	97%	80%	120%
Sulfate	188	6687946	4	4	0.0%	< 1	91%	80%	120%	94%	80%	120%	98%	80%	120%
Dissolved Calcium	185	6708609	89.5	89.7	0.3%	< 0.3	100%	80%	120%				102%	80%	120%
Dissolved Magnesium	185	6708609	29.0	29.0	0.0%	< 0.2	97%	80%	120%				98%	80%	120%
Dissolved Sodium	185	6708609	9.0	9.0	0.1%	< 0.6	93%	80%	120%				94%	80%	120%
Dissolved Potassium	185	6708609	3.3	3.2	0.8%	< 0.6	93%	80%	120%				96%	80%	120%
Dissolved Iron	185	6708609	0.5	0.5	0.0%	< 0.1	102%	80%	120%				101%	80%	120%
Dissolved Manganese	185	6708609	1.97	1.98	0.5%	< 0.005	100%	80%	120%				105%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Water Analysis - TDS

Total Dissolved Solids 186 6701192 295 275 7.0% < 5 102% 80% 120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By:

Jankh

Page 4 of 7



6310 ROPER ROAD EDMONTON, ALBERTA CANADA T6B 3P9 TEL (780)395-2525 FAX (780)462-2490 http://www.agatlabs.com

Method Summary

CLIENT NAME: STANTEC CONSULTING LTD

AGAT WORK ORDER: 15E991063

PROJECT: 112849238

ATTENTION TO: Christian Nageli

SAMPLING SITE: SAMPLED BY:

SAMPLING SITE:		SAIVIPLED BY:	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
рН	INOR-171-6205	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INOR-171-6205	SM 2320 B	TITRATION
Bicarbonate	INOR-171-6205	SM 2320 B	PC TITRATE
Carbonate	INOR-171-6205	SM 2320 B	PC TITRATE
Hydroxide	INOR-171-6205	SM 2320 B	TITRATION
Electrical Conductivity	INOR-171-6205	SM 2510 B	CONDUCTIVITY METER
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Nitrate-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate+Nitrite - Nitrogen	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Sulfate	INOR-171-6200	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Sodium	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Dissolved Iron	INOR-171-6201	SM 3120 B	ICP/OES
Dissolved Manganese	INOR-171-6201	SM 3120 B	ICP/OES
Calculated TDS		SM 1030E	CALCULATION
Sodium Adsorption Ratio		CARTER & GREGORICH 2007	ICP/OES
Hardness		SM 3120 B	ICP/OES
Ion Balance		SM 1030E	CALCULATION
Total Dissolved Solids	INOR-171-6104	SM 2540 C	GRAVIMETRIC

Pink Copy - Client Page of	61301215 Date/Time	Samples Received by (Print Name and Sign):	Samples Relinquished by (Print Name and Stert): 2000 CC Date/Time
	Date/Time	Samples Received By (Print Name and Sign):	1 M
	2	9.45	5-1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		6W June 30,7018 9:15	1065732
AB Class 2 BC Landfil D50 Detai Microtox BTEXS/VP TD S Hardnes Ca, Mg Chlorid F10 BOLD FOR C	# OF CONT Detailed S CCME BTE Soil Metal Water Me Routine W	SAMPLE DATE/TIME COMMENTS - SITE SAMPLE INFO. MATRIX SAMPLED SAMPLE CONTAINMENT	SAMPLE IDENTIFICATION
H/EF K K K CONTRACTOR CONTRACTO	Soil S EX/F1 Is ☐ H tals	_ □ D50 (Drilling) □ SPIGEC	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
COS	alinity L-F4 HWS-E □ Diss Potab		Phone: Fax:
LEP	3 🗆	FWAL AB Surface Water	
PH/H H/C	Cr ⁶		Address:
PHO3	□Н	Park □ Residential/Park	rate
	g		Company: Stante Competitive
la	□Cr ⁶	☐ Agricultural ☐ Agricultural	Invoice To Same Yes ☑ No □
Date Required:	Da	□ CCME □AB Tier 1 □ BC CSR	21 07 1
E THO IO 12 FIDURS		Requirements (Selection may impact detection limits)	Client Project #: 117 ×4973X
	Multiple Samples per	Email:	C1 001 (3
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Regular TAT 25 to 7 business days UPON SELECTING A		Email: Should have Coince Strate	Address: 10/60-112st Edminton A3
Turnaround Time Required (TAT)	Single Sample per	Email: Christian Nagai Estanki. un	Christian Nageli
		1. Name: Oncistion Nageli	Company: Stante
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AGAT Job Number: 15 6 171060 age	webearth.agatlabs.com		
e: 5.400		Laboratories P: 780.395-2522	La La
Laboratory Use Only	6310 Roper Road L		

Document ID: DIC-50-1507-003

es Relinquished By (Print Name and Sign):

Date/Time

Samples Received By (Print Name and Sign):

Date/Time

5:30 pm Yellow Copy - AGAT

White Copy- AGAT No: AB

003940



用何何T Laboratories

SAMPLE INTEGRITY RECEIPT FORM

(If more than 6 coolers are received use another sheet of paper and attach)	(3) (Bottle/Jar)++=°C (4) (Bottle/Jar)++_=°C (5) (Bottle/Jar)++_=°C (6) (Bottle/Jar)++_=°C	23	N/A - Only Soil Bags Received	Temperature (to be recorded from bottles/jars only)		*Residual Chlorine, DO, Turbidity, BOD, Nitrate/Nitrite, Microtox	Are samples received more than 5 days after sampling: Yes ☐ No ☐	Hydrocarbon Test:Expiry:	MIBI/Time Sensitive Test*: Expiry:	Earliest Date Sampled: 6/30/2007 ALREADY EXCEEDED? Yes No	TIME SENSITIVE ISSUES - Shipping	Cooler Quantity:	TAT: <24hr 24-48hr 48-72hr Reg Other	Custody Seal Intact: Yes \(\text{No} \(\text{Na} \)	Branch: EDM ✓ GP ☐ FN ☐ FM ☐ RD ☐ VAN ☐ LYD ☐ FSJ ☐ EST ☐ Other:	Waybill #:	Prepaid Collect		Company/Consultant:	RECEIVING BASICS - Shipping
Whom spoken to: Date/Time: CPM Initial	Account Project Manager:have they been notified of the above issues: Yes No				Additional Integrity Issues or concerns:	Visible Sediment in Waters: Yes□No□	If NO to any of the above, explain why:	Correct Labels: Yes☑No □	Correct Bottles: Yes☑No☐Correct Amount: Yes ☑No☐	Correct Sample Requirements for Testing	No Bubble Wrap	Samples Damaged: Yes No of YES why?	Workorder No: 15 E 991063		Coolant used: Icepack ☐ Bagged Ice ☐ Free Ice ☐ Free Water ☐ None ☐	International Samples: Yes \(\text{No} \) No \(\text{Tape Sealed: Yes} \(\text{No} \)	Legal Samples: Yes No	Precaution taken:	Hazardous Samples: Why Hazardous:	SAMPLE INTEGRITY - Shipping



AQUATECH CANADIAN WATER SERVICES

ATTN: BRIAN MILLS

PO BOX 5113

LACOMBE AB T4L 1A0

Date Received: 29-MAY-15

Report Date:

18-JUN-15 17:02 (MT)

Version:

FINAL

Client Phone: 403-254-3188

Certificate of Analysis

Lab Work Order #:

L1618652

Project P.O. #:

NOT SUBMITTED

Job Reference:

DE GRAFF'S-GROUP 3,23 & THMS

C of C Numbers:

Legal Site Desc:

Minnie Estigoy, Chem. Eng. Tech. DIPL Account Manager

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ADDRESS: 9936-67 Avenue, Edmonton, AB T6E 0P5 Canada | Phone: +1 780 413 5227 | Fax: +1 780 437 2311

ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company



L1618652 CONTD.... PAGE 2 of 7 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_1618652-1	DISTRIBUTION SAMPLE							
Sampled By:	CC on 28-MAY-15 @ 13:15							
Matrix:	WATER							
	-C10) and F2 (>C10-C16)							
BTEX and F								
Benzene	1 (00-010)	<0.00050		0.00050	mg/L		29-MAY-15	R319805
Toluene		<0.00050		0.00050	mg/L		29-MAY-15	R319805
Ethylbenzen	e	<0.00050		0.00050	mg/L		29-MAY-15	R319805
o-Xylene		<0.00050		0.00050	mg/L	-	29-MAY-15	R319805
m+p-Xylene		<0.00050		0.00050	mg/L		29-MAY-15	R319805
F1(C6-C10)		<0.10		0.10	mg/L		29-MAY-15	R319805
F1-BTEX		<0.10		0.10	mg/L		29-MAY-15	R319805
Xylenes		<0.00071		0.00071	mg/L		29-MAY-15	R319805
	,4-Difluorobenzene (SS)	99.0		70-130	%		29-MAY-15	R319805
	-Bromofluorobenzene (SS)	84.0		70-130	%		29-MAY-15	R319805
	,4-Dichlorotoluene (SS)	101.5		70-130	%		29-MAY-15	R319805
•		101.0		70-100	70		20 1411 (1-10	1.01000
F2 (>C10-C1		<0.25		0.25	mg/L	01-JUN-15	01-JUN-15	R319971
	-Bromobenzotrifluoride	87.2		65-135	//////////////////////////////////////	01-JUN-15	01-JUN-15	R319971
Chloramines	Distribution	07.2		00-100	70	0.0014-10	0.0014-10	1313311
Chlorine, Fr	700	7						
Chlorine, Fre		1.20		0.20	mg/L		29-MAY-15	R319962
and the second		1.20		0.20	mg/L		20 114 11	1101002
Chlorine, To		1.26		0.20	mg/L	1	29-MAY-15	R319962
	ne minus Free Chlorine	1.20		0.20	mg/ L		20 110	11010002
Chloramines		<0.20		0.20	mg/L		29-MAY-15	R319965
Hardness		10.20		0.20	1119/12		20 11 11	1101000
	letals in Water by CRC ICPMS							
Calcium (Ca		67.8		0.50	mg/L		04-JUN-15	R320121
	(Mg)-Dissolved	27.9		0.10	mg/L		04-JUN-15	R320121
•	rom Dissolved Ca and Mg)	21.0		0.10	9, =			. 1020121
Hardness (as		284		1.3	mg/L		05-JUN-15	
Total Metals -	V. 100 A. V. 100	201		1.0	5			
	rom Total Ca and Mg)							
Hardness (as	•	295			mg/L		05-JUN-15	
	ry in Water by CVAAS	200			9/ =		30 33.1 13	
Mercury (Hg)	(1) - 1	<0.0000050		0.0000050	mg/L		06-JUN-15	R320135
	in Water by CRC ICPMS	0.000000		0,0000000				
Aluminum (A		<0.0030		0.0030	mg/L		05-JUN-15	R320237
Antimony (SI		<0.00010		0.00010	mg/L		05-JUN-15	R320237
Arsenic (As)		0.00074		0.00010	mg/L		05-JUN-15	R320237
Barium (Ba)-		0.102		0.000050	mg/L		05-JUN-15	R320237
Beryllium (Be		<0.00010		0.00010	mg/L		05-JUN-15	R320237
Boron (B)-To	N(5) (2) (MANAGES)	0.081		0.010	mg/L		05-JUN-15	R320237
Cadmium (C		<0.000050		0.000050	mg/L		05-JUN-15	R320237
Calcium (Ca		69.9		0.050	mg/L		05-JUN-15	R320237
Chromium (Ca		<0.00010		0.00010	mg/L		05-JUN-15	R320237
Cobalt (Co)-	NATE OF THE PROPERTY AND THE PROPERTY AN	<0.00010		0.00010			05-JUN-15	R320237
				0.00010	mg/L		05-JUN-15	
Copper (Cu)-		0.00806 0.080		0.00050	mg/L		05-JUN-15 05-JUN-15	R320237
of (Pb) Tot		1 V 1860 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			mg/L			R320237
Lead (Pb)-To		0.000215		0.000050	mg/L		05-JUN-15	R320237
Lithium (Li)-7		0.0396		0.0010	mg/L		05-JUN-15	R320237
Magnesium (29.3		0.0050	mg/L		05-JUN-15	R320237
Manganese (\$	0.0159		0.00010	mg/L		05-JUN-15	R320237
Molybdenum	150	0.00173		0.000050	mg/L		05-JUN-15	R320237
Nickel (Ni)-To	otal	<0.00050		0.00050	mg/L		05-JUN-15	R320237

^{*} Refer to Referenced Information for Qualifiers (if any) and Methodology.

L1618652 CONTD.... PAGE 3 of 7 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1618652-1 DISTRIBUTION SAMPLE							
Sampled By: CC on 28-MAY-15 @ 13:15							
Matrix: WATER							
Total Metals in Water by CRC ICPMS							
Potassium (K)-Total	4.03		0.050	mg/L		05-JUN-15	R3202372
Selenium (Se)-Total	<0.000050		0.000050	mg/L		05-JUN-15	R3202372
Silver (Ag)-Total	<0.000010		0.000010	mg/L		05-JUN-15	R3202372
Sodium (Na)-Total	29.8		0.050	mg/L		05-JUN-15	R3202372
Thallium (TI)-Total	0.000038		0.000010	mg/L		05-JUN-15	R3202372
Tin (Sn)-Total	<0.00010		0.00010	mg/L		05-JUN-15	R3202372
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		05-JUN-15	R3202372
Uranium (U)-Total	0.000297		0.000010	mg/L		05-JUN-15	R3202372
Vanadium (V)-Total	<0.00050		0.00050	mg/L		05-JUN-15	R3202372
Zinc (Zn)-Total	0.0298		0.0030	mg/L		05-JUN-15	R3202372
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		04-JUN-15	R3201217
vChloride (CI)	8.73		0.50	mg/L		29-MAY-15	R3198408
Color, True	<2.0		2.0	C.U.		29-MAY-15	R3199621
Cyanide, Total	<0.020	DLA	0.020	mg/L		04-JUN-15	R3202444
Fluoride (F)	0.047		0.020	mg/L		29-MAY-15	R3198408
∠Nitrate (as N)	<0.020		0.020	mg/L		29-MAY-15	R3198408
Nitrite (as N)	<0.010		0.010	mg/L		29-MAY-15	R3198408
Sulfate (SO4)	20.1		0.30	mg/L		29-MAY-15	R3198408
Sulphide (as S)	< 0.0015		0.0015	mg/L		05-JUN-15	R3202500
Temperature	25.0		1.0	Degree C		30-MAY-15	R3198536
Total Dissolved Solids	384		10	mg/L		02-JUN-15	R3200607
Total Haloacetic Acids 5	0.0112		0.0054	mg/L		12-JUN-15	
Total Organic Carbon	3.3		1.0	mg/L		03-JUN-15	R3200536
Turbidity	0.19		0.10	NTU		29-MAY-15	R3199643
pH	8.32		0.10	рН		30-MAY-15	R3198536
Trihalomethanes	0.02		0.10	рп		30-WAT-13	K3 196536
Chloroform	0.0220		0.0010	mg/L	31-MAY-15	31-MAY-15	R3189458
Bromodichloromethane	0.0038		0.0010	mg/L	31-MAY-15	31-MAY-15	R3189458
Dibromochloromethane	< 0.0010		0.0010	mg/L	31-MAY-15	31-MAY-15	R3189458
Bromoform	< 0.0050		0.0050	mg/L	31-MAY-15	31-MAY-15	R3189458
Surrogate: 1,2-Dichloroethane d4	107.6		70-130	%	31-MAY-15	31-MAY-15	R3189458
Surrogate: Toluene d8	95.0		70-130	%	31-MAY-15	31-MAY-15	R3189458
Surrogate: 4-Bromofluorobenzene	97.1		70-130	%	31-MAY-15	31-MAY-15	R3189458
Total THMs	0.0258		0.0050	mg/L	31-MAY-15	31-MAY-15	R3189458
Haloacetic Acids				40.000			
Monophoroacetic Acid	<0.0010		0.0010	mg/L		10-JUN-15	R3204806
Monochloroacetic Acid Bromochloroacetic Acid	<0.0050		0.0050	mg/L		10-JUN-15	R3204806
Dibromoacetic Acid	0.0013		0.0010	mg/L		10-JUN-15	R3204806
Dichloroacetic Acid	<0.0010		0.0010	mg/L		10-JUN-15	R3204806
Trichloroacetic Acid	0.0051		0.0010	mg/L		10-JUN-15	R3204806
Surrogate: 2,3-Dibromopropionic Acid (SS)	0.0061		0.0010	mg/L		10-JUN-15	R3204806
	109.9		50-130	%		10-JUN-15	R3204806
1618652-2 WELL#1-RAW							
ampled By: CC on 28-MAY-15 @ 13:00							
fatrix: WATER							
Routine Water Analysis							
Chloride in Water by IC			1				
Chloride (CI)	8.47		0.50	mg/L		29-MAY-15	R3198408

^{*} Refer to Referenced Information for Qualifiers (if any) and Methodology.

L1618652 CONTD.... PAGE 4 of 7 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

e Details/Parameters R	esult Qu	ualifier* D.L.	Units	Extracted	Analyzed	Batch
652-2 WELL#1-RAW						
ed By: CC on 28-MAY-15 @ 13:00						
WATER						
solved Metals in Water by CRC ICPMS						
	1.7	0.50	mg/L		02-JUN-15	R3199648
nesium (Mg)-Dissolved 3	0.0	0.10	mg/L		02-JUN-15	R3199648
	.93	0.50	mg/L		02-JUN-15	R3199648
	B.3	1.0	mg/L		02-JUN-15	R3199648
oride in Water by IC ride (F) 0.0	047	0.020	mg/L		29-MAY-15	R3198408
Balance Calculation Balance 99	9.8		%		03-JUN-15	
The state of the s	65		mg/L		03-JUN-15	
	03		mg/L		03-JUN-15	
ate in Water by IC	020	0.020	mg/L		29-MAY-15	D2400400
ate+Nitrite	020	0.020	mg/L		29-IVIA 1-15	R3198408
	022	0.022	mg/L		03-JUN-15	
te in Water by IC e (as N) <0.	010	0.010	mg/L		29-MAY-15	R3198408
ate in Water by IC	0.0	0.30	mg/L		29-MAY-15	
Conductivity and Total Alkalinity	,.0	0.30	IIIg/L		29-IVIA 1-15	R3198408
1.5.1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	38	0.10	pН		30-MAY-15	R3198536
	52	0.20	uS/cm		30-MAY-15	R3198536
	99	5.0	mg/L		30-MAY-15	R3198536
onate (CO3) 6.	.0	5.0	mg/L		30-MAY-15	R3198536
oxide (OH)	220	5.0	mg/L		30-MAY-15	R3198536
inity, Total (as CaCO3)		2.0	mg/L		30-MAY-15	R3198536

^{*} Refer to Referenced Information for Qualifiers (if any) and Methodology.

L1618652 CONTD

PAGE 5 of 7 Version: FINAL

Reference Information

Sample Parameter Qualifier Key:

Qualifier Description Detection Limit adjusted for required dilution DLA Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. MS-B

Test Method References:

HAA5-SUM-CALC-WP

ALS Test Code Matrix		Test Description	Method Reference**	
BROMATE-KL	Water	Bromate analysis in water	EPA 300.1 - Ion Chromatography	
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5021/8015&8260 GC-MS & FID	
C-TOT-ORG-ED Water Total Organic Carbon		Total Organic Carbon	APHA 5310 B-Instrumental	

This method is applicable to the analysis of ground water, wastewater, and surface water samples. The form detected depends upon sample pretreatment: Unfiltered sample = TC, 0.45um filtered = TDC. Samples are injected into a combustion tube containing an oxidation catalyst. The carrier gas containing the combustion product from the combustion tube flows through an inorganic carbon reactor vessel and is then sent through a halogen scrubber into a sample cell set in a non-dispersive infrared gas analyzer (NDIR) where carbon dioxide is detected. For total inorganic carbon and dissolved inorganic carbon, the sample is injected into an IC reactor vessel where only the IC component is decomposed to become carbon dioxide.

The peak area generated by the NDIR indicates the TC/TDC or TIC/DIC as applicable. The total organic carbon content of the sample is calculated by subtracting the TIC from the TC.

TOC = TC-TIC, DOC = TDC-DIC, Particulate = Total - Dissolved.

APHA 4500 CL G-COLORIMETRY Total Chlorine minus Free Chlorine CHLORAMINES-CALC-ED Water EPA 300.1 - Ion Chromatography Chlorate analysis in water CHLORATE-KL Water EPA 300.1 - Ion Chromatography Water Chlorite analysis in water CHLORITE-KL Chloride in Water by IC EPA 300.1 (mod) CL-IC-N-ED Water

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

APHA 4500 CI G-Colorimetry Water Chlorine, Free CL2-FREE-ED Chlorine, Total APHA 4500 CI G-Colorimetry CL2-TOT-ED Water

APHA 4500CN C E-STRONG ACID DIST COLORIM Water Cyanide, Total CN-TOT-WT

Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference

Water Color, True **APHA 2120** COL-TRU-ED

True Colour is measured using a colorimeter by comparison to platinum-cobalt standards using the single wavelength method (450 - 465 nm) after filtration of sample through a 0.45 um filter. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.

APHA 2340 B-Calculation Hardness (from Dissolved Ca and Mg) ETL-HARDNESS-DIS-ED Water Hardness (from Total Ca and Mg) APHA 2340 B-Calculation ETL-HARDNESS-TOT-ED Water EPA 300.1 (mod) F-IC-N-ED Water Fluoride in Water by IC

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Water

EPA 3510/CCME PHC CWS-GC-FID F2 (>C10-C16) Water F2-ED

EPA 552 (modified) Water Haloacetic Acids HAA-WP

HAA concentration is determined using liquid-liquid extraction, capillary column, GC/electron capture techniques. CALCULATION Total Haloacetic Acids 5 (HAA5)

Total Haloacetic Acids 5 (HAA5) represents the sum of monobromoacetic acid, monochloroacetic acid, dibromoacetic acid, dichloroacetic acid and trichloroacetic acid. For the purpose of calculation, results less than the detection limit (DL) are treated as zero.

HG-T-CVAA-ED Water Total Mercury in Water by CVAAS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

APHA 1030E Ion Balance Calculation **IONBALANCE-ED** Water

MET-D-CCMS-ED Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

L1618652 CONTD PAGE 6 of 7

Reference Information

Version: FINAL

Test Method References:

ALS Test Code Matrix **Test Description** Method Reference**

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-ED

Total Metals in Water by CRC ICPMS

EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-CFA-ED

Water

Ammonia in Water by Colour

APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.

NO2+NO3-CALC-ED

Water

Nitrate+Nitrite

CALCULATION

NO2-IC-N-ED

Water

Nitrite in Water by IC

EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-N-ED

Water

Nitrate in Water by IC

EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-ED

Water

APHA 4500 H-Electrode

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

PH/EC/ALK-ED

Water

pH, Conductivity and Total Alkalinity

APHA 4500-H, 2510, 2320

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

SO4-IC-N-ED

Water

Sulfate in Water by IC

EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

SOLIDS-TDS-ED

Water

Total Dissolved Solids

APHA 2540 C

Gravimetric determination of solids in waters by filtration and evaporating filtrate to dryness at 180 degrees Celsius.

SULPHIDE-ED

Water

Sulphide

APHA 4500 -S E-Auto-Colorimetry

A continuous flow manifold adds HCl to the sample which converts sulphide to a gas, then the sulphide is separated from the flow using a gas dialysis membrane. A Colorimetric reaction produces a methylene blue compound which is measured at 660 nm. This follows the Standard Methods procedure 4500 S-E

TEMP-ED

Water

Temperature

APHA 2550-Thermometer

THM-ED

Water

SW 846 8260-GC/MS

TURBIDITY-ED

Water

Trihalomethanes Turbidity

APHA 2130 B-Nephelometer

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
KL	ALS ENVIRONMENTAL - KELSO, WASHINGTON, USA
Chain of Custody Numbers:	ALS ENVIRONMENTAL - KELSO, WASHINGTON, USA

L1618652 CONTD....

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Reference Information

Test Method References:

ALS Test Code

Matrix

Test Description

Method Reference**

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample mg/kg wwt - milligrams per kilogram based on wet weight of sample mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight mg/L - unit of concentration based on volume, parts per million. < - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



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Client:

AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX,F1-ED	Water							
Batch R3	198056							
WG2097610-6 Benzene	DUP	WG2097610-5 < 0.00050	<0.00050	RPD-NA	mg/L	N/A	30	29-MAY-15
Toluene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	29-MAY-15
Ethylbenzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	29-MAY-15
o-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	24	29-MAY-15
m+p-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	24	29-MAY-15
F1(C6-C10)		<0.10	<0.10	RPD-NA	mg/L	N/A	30	29-MAY-15
WG2097610-2 Benzene	LCS		75.7		%		70-130	29-MAY-15
Toluene			77.0		%		70-130	29-MAY-15
Ethylbenzene			73.3		%		70-130	29-MAY-15
o-Xylene			74.3		%		70-130	29-MAY-15
m+p-Xylene			82.0		%		70-130	29-MAY-15
WG2097610-3 F1(C6-C10)	LCS		81.5		%		70-130	29-MAY-15
WG2097610-1 Benzene	МВ		<0.00050		mg/L		0.0005	29-MAY-15
Toluene			<0.00050		mg/L		0.0005	29-MAY-15
Ethylbenzene			<0.00050		mg/L		0.0005	29-MAY-15
o-Xylene			<0.00050		mg/L		0.0005	29-MAY-15
m+p-Xylene			<0.00050		mg/L		0.0005	29-MAY-15
F1(C6-C10)			<0.10		mg/L		0.1	29-MAY-15
Surrogate: 1,4-l	Difluorobenzene (S	SS)	100.0		%		70-130	29-MAY-15
Surrogate: 4-Br	omofluorobenzene	e (SS)	85.0		%		70-130	29-MAY-15
Surrogate: 3,4-l	Dichlorotoluene (S	S)	86.5		%		70-130	29-MAY-15
C-TOT-ORG-ED	Water							
	200536							
WG2100402-3 Total Organic C	DUP Carbon	L1618652-1 3.3	2.7		mg/L	19	20	03-JUN-15
WG2100402-8 Total Organic C	DUP Carbon	L1620384-30 12.2	12.1		mg/L	0.8	20	03-JUN-15
WG2100402-2 Total Organic C			91.8		%		80-120	03-JUN-15
WG2100402-6 Total Organic 0	LCS		95.2		%		70-130	03-JUN-15
WG2100402-1	MB							



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AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOT-ORG-ED	Water							
Batch R3200530	3							
WG2100402-1 MB Total Organic Carbon			<1.0		mg/L		1	03-JUN-15
WG2100402-5 MB Total Organic Carbon			<1.0		mg/L		1	03-JUN-15
WG2100402-4 MS Total Organic Carbon		L1618652-1	91.6		%		70-130	03-JUN-15
WG2100402-7 MS Total Organic Carbon		L1620384-30	N/A	MS-B	%			03-JUN-15
CHLORAMINES-CALC-EI) Water							
Batch R3199653								
WG2097720-1 DUP Chloramines		L1618652-1 <0.20	0.21	RPD-NA	mg/L	N/A	25	29-MAY-15
CL-IC-N-ED	Water							
Batch R3198408								
WG2097559-3 DUP Chloride (CI)		L1618375-20 34.1	34.7		mg/L	1.7	20	29-MAY-15
WG2097559-5 DUP Chloride (CI)		L1618704-1 <0.50	0.86	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-7 DUP Chloride (CI)		L1618590-3 9.87	9.85		mg/L	0.1	20	29-MAY-15
WG2097559-11 LCS Chloride (CI)			104.7		%		90-110	29-MAY-15
WG2097559-13 LCS Chloride (CI)			104.8		%		90-110	29-MAY-15
WG2097559-15 LCS Chloride (CI)			105.0		%		90-110	29-MAY-15
WG2097559-2 LCS Chloride (Cl)			104.5		%		90-110	29-MAY-15
WG2097559-9 LCS Chloride (CI)			104.5		%		90-110	29-MAY-15
WG2097559-1 MB Chloride (CI)			<0.50		mg/L		0.5	30-MAY-15
WG2097559-10 MB Chloride (CI)			<0.50		mg/L		0.5	29-MAY-15
WG2097559-12 MB Chloride (CI)			<0.50		mg/L		0.5	29-MAY-15
WG2097559-14 MB								



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PO BOX 5113

LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Test	N	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-ED Batch R319 WG2097559-14	98408	Water							
Chloride (CI)	WID			<0.50		mg/L		0.5	29-MAY-15
WG2097559-16 I Chloride (CI)	MB			<0.50		mg/L		0.5	29-MAY-15
WG2097559-4 I Chloride (CI)	MS		L1618375-20	97.0		%		75-125	29-MAY-15
WG2097559-6 Chloride (CI)	MS		L1618704-1	102.2		%		75-125	29-MAY-15
WG2097559-8 Chloride (CI)	MS		L1618590-3	101.9		%		75-125	29-MAY-15
CL2-FREE-ED	,	Water							
Batch R319	99623								
WG2097656-2 Chlorine, Free	DUP		L1618652-1 1.20	1.11		mg/L	7.5	26	29-MAY-15
WG2097656-1 Chlorine, Free	LCS			89.0		%		75-125	29-MAY-15
CL2-TOT-ED	Ŋ	Water							
	99627 DUP		L1618652-1 1.26	1.22		mg/L	3.8	10	29-MAY-15
WG2097677-1 Chlorine, Total	LCS			98.0		%		75-125	29-MAY-15
CN-TOT-WT	,	Water							
Batch R320	02444								
WG2101635-3 Cyanide, Total	DUP		L1618652-1 <0.020	<0.020	RPD-NA	mg/L	N/A	20	04-JUN-15
WG2101635-2 Cyanide, Total	LCS			85.5		%		80-120	04-JUN-15
WG2101635-1 Cyanide, Total	MB			<0.0020		mg/L		0.002	04-JUN-15
WG2101635-4 Cyanide, Total	MS		L1618652-1	71.35		%		70-130	04-JUN-15
COL-TRU-ED	,	Water							
	99621								
	DUP		L1617656-2 79.5	80.4		C.U.	1.1	20	29-MAY-15
WG2097550-2	LCS								



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AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
COL-TRU-ED		Water							
Batch R: WG2097550-2 Color, True	3199621 LCS			96.5		%		85-115	29-MAY-15
WG2097550-1 Color, True	MB			<2.0		C.U.		2	29-MAY-15
F-IC-N-ED		Water							
Batch R3 WG2097559-3 Fluoride (F)	3198408 DUP		L1618375-20 0.171	0.180		mg/L	5.5	20	29-MAY-15
WG2097559-5 Fluoride (F)	DUP		L1618704-1 0.712	0.790		mg/L	10	20	29-MAY-15
WG2097559-7 Fluoride (F)	DUP		L1618590-3 0.123	0.121		mg/L	1.5	20	29-MAY-15
WG2097559-11 Fluoride (F)	LCS			105.8		%	5.532	90-110	29-MAY-15
WG2097559-13 Fluoride (F)	LCS			106.3		%		90-110	29-MAY-15
WG2097559-15 Fluoride (F)	LCS			107.1		%		90-110	29-MAY-15
WG2097559-2 Fluoride (F)	LCS			103.2		%		90-110	29-MAY-15
WG2097559-9 Fluoride (F)	LCS			105.6		%		90-110	29-MAY-15
WG2097559-1 Fluoride (F)	MB			<0.020		mg/L		0.02	30-MAY-15
WG2097559-10 Fluoride (F)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-12 Fluoride (F)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-14 Fluoride (F)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-16 Fluoride (F)	МВ			<0.020		mg/L		0.02	29-MAY-15
WG2097559-4 Fluoride (F)	MS		L1618375-20	87.8		%		75-125	29-MAY-15
WG2097559-6 Fluoride (F)	MS		L1618704-1	90.3		%		75-125	29-MAY-15
WG2097559-8 Fluoride (F)	MS		L1618590-3	94.0		%		75-125	29-MAY-15



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PO BOX 5113

LACOMBE AB T4L 1A0

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-ED	Water						333 333 3 5	
Batch R3199710								
WG2098376-2 LCS F2 (C10-C16)			105.9		%		70-130	01-JUN-15
WG2098376-4 LCS F2 (C10-C16)			116.5		%		70-130	01-JUN-15
WG2098376-1 MB F2 (C10-C16)			<0.25		mg/L		0.25	01-JUN-15
Surrogate: 2-Bromobenzo	otrifluoride		99.2		%		65-135	01-JUN-15
WG2098376-3 MB F2 (C10-C16)			<0.25		mg/L		0.25	01-JUN-15
Surrogate: 2-Bromobenzo	otrifluoride		103.5		%		65-135	01-JUN-15
HAA-WP	Water							
Batch R3204806								
WG2104447-3 DUP Monobromoacetic Acid		L1617920-3 < 0.0010	<0.0010	RPD-NA	mg/L	N/A	40	10-JUN-15
Monochloroacetic Acid		<0.0050	< 0.0050	RPD-NA	mg/L	N/A	40	10-JUN-15
Bromochloroacetic Acid		0.0031	0.0030		mg/L	2.4	40	10-JUN-15
Dibromoacetic Acid		<0.0010	<0.0010	RPD-NA	mg/L	N/A	40	10-JUN-15
Dichloroacetic Acid		0.0082	0.0082		mg/L	0.7	40	10-JUN-15
Trichloroacetic Acid		0.0093	0.0092		mg/L	0.6	40	10-JUN-15
WG2104447-2 LCS Monobromoacetic Acid			99.95		%		50-130	10-JUN-15
Monochloroacetic Acid			93.8		%		50-130	10-JUN-15
Bromochloroacetic Acid			99.8		%		50-130	10-JUN-15
Dibromoacetic Acid			89.6		%		50-130	10-JUN-15
Dichloroacetic Acid			95.2		%		50-130	10-JUN-15
Trichloroacetic Acid			97.1		%		50-130	10-JUN-15
WG2104447-1 MB								
Monobromoacetic Acid			<0.0010		mg/L		0.001	10-JUN-15
Monochloroacetic Acid			<0.0050		mg/L		0.005	10-JUN-15
Bromochloroacetic Acid			<0.0010		mg/L		0.001	10-JUN-15
Dibromoacetic Acid			<0.0010		mg/L		0.001	10-JUN-15
Dichloroacetic Acid			<0.0010		mg/L 		0.001	10-JUN-15
Trichloroacetic Acid			<0.0010		mg/L		0.001	10-JUN-15
Surrogate: 2,3-Dibromopr	opionic Acid (SS		108.0		%		50-130	10-JUN-15
WG2104447-4 MS Monobromoacetic Acid		L1618005-1	91.7		%		50-150	10-JUN-15



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PO BOX 5113

LACOMBE AB T4L 1A0

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HAA-WP	Water							
Batch R320480	6							
WG2104447-4 MS	ı	L1618005-1	89.5		%		F0 4F0	40 HIN 45
Monochloroacetic Acid			106.4		%		50-150 50-150	10-JUN-15 10-JUN-15
Dibromoacetic Acid	lu		92.8		%		50-150	10-JUN-15
Dichloroacetic Acid			N/A	MS-B	%		-	10-JUN-15
Trichloroacetic Acid			115.8	WIO B	%		50-150	10-JUN-15
HG-T-CVAA-ED	Water		. 1010				00 100	10 0014 10
Batch R320135								
WG2101173-3 DUP Mercury (Hg)-Total		L1616080-2 0.0000195	0.0000154	l j	mg/L	0.0000041	0.00001	06-JUN-15
WG2101173-7 DUP Mercury (Hg)-Total		L1618704-1 0.0000130	0.0000087	, J	mg/L	0.0000043	0.00001	06-JUN-15
WG2101173-2 LCS Mercury (Hg)-Total			108.0		%		80-120	04-JUN-15
WG2101173-6 LCS Mercury (Hg)-Total			106.0		%		80-120	06-JUN-15
WG2101173-1 MB Mercury (Hg)-Total			<0.000005	6C	mg/L		0.000005	04-JUN-15
WG2101173-5 MB Mercury (Hg)-Total			<0.000005	6C	mg/L		0.000005	06-JUN-15
WG2101173-4 MS Mercury (Hg)-Total		L1616080-2	98.5		%		70-130	06-JUN-15
WG2101173-8 MS Mercury (Hg)-Total		L1618704-1	92.0		%		70-130	06-JUN-15
MET-D-CCMS-ED	Water							
Batch R3199646 WG2099227-11 CRM		ED-HIGH-WA	TRM					
Calcium (Ca)-Dissolve			95.7		%		80-120	02-JUN-15
Magnesium (Mg)-Disse	olved		98.7		%		80-120	02-JUN-15
Potassium (K)-Dissolv			100.4		%		80-120	02-JUN-15
Sodium (Na)-Dissolved	d		99.8		%		80-120	02-JUN-15
WG2099227-14 CRM Calcium (Ca)-Dissolve		ED-HIGH-WA	TRM 95.2		%		80-120	02-JUN-15
Magnesium (Mg)-Disse	olved		100.0		%		80-120	02-JUN-15
Potassium (K)-Dissolve	ed		101.0		%		80-120	02-JUN-15
Sodium (Na)-Dissolved	d		102.2		%		80-120	02-JUN-15
WG2099227-17 CRM		ED-HIGH-WA	TRM					



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AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Contact:	DRIAN WILLS				11-26-	200	Limit	Analyzed
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	
MET-D-CCMS	-ED Water							
Batch	R3199648	CHESTAGES THE CONTROL OF ANY						
	27-17 CRM Ca)-Dissolved	ED-HIGH-W/	95.7		%		80-120	02-JUN-15
	m (Mg)-Dissolved		98.7		%		80-120	02-JUN-15
	(K)-Dissolved		100.4		%		80-120	02-JUN-15
	la)-Dissolved		99.8		%		80-120	02-JUN-15
WG209922	5	ED-HIGH-W						
	Ca)-Dissolved	20 / 110 / 1 / 1	98.6		%		80-120	02-JUN-15
Magnesiu	m (Mg)-Dissolved		102.0		%		80-120	02-JUN-15
Potassium	n (K)-Dissolved		100.5		%		80-120	02-JUN-15
Sodium (N	la)-Dissolved		98.9		%		80-120	02-JUN-15
	2 7-20 CRM Ca)-Dissolved	ED-HIGH-W	ATRM 95.2		%		80-120	02-JUN-15
	m (Mg)-Dissolved		100.0		%		80-120	02-JUN-15
	n (K)-Dissolved		101.0		%		80-120	02-JUN-15
	Na)-Dissolved		102.2		%		80-120	02-JUN-15
WG209922		ED-HIGH-W	ATRM					
	Ca)-Dissolved		98.0		%		80-120	02-JUN-15
Magnesiu	m (Mg)-Dissolved		103.3		%		80-120	02-JUN-15
Potassiun	n (K)-Dissolved		101.2		%		80-120	02-JUN-15
Sodium (N	Na)-Dissolved		101.4		%		80-120	02-JUN-15
WG209922 Calcium (27-8 CRM Ca)-Dissolved	ED-HIGH-W	ATRM 95.8		%		80-120	02-JUN-15
	m (Mg)-Dissolved		100.8		%		80-120	02-JUN-15
Potassiun	n (K)-Dissolved		102.3		%		80-120	02-JUN-15
Sodium (f	Na)-Dissolved		105.8		%		80-120	02-JUN-15
WG20992	27-12 DUP	L1617953-9						
Calcium (Ca)-Dissolved	120	119		mg/L	8.0	20	02-JUN-15
Magnesiu	ım (Mg)-Dissolved	33.0	34.2		mg/L	3.6	20	02-JUN-15
Potassiur	n (K)-Dissolved	5.73	5.79		mg/L 	1.1	20	02-JUN-15
Sodium (I	Na)-Dissolved	95.3	98.3		mg/L	3.1	20	02-JUN-15
	27-15 DUP (Ca)-Dissolved	L1618475-1 179	184		mg/L	2.4	20	02-JUN-15
Magnesiu	ım (Mg)-Dissolved	34.5	35.6		mg/L	3.4	20	02-JUN-15
Potassiur	m (K)-Dissolved	11.6	11.6		mg/L	0.0	20	02-JUN-15
Sodium (Na)-Dissolved	43.2	43.7		mg/L	1.1	20	02-JUN-15
15	27-18 DUP	L1618475-7						



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PO BOX 5113

LACOMBE AB T4L 1A0

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	Water							
Batch R3199								
WG2099227-18 D Calcium (Ca)-Disso		L1618475-7 114	116		mg/L	2.0	20	02-JUN-15
Magnesium (Mg)-D	Dissolved	21.4	21.0		mg/L	1.8	20	02-JUN-15
Potassium (K)-Diss	solved	0.79	0.78		mg/L	1.9	20	02-JUN-15
Sodium (Na)-Disso	olved	11.4	11.6		mg/L	1.4	20	02-JUN-15
WG2099227-21 D Calcium (Ca)-Disso	10년 (B)	L1618375-20 104	107		mg/L	2.8	20	02-JUN-15
Magnesium (Mg)-D	Dissolved	33.3	33.4		mg/L	0.1	20	02-JUN-15
Potassium (K)-Diss	solved	1.23	1.23		mg/L	0.0	20	02-JUN-15
Sodium (Na)-Disso	lved	6.7	6.9		mg/L	2.3	20	02-JUN-15
WG2099227-3 D Calcium (Ca)-Disso	UP olved	L1619656-10 56.0	58.1		mg/L	3.8	20	02-JUN-15
Magnesium (Mg)-D		18.6	18.5		mg/L	0.6	20	02-JUN-15
Potassium (K)-Diss	solved	10.5	10.8		mg/L	3.1	20	02-JUN-15
Sodium (Na)-Disso	olved	13.2	13.6		mg/L	3.1	20	02-JUN-15
WG2099227-9 D Calcium (Ca)-Disso	UP olyed	L1617831-1 48.1	47.7		mg/L	0.9	20	02-JUN-15
Magnesium (Mg)-D		14.1	14.1		mg/L	0.5	20	02-JUN-15
Potassium (K)-Diss		3.05	3.02		mg/L	0.7	20	02-JUN-15
Sodium (Na)-Disso		13.4	13.4		mg/L	0.0	20	02-JUN-15
	IB				- 3 -	5.15		32 30
Calcium (Ca)-Disso	_		< 0.050		mg/L		0.05	02-JUN-15
Magnesium (Mg)-D	Dissolved		<0.0050		mg/L		0.005	02-JUN-15
Potassium (K)-Diss	solved		<0.050		mg/L		0.05	02-JUN-15
Sodium (Na)-Disso	lved		<0.050		mg/L		0.05	02-JUN-15
WG2099227-10 M Calcium (Ca)-Disso			<0.050		mg/L		0.05	02-JUN-15
Magnesium (Mg)-D	Dissolved		<0.0050		mg/L		0.005	02-JUN-15
Potassium (K)-Diss	solved		< 0.050		mg/L		0.05	02-JUN-15
Sodium (Na)-Disso	lved		<0.050		mg/L		0.05	02-JUN-15
WG2099227-13 M Calcium (Ca)-Disso			<0.050		mg/L		0.05	02-JUN-15
Magnesium (Mg)-D			< 0.0050		mg/L		0.005	02-JUN-15
Potassium (K)-Diss			<0.050		mg/L		0.05	02-JUN-15
Sodium (Na)-Disso			<0.050		mg/L		0.05	02-JUN-15
					- R			



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AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	Water				***************************************			
Batch R319964	8							
WG2099227-16 MB	.i							
Calcium (Ca)-Dissolve			<0.050		mg/L		0.05	02-JUN-15
Magnesium (Mg)-Diss			<0.0050		mg/L		0.005	02-JUN-15
Potassium (K)-Dissolv			<0.050		mg/L		0.05	02-JUN-15
Sodium (Na)-Dissolved	d		<0.050		mg/L		0.05	02-JUN-15
WG2099227-19 MB Calcium (Ca)-Dissolve	d		-0.050		Description of the Control of the Co			
Magnesium (Mg)-Disso			<0.050		mg/L		0.05	02-JUN-15
			<0.0050		mg/L		0.005	02-JUN-15
Potassium (K)-Dissolve			<0.050		mg/L		0.05	02-JUN-15
Sodium (Na)-Dissolved	1		<0.050		mg/L		0.05	02-JUN-15
WG2099227-4 MB Calcium (Ca)-Dissolved	Ч		-0.0F0					
Magnesium (Mg)-Disso			<0.050		mg/L		0.05	02-JUN-15
Potassium (K)-Dissolve			<0.0050		mg/L		0.005	02-JUN-15
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	02-JUN-15
3 2	1		<0.050		mg/L		0.05	02-JUN-15
WG2099227-7 MB Calcium (Ca)-Dissolved	1		<0.050		A			
Magnesium (Mg)-Disso					mg/L		0.05	02-JUN-15
Potassium (K)-Dissolve			<0.0050		mg/L		0.005	02-JUN-15
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	02-JUN-15
			<0.050		mg/L		0.05	02-JUN-15
Batch R3201216								
WG2101054-11 CRM Calcium (Ca)-Dissolved	ĺ	ED-HIGH-WAT	RM 91.0		0/			
Magnesium (Mg)-Dissol			97.9		%		80-120	04-JUN-15
WG2101054-14 CRM	ivou	55 W.C.			%		80-120	04-JUN-15
Calcium (Ca)-Dissolved		ED-HIGH-WAT	RM 91.1		%		00.400	
Magnesium (Mg)-Dissol			99.7		%		80-120	04-JUN-15
WG2101054-2 CRM		ED-HIGH-WATI			70		80-120	04-JUN-15
Calcium (Ca)-Dissolved		ED-HIGH-WAT	97.3		%		90 100	04 1111145
Magnesium (Mg)-Dissol	ved		92.4		%		80-120	04-JUN-15
WG2101054-5 CRM		ED-HIGH-WATI			,,,		80-120	04-JUN-15
Calcium (Ca)-Dissolved		25 111011-117711	90.8		%		80-120	04-JUN-15
Magnesium (Mg)-Dissol	ved		96.9		%		80-120	04-JUN-15
WG2101054-8 CRM		ED-HIGH-WATE	RM				00-120	04-JUN-13
Calcium (Ca)-Dissolved		•	97.0		%		80-120	04-JUN-15
Magnesium (Mg)-Dissolv	hav		93.8		%			3.00.10



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	Water							
Batch R3201216	3							
WG2101054-12 DUP		L1618375-2						
Calcium (Ca)-Dissolved		57.9	56.7		mg/L	2.1	20	04-JUN-15
Magnesium (Mg)-Disso	olved	30.5	31.4		mg/L	2.9	20	04-JUN-15
WG2101054-15 DUP	-11	L1618100-16						
Calcium (Ca)-Dissolved		16.7	17.1		mg/L	2.3	20	04-JUN-15
Magnesium (Mg)-Disso	olved	4.66	4.37		mg/L	6.5	20	04-JUN-15
WG2101054-3 DUP	ı.	L1621305-11	04.0					
Calcium (Ca)-Dissolved		67.5	64.2		mg/L	5.1	20	04-JUN-15
Magnesium (Mg)-Disso	lived	17.5	17.0		mg/L	2.9	20	04-JUN-15
WG2101054-9 DUP Calcium (Ca)-Dissolved	4	L1619298-17 11.1	11.1		mg/L	0.7	20	04 11151 45
Magnesium (Mg)-Disso		1.04	1.05		mg/L	0.7	20	04-JUN-15
	ived	1.04	1.03		mg/L	1.6	20	04-JUN-15
WG2101054-1 MB Calcium (Ca)-Dissolved	i		<0.050		mg/L		0.05	04-JUN-15
Magnesium (Mg)-Disso			<0.0050		mg/L		0.005	04-JUN-15
WG2101054-10 MB					9. =		0.000	04-3014-13
Calcium (Ca)-Dissolved	I		<0.050		mg/L		0.05	04-JUN-15
Magnesium (Mg)-Disso	lved		<0.0050		mg/L		0.005	04-JUN-15
WG2101054-13 MB								
Calcium (Ca)-Dissolved	I		<0.050		mg/L		0.05	04-JUN-15
Magnesium (Mg)-Disso	lved		<0.0050		mg/L		0.005	04-JUN-15
WG2101054-4 MB								
Calcium (Ca)-Dissolved			<0.050		mg/L		0.05	04-JUN-15
Magnesium (Mg)-Disso	lved		<0.0050		mg/L		0.005	04-JUN-15
WG2101054-7 MB Calcium (Ca)-Dissolved	í		40.0E0		/l		0.05	
Magnesium (Mg)-Disso			<0.050		mg/L		0.05	04-JUN-15
Magnesium (Mg)-Disso	ived		<0.0050		mg/L		0.005	04-JUN-15
MET-T-CCMS-ED	Water							
Batch R3202372								
WG2102019-2 DUP Aluminum (AI)-Total		L1621303-1 < 0.0030	<0.0030	DDD NA	mg/L	NI/A	20	00 1111 45
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	06-JUN-15
Arsenic (As)-Total		0.00010	0.00010	RPD-NA		N/A	20	06-JUN-15
Barium (Ba)-Total					mg/L	2.5	20	06-JUN-15
\$1.00 miles 10 miles		0.0271	0.0286	DDF	mg/L	5.5	20	06-JUN-15
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	06-JUN-15
Boron (B)-Total		0.319	0.329		mg/L	3.1	20	06-JUN-15



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Contact: BF

BRIAN MILLS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	Water		***				Daniela sur en	
Batch R3	202372							
WG2102019-2 Cadmium (Cd)-	DUP Total	L1621303-1 < 0.0000050	<0.0000050	RPD-NA	mg/L	N/A	20	06-JUN-15
Calcium (Ca)-T	otal	112	115		mg/L	2.7	20	06-JUN-15
Chromium (Cr)-	-Total	<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	06-JUN-15
Cobalt (Co)-Tot	al	0.00015	0.00016		mg/L	3.2	20	06-JUN-15
Copper (Cu)-To	tal	0.00333	0.00338		mg/L	1.5	20	06-JUN-15
Iron (Fe)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	06-JUN-15
Lead (Pb)-Total		0.000241	0.000237		mg/L	1.6	20	06-JUN-15
Lithium (Li)-Tota	al	0.193	0.193		mg/L	0.0	20	06-JUN-15
Magnesium (Mg	g)-Total	43.1	43.9		mg/L	2.0	20	06-JUN-15
Manganese (Mr	n)-Total	0.0282	0.0281		mg/L	0.4	20	06-JUN-15
Molybdenum (M	lo)-Total	0.000423	0.000422		mg/L	0.1	20	06-JUN-15
Nickel (Ni)-Tota	Ď	0.00083	0.00079		mg/L	4.7	20	06-JUN-15
Potassium (K)-T	otal	2.16	2.17		mg/L	0.5	20	06-JUN-15
Selenium (Se)-T	Total	0.00104	0.00108		mg/L	3.2	20	06-JUN-15
Silver (Ag)-Total	<u>L</u>	<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	06-JUN-15
Sodium (Na)-To	tal	517	529		mg/L	2.3	20	06-JUN-15
Thallium (TI)-To	tal	0.000016	0.000016		mg/L	3.8	20	06-JUN-15
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	06-JUN-15
Titanium (Ti)-To	tal	<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	06-JUN-15
Uranium (U)-Tot	tal	0.0128	0.0128		mg/L	0.1	20	06-JUN-15
Vanadium (V)-T	otal	<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	06-JUN-15
Zinc (Zn)-Total		1.54	1.56		mg/L	1.6	20	06-JUN-15
WG2102019-1	MB							
Aluminum (AI)-T			<0.0030		mg/L		0.003	05-JUN-15
Antimony (Sb)-T			<0.00010		mg/L		0.0001	05-JUN-15
Arsenic (As)-Tot			<0.00010		mg/L		0.0001	05-JUN-15
Barium (Ba)-Tot			<0.000050		mg/L		0.00005	05-JUN-15
Beryllium (Be)-T	otal		<0.00010		mg/L		0.0001	05-JUN-15
Boron (B)-Total			<0.010		mg/L		0.01	05-JUN-15
Cadmium (Cd)-T			<0.0000050		mg/L		0.000005	05-JUN-15
Calcium (Ca)-To			<0.050		mg/L		0.05	05-JUN-15
Chromium (Cr)-1			<0.00010		mg/L		0.0001	05-JUN-15
Cobalt (Co)-Tota	ai		<0.00010		mg/L		0.0001	05-JUN-15



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	Water							
Batch R3202372								
WG2102019-1 MB Copper (Cu)-Total			<0.00050		mg/L		0.0005	05-JUN-15
Iron (Fe)-Total			<0.010		mg/L		0.01	05-JUN-15
Lead (Pb)-Total			<0.000050		mg/L		0.00005	05-JUN-15
Lithium (Li)-Total			<0.0010		mg/L		0.001	05-JUN-15
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	05-JUN-15
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	05-JUN-15
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	05-JUN-15
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	05-JUN-15
Potassium (K)-Total			<0.050		mg/L		0.05	05-JUN-15
Selenium (Se)-Total			<0.000050		mg/L		0.00005	05-JUN-15
Silver (Ag)-Total			<0.000010		mg/L		0.00001	05-JUN-15
Sodium (Na)-Total			<0.050		mg/L		0.05	05-JUN-15
Thallium (TI)-Total			<0.000010		mg/L		0.00001	05-JUN-15
Tin (Sn)-Total			<0.00010		mg/L		0.0001	05-JUN-15
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	05-JUN-15
Uranium (U)-Total			<0.000010		mg/L		0.00001	05-JUN-15
Vanadium (V)-Total			<0.00050		mg/L		0.0005	05-JUN-15
Zinc (Zn)-Total			<0.0030		mg/L		0.003	05-JUN-15
NH3-CFA-ED	Water							
Batch R3201217								
WG2100979-5 DUP Ammonia, Total (as N)		L1618269-1 < 0.050	<0.050	RPD-NA	mg/L	N/A	20	04-JUN-15
WG2100979-9 DUP Ammonia, Total (as N)		L1621401-1 2.73	2.74		mg/L	0.4	20	04-JUN-15
WG2100979-2 LCS Ammonia, Total (as N)			99.2		%		85-115	04-JUN-15
WG2100979-7 LCS Ammonia, Total (as N)			97.9		%		85-115	04-JUN-15
WG2100979-1 MB Ammonia, Total (as N)			<0.050		mg/L		0.05	04-JUN-15
WG2100979-6 MB Ammonia, Total (as N)			<0.050		mg/L		0.05	04-JUN-15
WG2100979-3 MS Ammonia, Total (as N)		L1618348-2	96.0		%		75-125	04-JUN-15
WG2100979-4 MS		L1618378-6						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-CFA-ED Batch R32012 WG2100979-4 MS Ammonia, Total (as	3	L1618378-6	105.5		%		75-125	04-JUN-15
NO2-IC-N-ED Batch R31984	Water							
WG2097559-3 DL Nitrite (as N)	JP	L1618375-20 < 0.010	<0.010	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-5 DL Nitrite (as N)	JP .	L1618704-1 < 0.010	<0.010	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-7 DU Nitrite (as N)	JP	L1618590-3 < 0.010	<0.010	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-11 LC Nitrite (as N)	:s		99.3		%		90-110	29-MAY-15
WG2097559-13 LC Nitrite (as N)	s		99.6		%		90-110	29-MAY-15
WG2097559-15 LC Nitrite (as N)	s		99.9		%		90-110	29-MAY-15
WG2097559-2 LC Nitrite (as N)	:s		100.7		%		90-110	29-MAY-15
WG2097559-9 LC Nitrite (as N)	S		99.2		%		90-110	29-MAY-15
WG2097559-1 MI Nitrite (as N)	В		<0.010		mg/L		0.01	30-MAY-15
WG2097559-10 MI Nitrite (as N)	В		<0.010		mg/L		0.01	29-MAY-15
WG2097559-12 MI Nitrite (as N)	В		<0.010		mg/L		0.01	29-MAY-15
WG2097559-14 Mi Nitrite (as N)	В		<0.010		mg/L		0.01	29-MAY-15
WG2097559-16 MI Nitrite (as N)	В		<0.010		mg/L		0.01	29-MAY-15
WG2097559-4 Minute (as N)	S	L1618375-20	99.1		%		75-125	29-MAY-15
WG2097559-6 M Nitrite (as N)	S	L1618704-1	95.4		%		75-125	29-MAY-15
WG2097559-8 M Nitrite (as N)	s	L1618590-3	78.0		%		75-125	29-MAY-15
NO3-IC-N-ED	Water							



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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-N-ED		Water							
Batch R3	198408								
WG2097559-3 Nitrate (as N)	DUP		L1618375-20 0.038	0.042	140	mg/L	12	20	29-MAY-15
WG2097559-5 Nitrate (as N)	DUP		L1618704-1 <0.020	0.036	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-7 Nitrate (as N)	DUP		L1618590-3 < 0.020	<0.020	RPD-NA	mg/L	N/A	20	29-MAY-15
WG2097559-11 Nitrate (as N)	LCS			102.0		%		90-110	29-MAY-15
WG2097559-13 Nitrate (as N)	LCS			102.7		%		90-110	29-MAY-15
WG2097559-15 Nitrate (as N)	LCS			103.1		%		90-110	29-MAY-15
WG2097559-2 Nitrate (as N)	LCS			98.9		%		90-110	29-MAY-15
WG2097559-9 Nitrate (as N)	LCS			103.2		%		90-110	29-MAY-15
WG2097559-1 Nitrate (as N)	MB			<0.020		mg/L		0.02	30-MAY-15
WG2097559-10 Nitrate (as N)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-12 Nitrate (as N)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-14 Nitrate (as N)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-16 Nitrate (as N)	MB			<0.020		mg/L		0.02	29-MAY-15
WG2097559-4 Nitrate (as N)	MS		L1618375-20	95.0		%		75-125	29-MAY-15
WG2097559-6 Nitrate (as N)	MS		L1618704-1	95.1		%		75-125	29-MAY-15
WG2097559-8 Nitrate (as N)	MS		L1618590-3	99.6		%		75-125	29-MAY-15
PH-ED		Water							
Batch R3 WG2097913-13 pH	198536 LCS			6.02		рН		5.9-6.1	30-MAY-15
WG2097913-18 pH	LCS			6.01		рН		5.9-6.1	30-MAY-15



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PO BOX 5113

LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-ED	Water							
Batch R3198536								
WG2097913-23 LCS pH			6.01		pН		5.9-6.1	30-MAY-15
WG2097913-28 LCS pH			6.02		pН		5.9-6.1	31-MAY-15
WG2097913-3 LCS pH			6.02		рН		5.9-6.1	30-MAY-15
WG2097913-33 LCS pH			6.02		pН		5.9-6.1	31-MAY-15
PH/EC/ALK-ED	Water							
Batch R3198536								
WG2097913-10 DUP pH		L1618375-21 8.15	8.14	J	рH	0.00	0.3	31-MAY-15
Conductivity (EC)		2380	2380	•	uS/cm	0.0	10	31-MAY-15
Bicarbonate (HCO3)		495	496		mg/L	0.1	25	31-MAY-15
Carbonate (CO3)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	31-MAY-15
Hydroxide (OH)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	31-MAY-15
Alkalinity, Total (as CaC	O3)	406	407		mg/L	0.1	20	31-MAY-15
WG2097913-6 DUP		L1618590-2						
рН		8.39	8.39	J	pH	0.00	0.3	30-MAY-15
Conductivity (EC)		875	872		uS/cm	0.3	10	30-MAY-15
Bicarbonate (HCO3)		492	491		mg/L	0.2	25	30-MAY-15
Carbonate (CO3)		5.9	5.4		mg/L	8.3	25	30-MAY-15
Hydroxide (OH)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	30-MAY-15
Alkalinity, Total (as CaC	O3)	413	411		mg/L	0.4	20	30-MAY-15
WG2097913-7 DUP		L1618269-9	8.29	J	pН	0.01	0.3	30-MAY-15
pH		8.28 422	423	J	uS/cm	0.2	10	30-MAY-15
Conductivity (EC)		160	161		mg/L	0.4	25	30-MAY-15
Bicarbonate (HCO3)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	30-MAY-15
Carbonate (CO3)			<5.0	RPD-NA	mg/L	N/A	25	30-MAY-15
Hydroxide (OH)	200	<5.0	132	RPD-NA	mg/L	0.4	20	30-MAY-15
Alkalinity, Total (as CaC	,03)	131	132		mgrL	0.4	20	00 100717 10
WG2097913-8 DUP pH		L1618767-1 7.54	7.48	J	pН	0.06	0.3	30-MAY-15
Conductivity (EC)		23800	23800		uS/cm	0.0	10	30-MAY-15
Bicarbonate (HCO3)		2200	2190		mg/L	0.2	25	30-MAY-15



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Client:

AQUATECH CANADIAN WATER SERVICES

PO BOX 5113

LACOMBE AB T4L 1A0

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	Water							
Batch R3198536	3							
WG2097913-8 DUP		L1618767-1				AT//6	05	00 1447/45
Carbonate (CO3)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	30-MAY-15
Hydroxide (OH)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	30-MAY-15
Alkalinity, Total (as Ca	CO3)	1800	1800		mg/L	0.2	20	30-MAY-15
WG2097913-9 DUP pH		L1619151-9 7.44	7.45	Ĵ	рН	0.01	0.3	31-MAY-15
Conductivity (EC)		6450	6460		uS/cm	0.2	10	31-MAY-15
Bicarbonate (HCO3)		414	410		mg/L	0.9	25	31-MAY-15
Carbonate (CO3)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	31-MAY-15
Hydroxide (OH)		<5.0	<5.0	RPD-NA	mg/L	N/A	25	31-MAY-15
Alkalinity, Total (as Ca	CO3)	339	336		mg/L	0.9	20	31-MAY-15
WG2097913-12 LCS Conductivity (EC)			95.3		%		90-110	30-MAY-15
WG2097913-13 LCS pH			6.02		рН		5.9-6.1	30-MAY-15
WG2097913-14 LCS Alkalinity, Total (as Car	CO3)		97.0		%		85-115	30-MAY-15
WG2097913-15 LCS Conductivity (EC)			91.6		%		90-110	30-MAY-15
WG2097913-17 LCS Conductivity (EC)			98.9		%		90-110	30-MAY-15
WG2097913-18 LCS pH			6.01		рН		5.9-6.1	30-MAY-15
WG2097913-19 LCS Alkalinity, Total (as Ca	CO3)		98.7		%		85-115	30-MAY-15
WG2097913-2 LCS Conductivity (EC)			97.4		%		90-110	30-MAY-15
WG2097913-20 LCS Conductivity (EC)			98.4		%		90-110	30-MAY-15
WG2097913-22 LCS Conductivity (EC)			98.7		%		90-110	30-MAY-15
WG2097913-23 LCS pH			6.01		рН		5.9-6.1	30-MAY-15
WG2097913-24 LCS Alkalinity, Total (as Ca	CO3)		96.9		%		85-115	30-MAY-15
WG2097913-25 LCS Conductivity (EC)			97.7		%		90-110	30-MAY-15



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est Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED Water							
Batch R3198536							
WG2097913-27 LCS Conductivity (EC)		97.6		0/			
WG2097913-28 LCS		97.0		%		90-110	31-MAY-15
pH		6.02		pН		5.9-6.1	31-MAY-15
WG2097913-29 LCS						0.0 0.1	31-MAT-13
Alkalinity, Total (as CaCO3)		97.2		%		85-115	31-MAY-15
WG2097913-3 LCS pH		6.02		nU			
WG2097913-30 LCS		0.02		рН		5.9-6.1	30-MAY-15
Conductivity (EC)		96.8		%		90-110	31-MAY-15
WG2097913-32 LCS						110	01-WA(-10
Conductivity (EC)		97.2		%		90-110	31-MAY-15
WG2097913-33 LCS pH		6.02		pН			
WG2097913-34 LCS				ρΠ		5.9-6.1	31-MAY-15
Alkalinity, Total (as CaCO3)		97.6		%		85-115	31-MAY-15
WG2097913-35 LCS Conductivity (EC)							01 10/11 10
WG2097913-4 LCS		96.6		%		90-110	31-MAY-15
Alkalinity, Total (as CaCO3)		96.0		%			
WG2097913-5 LCS				76		85-115	30-MAY-15
Conductivity (EC)		94.3	81	%		90-110	30-MAY-15
WG2097913-1 MB Bicarbonate (HCO3)							00 M/A(1-10
Carbonate (CO3)		<5.0		mg/L		5	30-MAY-15
Hydroxide (OH)		<5.0		mg/L		5	30-MAY-15
Alkalinity, Total (as CaCO3)		<5.0		mg/L		5	30-MAY-15
WG2097913-11 MB		<2.0		mg/L		2	30-MAY-15
Bicarbonate (HCO3)		<5.0		mg/L		5	20 MAY 17
Carbonate (CO3)		<5.0		mg/L		5	30-MAY-15
Hydroxide (OH)		<5.0		mg/L		5	30-MAY-15 30-MAY-15
Alkalinity, Total (as CaCO3)		<2.0		mg/L		2	30-MAY-15
WG2097913-16 MB							O-IMIX1-10
Bicarbonate (HCO3)		<5.0		mg/L		5	30-MAY-15
Carbonate (CO3) Hydroxide (OH)		<5.0		mg/L		5	30-MAY-15
Alkalinity, Total (as CaCO3)		<5.0		mg/L		5	30-MAY-15
a., Total (as OaCOS)		<2.0		mg/L		2	30-MAY-15



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	Water							
Batch R319	8536							
WG2097913-21 N Bicarbonate (HCO			<5.0		mg/L		5	30-MAY-15
Carbonate (CO3)			<5.0		mg/L		5	30-MAY-15
Hydroxide (OH)			<5.0		mg/L		5	30-MAY-15
Alkalinity, Total (as	CaCO3)		<2.0		mg/L		2	30-MAY-15
WG2097913-26 N Bicarbonate (HCO			<5.0		mg/L		5	31-MAY-15
Carbonate (CO3)			<5.0		mg/L		5	31-MAY-15
Hydroxide (OH)			<5.0		mg/L		5	31-MAY-15
Alkalinity, Total (as	CaCO3)		<2.0		mg/L		2	31-MAY-15
WG2097913-31 N Bicarbonate (HCO			<5.0		mg/L		5	31-MAY-15
Carbonate (CO3)	-		<5.0		mg/L		5	31-MAY-15
Hydroxide (OH)			<5.0		mg/L		5	31-MAY-15
Alkalinity, Total (as	CaCO3)		<2.0		mg/L		2	31-MAY-15
SO4-IC-N-ED	Water							
Batch R3198								
WG2097559-3 D Sulfate (SO4)	UP	L1618375-20 88.8	89.5		mg/L	0.8	20	29-MAY-15
WG2097559-5 D Sulfate (SO4)	UP	L1618704-1 81.3	81.9		mg/L	0.8	20	29-MAY-15
WG2097559-7 Sulfate (SO4)	UP	L1618590-3 55.1	54.9		mg/L	0.4	20	29-MAY-15
WG2097559-11 L Sulfate (SO4)	cs		102.9		%		90-110	29-MAY-15
WG2097559-13 L Sulfate (SO4)			102.5		%		90-110	29-MAY-15
WG2097559-15 L Sulfate (SO4)	cs		102.5		%		90-110	29-MAY-15
WG2097559-2 L Sulfate (SO4)	cs		102.0		%		90-110	29-MAY-15
WG2097559-9 L Sulfate (SO4)	cs		102.4		%		90-110	29-MAY-15
WG2097559-1 M Sulfate (SO4)	В		<0.30		mg/L		0.3	30-MAY-15
WG2097559-10 M Sulfate (SO4)	В		<0.30		mg/L		0.3	29-MAY-15



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Contact:

BRIAN MILLS

	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
	Water							
			<0.30		mg/L		0.3	29-MAY-15
MB			<0.30		mg/L		0.3	29-MAY-15
MB			<0.30		mg/L		0.3	29-MAY-15
MS		L1618375-20	88.4		%		75-125	29-MAY-15
MS		L1618704-1	92.4		%		75-125	29-MAY-15
MS		L1618590-3	93.7		%		75-125	29-MAY-15
	Water							
DUP		L1617862-3 87	85		mg/L	2.3	20	02-JUN-15
DUP Solids		L1618510-2 246	241		mg/L	2.1	20	02-JUN-15
LCS Solids			100.5		%		85-115	02-JUN-15
LCS Solids			100.8		%		85-115	02-JUN-15
MB Solids			<10		mg/L		10	02-JUN-15
MB Solids			<10		mg/L		10	02-JUN-15
	Water							
DUP		L1618609-2 0.0164	0.0164		mg/L	0.0	20	05-JUN-15
DUP		L1618652-1 < 0.0015	<0.0015	RPD-NA	mg/L	N/A	20	05-JUN-15
LCS			95.6		%		75-125	05-JUN-15
LCS			96.8		%		75-125	05-JUN-15
MB			<0.0015		mg/L		0.0015	05-JUN-15
	MB MS MS MS MS 200607 DUP Solids LCS Solids MB Solids MB Solids DUP LCS LCS	MB MB MB MB MS MS MS Water 200607 DUP Solids LCS Solids LCS Solids MB Solids	MB MB MB MB MS L1618375-20 MS L1618704-1 MS L1618590-3 Water 200607 DUP Solids FOUP Solids LCS Solids LCS Solids MB Solids MB	MB	198408 MB	198408 MB	198408 MB	198408 MB



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LACOMBE AB T4L 1A0

Contact:

BRIAN MILLS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SULPHIDE-ED	Water							
Batch R32029 WG2102487-5 MS Sulphide (as S)		L1617858-3	107.0		%		65-135	05-JUN-15
WG2102487-6 MS Sulphide (as S)	5	L1617646-3	104.6		%		65-135	05-JUN-15
THM-ED	Water							
Batch R3189 WG2098277-3 DU Chloroform		L1618478-1 0.137	0.126		mg/L	8.7	30	31-MAY-15
Bromodichlorometh	ane	0.0056	0.0059		mg/L	5.2	30	31-MAY-15
Dibromochlorometh		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	31-MAY-15
Bromoform	u.19	<0.0050	<0.0050	RPD-NA	mg/L	N/A	30	31-MAY-15
WG2098277-2 LC	S	0.0000	113.0		%		70-130	31-MAY-15
Bromodichlorometh	ane		96.2		%		70-130	31-MAY-15
Dibromochlorometh			89.0		%		70-130	31-MAY-15
Bromoform			86.4		%		70-130	31-MAY-15
WG2098277-1 Mil	В		<0.0010		mg/L		0.001	31-MAY-15
Bromodichlorometh	ane		<0.0010		mg/L		0.001	31-MAY-15
Dibromochlorometh	ane		<0.0010		mg/L		0.001	31-MAY-15
Bromoform			<0.0050		mg/L		0.005	31-MAY-15
TURBIDITY-ED	Water							
Batch R3199	643							
WG2097551-3 Di Turbidity	UP	L1618525-1 1.26	1.25		NTU	0.8	15	29-MAY-15
WG2097551-6 DI Turbidity	UP	L1617831-6 21.7	21.4		NTU	1.4	15	29-MAY-15
WG2097551-2 LG Turbidity	cs		100.0		%		70-130	29-MAY-15
WG2097551-5 Lo Turbidity	cs		100.0		%		70-130	29-MAY-15
WG2097551-1 M Turbidity	В		<0.10		NTU		0.1	29-MAY-15
WG2097551-4 M Turbidity	В		<0.10		NTU		0.1	29-MAY-15

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AQUATECH CANADIAN WATER SERVICES Client:

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LACOMBE AB T4L 1A0

Contact: **BRIAN MILLS**

Legend:

Limit	ALS Control Limit (Data Quality Objective:	(5)		
DUP	Duplicate Duplicate			
RPD	Relative Percent Difference			
	Not Available			
N/A	and the state of t			
LCS	Laboratory Control Sample			
SRM	Standard Reference Material			
MS	Matrix Spike			
MSD	Matrix Spike Duplicate			
ADE	Average Desorption Efficiency			
MB	Method Blank			
IRM	Internal Reference Material			
CRM	Certified Reference Material			
CCV	Continuing Calibration Verification			
CVS	Calibration Verification Standard			
LCSD	Laboratory Control Sample Duplicate			

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Contact:

BRIAN MILLS

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Hold Time Exceedances:

	Sample						
ALS Product Description	ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
рН	1	28-MAY-15 13:15	30-MAY-15 23:02	0.25	58	hours	EHTR-FM
Anions and Nutrients							
Chlorite analysis in water					04		FUT
	1	28-MAY-15 13:15	18-JUN-15 11:00	14	21	days	EHT
Inorganic Parameters							
Chlorine, Free							
	1	28-MAY-15 13:15	29-MAY-15 10:15	0.25	21	hours	EHTR-FM
Chlorine, Total							
vinor para, ana habitati raportabulo № 6 - Geodelinico 65627	1	28-MAY-15 13:15	29-MAY-15 10:19	0.25	21	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.

EHTR:

Exceeded ALS recommended hold time prior to sample receipt.

EHTL:

Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

EHT:

Exceeded ALS recommended hold time prior to analysis.

Rec. HT:

ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes. Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1618652 were received on 29-MAY-15 11:21.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



June 16, 2015

Minnie Estigoy

9936 67 Ave

ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626

T:+1 360 577 7222 F:+1 360 636 1068 www.alsglobal.com

Analytical Report for Service Request No: K1506052

RE: Edmonton AB / L1618652

ALS Environmental - Canada

Edmonton, AB T6E 0P5

Dear Minnie,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2015 For your reference, these analyses have been assigned our service request number **K1506052**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf Project Manager



ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626

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Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Chain of Custody
General Chemistry

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LOD Limit of Detection

LOQ Limit of Quantitation

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater than or

equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
	Not available	_
Hawaii DOH Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	_
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.



Chain of Custody

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com



K1506052

Subcontract Request Form

Su	be	CO	ntr	act	To:
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ALS ENVIRONMENTAL - KELSO, WASHINGTON, USA

1317 S. 13TH AVE

KELSO,WA 98626			l
NOTES: Please reference on final ALS requires QC data to	report and invoice: PO# L161 be provided with your final result	18652 rs.	
Please see enclosed 1 sam	nple(s) in 1 Container(s)		
SAMPLE NUMBER ANALYTI	CAL REQUIRED	DATE SAMPLED DUE DATE	Priority Flag
Chlorate a	analysis in water (BROMATE-KL 1) analysis in water (CHLORATE-KL 1) nalysis in water (CHLORITE-KL 1)	5/ 28/ 2015 6/19/2015 6/19/2015 6/19/2015	
Subcontract Info Contact: Analysis and reporting info contact:	Rani Mangru (780) 413-5242 Minnie Estlgoy 9936 67 AVE EDMONTON,AB T6E 0P5 Phone: (780) 413-5242	Email: Minnie.Estigoy@als	global.com
Please email confirmation of rece	ipt to: Minnie.Estigoy	@alsglobal.com	L. Comments
Shipped By:	Date Shipped:	11115 0020	<u> </u>
Received By:	Date Received:	4412 012	
Verified By:	Temperature:		
Sample Integrity Issues:			



PC_CL_

Page___

of

Cooler Receipt and Preservation Form Client/Project: AS Canada Service Request K15 Unloaded: Opened: Received: (1) Hand Delivered Fed Ex UPS DHL Samples were received via? Mail Courier Envelope Other NA Cooler Box Samples were received in: (circle) If yes, how many and where? NA Were custody seals on coolers? Y N If present, were they signed and dated? If present, were custody seals intact? Tracking Number Cooler/COC ID Corr. Thermometer Filed Factor Cooler Temp Temp Blank Temp Blank Bubble Wrap (Gel Packs) Wet Ice Dry Ice Sleeves Packing material: Inserts (Baggies) Were custody papers properly filled out (ink, signed, etc.)? Did all bottles arrive in good condition (unbroken)? Indicate in the table below. N NA NA N Were all sample labels complete (i.e analysis, preservation, etc.)? 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. N NA Were appropriate bottles/containers and volumes received for the tests indicated? N 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA N Y 11. Were VOA vials received without headspace? Indicate in the table below. N N 12. Was CI2/Res negative? Identified by: Sample ID on COC Sample ID on Bottle Out of Head-Volume Reagent Lot **Bottle Count** added Number Initials Time **Bottle Type** Temp space Broke рН Reagent Sample ID COC not signed Notes, Discrepancies, & Resolutions:



General Chemistry

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

Analytical Report

Client:

ALS Environmental - Canada

Project:

Edmonton AB/L1618652

Sample Matrix:

Analysis Method:

Water

300.1

Prep Method:

None

Service Request: K1506052

Date Collected: 05/28/15

Date Received: 06/4/15

Units: ug/L

Basis: NA

Bromate

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
L1618652-1 Method Blank	K1506052-001 K1506052-MB	ND U ND U	5.0 5.0	1 1	06/06/15 17:32 06/06/15 14:33	

QA/QC Report

Client:

ALS Environmental - Canada

Service Request:

K1506052

Project:

Edmonton AB/L1618652

Date Collected:

N/A

Sample Matrix:

Water

Date Received:

N/A

Date Analyzed:

06/6/15

Date Extracted:

NA

Duplicate Matrix Spike Summary

Bromate

Sample Name:

Batch QC

Units:

ug/L

Lab Code:

K1506045-001

Basis:

NA

Analysis Method: Prep Method:

300.1 None

Matrix Spike

Duplicate Matrix Spike

K1506045-001MS

K1506045-001DMS

% Rec **RPD** Sample Spike Spike **Analyte Name** Result Result Amount % Rec Result Amount % Rec Limits **RPD** Limit Bromate ND U 41 40 103 40 109 75-125 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

ALS Environmental - Canada

Project:

Edmonton AB/L1618652

Service Request: Date Analyzed:

K1506052 06/06/15

Sample Matrix:

Water

Date Extracted:

NA

Lab Control Sample Summary

Bromate

Analysis Method: Prep Method:

300.1

None

Units:

ug/L

Basis:

NA

Analysis Lot:

448015

Spike % Rec Limits Sample Name Lab Code Result Amount % Rec Lab Control Sample K1506052-LCS 19.5 25 78 75-125

QA/QC Report

Client:

ALS Environmental - Canada

Project

Edmonton AB/L1618652

Service Request: K1506052

Date Collected: NA

Sample Matrix:

Water

Date Received: NA

Date Analyzed: 06/06/15

Replicate Sample Summary General Chemistry Parameters

Sample Name:

Batch QC

Units: ug/L

Lab Code:

K1506045-001

Basis: NA

Duplicate Sample

K1506045-

Analysis Sample 001DUP Method MRL Result Result **RPD RPD** Limit **Analyte Name** Average 300.1 ND U ND U 20 Bromate NC NC 5.0

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:

ALS Environmental - Canada

Project:

Edmonton AB/L1618652

Sample Matrix:

Water

Analysis Method: Prep Method:

300.1 None

Service Request: K1506052 Date Collected: 05/28/15

Date Received: 06/4/15

Units: ug/L

Basis: NA

Chlorite

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
L1618652-1	K1506052-001	ND U	10	1	06/06/15 17:32	***************************************
Method Blank	K1506052-MB	ND U	10	1	06/06/15 14:33	

QA/QC Report

Client: ALS Environmental - Canada

Service Request: K1506052

Project Edmonton AB/L1618652

Date Collected: NA

Water Date Received: NA

Date Analyzed: 06/06/15

Replicate Sample Summary General Chemistry Parameters

Sample Name:

Batch QC

Units: ug/L

Lab Code:

Sample Matrix:

K1506045-001

Basis: NA

Duplicate Sample

K1506045-

Analysis Sample 001DUP **Analyte Name** Method MRL Result Result **RPD RPD** Limit Average Chlorite 300.1 10 ND U ND U NC NC 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

ALS Environmental - Canada

Service Request:

K1506052

Project:

Edmonton AB/L1618652

Date Collected:

N/A

Sample Matrix:

Water

Date Received:

N/A

Date Analyzed:

06/6/15

Date Extracted:

NA

Duplicate Matrix Spike Summary

Chlorite

Sample Name:

Batch QC

Units:

ug/L

RPD

6

RPD

Limit

20

Lab Code:

K1506045-001

Basis:

NA

75-125

Analysis Method: Prep Method:

300.1 None

365

Matrix Spike

92

Duplicate Matrix Spike

K1506045-001MS

387

K1506045-001DMS

396

98

Sample Spike Spike % Rec **Analyte Name** Result Result Amount % Rec Result Amount % Rec Limits Chlorite ND U 396

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

ALS Environmental - Canada

Project:

Edmonton AB/L1618652

Service Request: Date Analyzed:

K1506052

Sample Matrix:

Water

Date Extracted:

06/06/15 NA

Lab Control Sample Summary

Chlorite

Analysis Method: Prep Method:

300.1

None

Units:

ug/L

Basis:

NA

Analysis Lot:

448015

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1506052-LCS	471	491	96	75-125

Analytical Report

Client:

ALS Environmental - Canada

Project:

Edmonton AB/L1618652

Sample Matrix: Analysis Method:

Water

Prep Method:

300.1 None

Service Request: K1506052

Date Collected: 05/28/15

Date Received: 06/4/15

Units: ug/L

Basis: NA

Chlorate

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
L1618652-1	K1506052-001	273	10	1	06/06/15 17:32	
Method Blank	K1506052-MB	ND U	10	1	06/06/15 14:33	

QA/QC Report

Client:

ALS Environmental - Canada

Service Request: K1506052

Project

Edmonton AB/L1618652

Date Collected: NA

Date Received: NA

Sample Matrix:

Water

Date Analyzed: 06/06/15

Replicate Sample Summary General Chemistry Parameters

Sample Name:

Batch QC

Units: ug/L

Lab Code:

K1506045-001

Basis: NA

Duplicate Sample

K1506045-

Analysis Sample 001DUP

MRL Method Result **RPD RPD** Limit **Analyte Name** Result Average Chlorate 300.1 10 281 276 278

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

ALS Environmental - Canada

K1506052

Project:

Edmonton AB/L1618652

Service Request: Date Collected:

Sample Matrix:

Water

Date Received:

N/A N/A

NA

Date Analyzed: Date Extracted: 06/6/15

Duplicate Matrix Spike Summary

Chlorate

Sample Name:

Batch QC

Units:

ug/L

Lab Code:

Prep Method:

K1506045-001

Basis:

NA

Analysis Method:

300.1 None

Matrix Spike

Duplicate Matrix Spike

K1506045-001MS

K1506045-001DMS

Sample

Spike

Spike Result

% Rec

RPD

Analyte Name Result Chlorate 281

Amount 400

Result

669

% Rec 97 705 Amount 400

Limits % Rec 75-125 106

RPD Limit 20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

ALS Environmental - Canada

Service Request: Date Analyzed:

K1506052

Project:

Edmonton AB/L1618652

06/06/15

Sample Matrix:

Water

Date Extracted:

NA

Lab Control Sample Summary

Chlorate

Analysis Method:

300.1

Units:

ug/L

Prep Method:

None

Basis:

NA

Analysis Lot:

448015

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1506052-LCS	80.1	86	93	85-115

Hydrocarbon Distribution Report

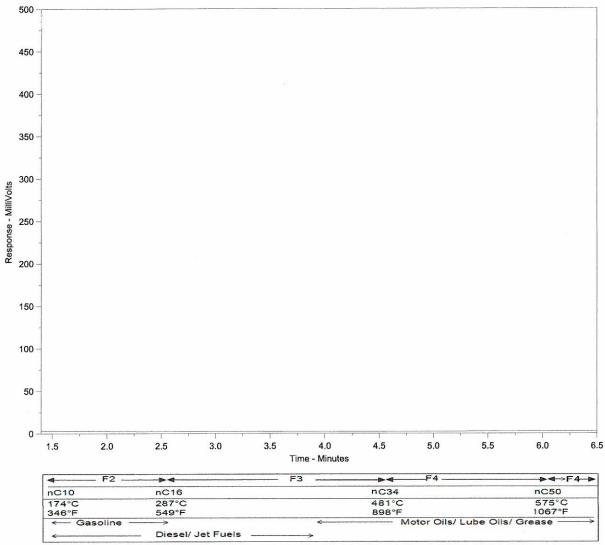


ALS Sample ID:

L1618652-1

Client ID:

DISTRIBUTION SAMPLE



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

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ALS Laboratory Group

Environmental Division

www.alsglobal.com

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PHASE 2 12 17274 R. M. REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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